APPENDIX J

2019 On-Site Remedial Investigation Report

On-Site Environmental

On-Site Environmental, Inc.
119 Shepherds Way, Coatesville, Pa. 19320
Phone: (610) 384-2719 Fax (610) 384-2709

Remedial Investigation Report
North Brunswick Gulf
1696 Georges Road Rt 130
North Brunswick, New Jersey
NJDEP Case #: 01-08-30-1546-07 & 01-08-30-1549-55 & 19-05-08-1010-08
Preferred I.D #: 010180

Prepared for:

1696 Rt 130, LLC.
C/O
Walter Lapp Jr.
555 Georges Road
Dayton, NJ 08810
&
Ruth Frey
582 S. Waterloo Rd
Devon, Pa. 19333

Prepared by:
On-Site Environmental, Inc.
119 Shepherds Way
Coatesville, Pa. 19320

October 2019



Frank Jasiulewicz, P.G., SSE, LSRP #585751
On-Site Environmental, Inc.
President

Table of Contents

SECTION TITLE PAGE

1.0 INTRODUCTION 1

2.0 GENERAL INFORMATION & SITE SETTING 1

2.1 General Information 1
2.2 Site Setting & Current Layout 1

3.0 GEOLOGY & HYDROGEOLOGY 2

4.0 AREAS OF COCERN 3

5.0 BACKGROUND INFORMATION 5

5.1 Site Ownership & Operations 5
5.2 August 30, 2001 Incident 7

6.0 ACTIVITIES CONDUCTED - JULY 2002 TO MARCH 2012 10

6.1 Introduction 10
6.2 Well Search - July 2002 10
6.3 Installation of Temporary Pump & Treat System - January to July 2003 11
6.4 USTs and Recovery Well Installation - May June 2003 11
6.5 Borings and Wells Installed by the Whitman Companies, Inc. - December 2004 12
6.6 Groundwater Sampling - December 2007 13
6.7 Elevation Survey - February 29,2008 13
6.8 Soil & Groundwater Investigations - August 2008 13
6.9 Disposal of Drill Cutting - January 2009 15
6.10 Soil & Groundwater Investigations - February 2009 15
6.11 Groundwater Monitoring & Well Head Maintenance - March 2009 17
6.12 Monitoring Well Installations - September 22 & 24, 2009 17
6.13 Groundwater Sampling - October 19 & 20, 2009 18
6.14 Groundwater Monitoring - October 19, 2009 & November 25,2009 19
6.15 Sensitive Receptor Investigations & Well Search - 2010 20
6.16 Preliminary Extent of Soil Impacts 22

7.0 ACTIVITIES CONDUCTED UNDER LSRP PROGRAM 24

7.1 LSRP Retention 24
7.2 Receptor Evaluation - March 2012 24
7.3 Public Notification - March 2012 24
7.4 Well Search - February 2013 24
7.5 Vapor Intrusion Investigation - February 2013 24
7.6 Preliminary Ecological Evaluation - February 2013 26
7.6.1 Environmentally Sensitive Areas 26
7.6.2 Contaminants of Potential Ecological Concern 26
7.6.3 Potential Migration Pathways 26
7.6.4 Outcome of Preliminary Ecological Evaluation 27
7.7 Response to Csepes Complaint - January 14, 2014 27
7.8 Public Notification - 2015 28

7.9 Site and Contact Information Update - April 2016 28
7.10 Site Inspection - June 2016....28
7.11 Timeframe Extension request - August 2016 29
7.12 Preliminary Assessment Report - September 12, 2016 29
7.13 Ground Penetrating Radar Survey - October 31, 2016....29
7.14 Groundwater Sampling - December 2016 30
7.15 Soil & Temporary Well Samples - April and May 2017....32
7.16 Seepage Sample - May 11, 2017 34
7.17 Public Notification - July 13, 2017....34
7.18 Well Search - July 20, 2017 34
7.19 Soil & Temporary Well Samples - October 3 and 4, 2017....35
7.20 Soil and Temporary Well Samples - February 20 and 21, 2018....37
7.21 Vapor Intrusion Investigation - March 2018 39
7.22 Soil Samples & Monitoring Well Installations - May 24 and 25, 2018 39
7.23 Soil Sampling & Monitoring Installation - September 13, 2018....41
7.24 Groundwater Sampling - October 3, 2018....43
7.25 Groundwater Sampling - November 15, 2018....44
7.26 Notice of Failure to Comply - December 10, 2018 45
7.27 Monitoring Well Installation - December 14, 2018....45
7.28 Groundwater Sampling - January 17 & 18, 2019 45
7.29 Ecological Evaluation....46
7.30 Discharge Reporting - May 8, 2019 46
7.31 Groundwater Sampling - May 21 & 22, 2019 47
7.32 Vapor Intrusion Investigation - June 2019 47
7.33 Well Search August 29, 2019....48
7.34 Receptor Evaluation 48
734.1 Land Use 48
734.2 Groundwater....48
734.3 Vapor Intrusion 49
733.1 Ecological Evaluation 49

8.0 NATURE & EXTENT OF IMPACTS 50
8.1 Background Concentrations in Soil 50
8.2 Nature & Extent of Soil Impacts....50
8.3 Compliance Averaging 57
8.4 Fill Area 58
8.4 Nature and Extent of Groundwater Impacts 58

9.0 FATE AND TRANSPORT ANALYSIS 62

10.0 RELIABILITY OF LABORATORY DATA....66

11.0 ELECTRONIC DELIVERABLES 66

12.0 REGULATORY TIMEFRAME 66

13.0 CONCLUSION 67

14.0 RECOMMENDATTIONS....72

15.0 CONTACT INFORMATION 75

16.0 VARIANCE FROM REGULATIONS 75

List of Figures

Figure 1 Site Location Topographic Map
Figure 2 Land Use
Figure 3 Base Map - AOC
Figure 4 Environmental Sensitive Natural Resource Areas
Figure 5 Zones of Water Table Fluctuations
Figure 6 Facility Layout 2001/2002
Figure 7 Properties Within VI Target Distance
Figure 8 Water Table Gradient Map -12-19-16 Data
Figure 9 Benzene in Groundwater 12/2016
Figure 10 Toluene in Groundwater -12/2016
Figure 11 Ethylbenzene in Groundwater -12/2016
Figure 12 Xylenes in Groundwater 12/2016
Figure 13 MTBE in Groundwater -12/2016
Figure 14 TBA in Groundwater -12/2016
Figure 15 1,2,4-TMB in Groundwater 12/2016
Figure 16 EDB in Groundwater -12/2016
Figure 17 1-Methylnaphthalene in Groundwater -12/2016
Figure 18 2-Methylnaphthalene in Groundwater - 12/2016
Figure 19 Naphthalene in Groundwater - 12/2016
Figure 20 Water Table Gradient Map - 5/21/19 Data
Figure 21 Benzene in Soil Above Residential & Non-residential Direct Contact Standard
Figure 22 Naphthalene in Soil Above Residential & Non-residential Direct Contact Standard
Figure 23 Lead in Soil Above Residential & Non-residential Direct Contact Standard
Figure 24 Benzo(a)pryene in Soil Above Residential & Non-residential Direct Contact Standard , Ecological Soil Screening Level & Concentrations Higher than the Background Level that Could Impact Groundwater
Figure 25 Benzo(a)anthracene in Soil Above Residential & Non-residential Direct Contact Standard, Default Impact to Groundwater & Ecological Soil Screening Levels
Figure 26 Indeno(1,2,3-cd)pryene in Soil Above Residential & Non-residential Direct Contact Standard, Default Impact to Groundwater & Ecological Soil Screening Levels
Figure 27 Dibenzo(a,h)anthracene in Soil Above Residential & Non-residential Direct Contact Standard, Default Impact to Groundwater & Ecological Soil Screening Levels
Figure 28 Benzo(b)fluoranthene in Soil Above Residential & Non-residential Direct Contact Standard, Default Impact to Groundwater & Ecological Soil Screening Levels
Figure 29 Benzo(k)fluoranthene in Soil Above Residential Direct Contact Standard & Default Impact to Groundwater Screening Level
Figure 30 Manganese in Soil Above Residential & Non-residential Direct Contact Standard & Background Ecological Screening Level Which Can Migrate to Swale.

Figure 31 Vanadium in Soil Above Residential Direct Contact Standard & Concentrations in Background Samples that were Higher than the Ecological Soil Criteria Which Can Migrate to Swale.
Figure 32 Arsenic in Soil Above Residential & Non-residential Direct Contact Standard
Figure 33 Benzene in Soil Above Default Impact to Groundwater & Ecological Soil Screening Levels
Figure 34 Toluene in Soil Above Default Impact to Groundwater Soil Screening Level
Figure 35 Ethylbenzene in Soil Above Default Impact to Groundwater Soil & Ecological Soil Screening Levels & Soil Saturation Limits.
Figure 36 Xylenes in Soil Above Default Impact to Groundwater Soil & Ecological Soil Screening Levels & Soil Saturation Limit
Figure 37 MTBE in Soil Above Default Impact to Groundwater Soil Screening Level
Figure 38 TBA in Soil Above Default Impact to Groundwater Soil Screening Level
Figure 39 2-Methylnaphthalene in Soil Above Default Impact to Groundwater Soil Screening Level
Figure 40 Naphthalene in Soil Above Default Impact to Groundwater & Ecological Soil Screening Levels
Figure 41 Chrysene in Soil Above Default Impact to Groundwater & Ecological Soil Screening Levels
Figure 42 Beryllium in Soil Above Background Level of 1 mg/kg which can impact groundwater
Figure 43 Mercury in Soil Above Default Impact to Groundwater Soil Screening Level and the Concentrations Higher than the Background Level that Could Migrate to the Swale
Figure 44 Lead in Soil Above Background Level of 233 mg.kg which can Impact Groundwater and Erode to Swale
Figure 45 Acenaphthalene in Soil Above Ecological Soil Screening Level
Figure 46 Benzo(ghi)perylene in Soil Above Ecological Soil Screening Level
Figure 47 Fluoranthene in Soil Above Ecological Soil Screening Level
Figure 48 Phenanthrene in Soil Above Ecological Soil Screening Level
Figure 49 Pryene in Soil Above Ecological Soil Screening Level
Figure 50 Barium in Soil Above Ecological Soil Screening Level
Figure 51 Cadmium in Soil Above Ecological Soil Screening Level
Figure 52 Cobalt in Soil Above Background Level that Could Migrate to Swale
Figure 53 Nickel in Soil Above Background Level that Could Migrate to Swale
Figure 54 Chromium in Soil Above Ecological Soil Screening Level
Figure 55 Copper in Soil Above Ecological Soil Screening Level
Figure 56 Aluminum in Soil Above Background Level that Could Migrate to Swale
Figure 57 Zinc in Soil Above Background Level that Could Migrate to Swale
Figure 58 EPH in soil above Default Product Level & Residential Cleanup Criteria & Ecological Soil Screening Level
Figure 59 Fill Area
Figure 60 Benzene in Groundwater - May 2019
Figure 61 Ethylbenzene in Groundwater - May 2019
Figure 62 Toluene in Groundwater - May 2019
Figure 63 Xylenes in Groundwater - May 2019

Figure 64 MTBE in Groundwater - May 2019
Figure 65 TBA in Groundwater - May 2019
Figure 66 1,2,4-TMB in Groundwater - May 2019
Figure 67 PCE in Groundwater - May 2019
Figure 68 VOC TICs in Groundwater - May 2019
Figure 69 Bis(2-ethylhexyl)phthalate in Groundwater - May 2019
Figure 70 2-Methylnaphthalene in Groundwater - May 2019
Figure 71 Naphthalene in Groundwater - May 2019
Figure 72 1-Methylnaphthalene - May 2019
Figure 73 SVOC TICs in Groundwater - May 2019
Figure 74 Arsenic in Groundwater - May 2019
Figure 75 Beryllium in Groundwater - May 2019
Figure 76 Cobalt in Groundwater - May 2019
Figure 77 Lead in Groundwater - May 2019
Figure 78 Nickel in Groundwater - May 2019
Figure 79 CEA Boundary

List of Tables

Table 1	Summary of Indoor and Ambient Air Samples at Csepes Residence -2/19/16
Table 2	Summary of Sump and Swale Samples - January 2014
Table 3	Water Level Data - 12/19/16
Table 4	Summary of VOC Analysis of Groundwater Samples Collected 12/2016
Table 5	Summary of SVOC Analysis of Groundwater Samples Collected 12/2016
Table 6	Summary of TAL Metal Analysis of Groundwater Samples Collected 12/2016
Table 7	Summary of Soil & Temporary Well Analytical Reports for Samples Collected 4/27 &28/2017
Table 8	Summary of Soil Analytical Reports for Samples Collected 5/8&9/2017
Table 9	Summary of Soil Analytical Reports for Samples Collected in April & May 2017 Analyzed for SVOCs, EPH, TAL Metals & PCBs
Table 10	Summary of Seepage Sample Collected 5/11/17
Table 11	Summary of Soil Analytical Reports for Samples Collected 10/3/17
Table 12	Summary of Soil Analytical Reports for Samples Collected 10/4/17
Table 13	Summary of Soil Analytical Reports for Samples Collected 2/20/18
Table 14	Summary of Soil Analytical Reports for Samples Collected 2/21/18
Table 15	Residential Indoor Air Sampling Result Summary Table 3/6/18
Table 16	Summary of Soil Analytical Reports for Samples Collected 5/24&25/18
Table 17	Summary of Soil Analytical Reports for Samples Collected 9/13/18
Table 18	Summary of Groundwater Analytical Reports for Samples Collected on 10/3 & 4/18 for Volatile Organic Compounds
Table 19	Summary of Groundwater Analytical Reports for Samples Collected on 10/3 & 4/18 for Semi Volatile Organic Compounds
Table 20	Summary of Groundwater Analytical Reports for Samples Collected on 10/3 & 4/18 for TAL Metals
Table 21	Summary of Groundwater Analytical Reports for Samples Collected 11/15/18 Semi Volatile Organics
Table 22	Summary of Groundwater Analytical Reports for Samples Collected 1/18/2019 for Volatile Organics
Table 23	Summary of Groundwater Analytical Reports for Samples Collected on 1/18/19 for Semi Volatile Organics
Table 24	Summary of Groundwater Analytical Reports for Samples Collected on 1/18/19 for Total & Dissolved TAL Metals
Table 25	Water Level Data - 5/21/19
Table 26	Summary of Groundwater Analytical Reports for Samples Collected in May 2019 for Volatile Organics
Table 27	Summary of Groundwater Analytical Reports for Samples Collected in May 2019 for Semi Volatile Organics
Table 28	Summary of Groundwater Analytical Reports for Samples Collected in May 2019 for TAL Metal Analysis

Appendix

Appendix A	Summary & Location of Samples Collected by RedHawk & the Whitman Co.
Appendix B	Boring and Well Logs
Appendix C	Well Searches 2002, 2010, 2017 & 2019
Appendix D	Well Permits, Records, Form A
Appendix E	Purge Data
Appendix F	Form B
Appendix G	Soil Disposal Documentation
Appendix H	Receptor Evaluation Form & CID -2/22/12 and 2019
Appendix I	Public Notification - 2012, 2015, 2017 & 2019
Appendix J	Vapor Intrusion Investigations - 2013, 2018 & 2019
Appendix K	EDD Passed Documentation
Appendix L	Site and Contact Update Form, Notice to Comply Form, Confirmed Discharge Notification
Appendix M	Timeframe Extension Request - August 2016
Appendix N	Preliminary Assessment Forms & Updated CID
Appendix O	Quality Assurance Quality Control Plan
Appendix P	Ecological Evaluation
Appendix Q	Compliance Averaging
Appendix R	Classified Exemption Area Proposal

1.0 INTRODUCTION

This is a Remedial Investigation (/RI) Report prepared by On-Site Environmental, Inc. (On-Site) on behalf of 1696 Route 130 LLC for the North Brunswick Gulf (NBG) service station located at 1696 Georges Road Route 130 in North Brunswick Township, New Jersey **(Figure 1)**.

This RI report addresses fourteen (14) Areas of Concern (AOCs) identified in a Preliminary Assessment Report prepared by On-Site dated August 2016 including the incident that triggered environmental investigations at the site. The initial incident involved a release of unleaded gasoline from an underground storage tank (UST) that was damaged on August 30, 2001 during a Phase II assessment conducted by Environmental Compliance Monitoring, Inc. (ECM).

This report was prepared in accordance with the New Jersey Department of Environmental Protection (NJDEP) Technical Requirements for Site Remediation N.J.A.C. 7:26E and the NJDEP Field Sampling Procedures Manual.

2.0 GENERAL INFORMATION & SITE SETTING

2.1 General Information

According to the New Jersey Association of County Tax Board, the North Brunswick Gulf site is located in Middlesex County, North Brunswick Township at Block 282 Lot 1 and is approximately 0.6313 acre. The x and y state plane co-ordinates for the site are 500,233.65 and 586,355.94 and the NJDEP PI # for the site is 010180. The NJDEP case numbers that this RI Report was prepared for are 01-08-30-1546-07, 01-08-30-1549-55, 19-05-08-1010-08. The first two case numbers are related to the damaged UST mentioned above and case number 09-05-08-1010-08 is related to petroleum discharges that were discovered during site wide investigations.

2.2 Site Setting & Current Layout

The NBG site is situated in a mixed land use area of North Brunswick Township that includes commercial and residential properties and one (1) undeveloped lot **(Figure 2)**. The site is bound to the north by Route 130 (a four lane highway), to the east by a small strip mall where a dry cleaner is located, to the south by residential properties and to the west by a street named Washington Place. A PB gas station and residential properties are located on the west side of Washington Place. To the north of RT 130 is an undeveloped wooded lot. The area is serviced by public water and sewer utilities.

The site has a one story building used as an automobile repair center with three service bays and a small office area **(Figure 3)**. There are also two gasoline pump islands located on a common concrete pad separated by a small kiosk, which are located under a canopy to the north of the building. A diesel dispenser is located to the west of the building. A concrete pad is also located to the west of the building where three USTs are located. The site currently has one 12,000 gallon UST that stores unleaded gasoline and two 6,000 gallon USTs (one stores unleaded gasoline and the other stores diesel fuel). There is also a heating oil UST that was reportedly closed in place in the late 1990s near the east side of the building. There is also a 275 gallon

above ground storage tank (AST) used to store heating oil for onsite consumption located behind the building on asphalt. In addition, there is a 275 gallon waste oil and a 275 gallon heating oil AST on a common concrete pad located behind the building. The heating oil AST is also used for onsite space heating. A 1,000 gallon above ground propane tank is located along the east side of the site that is used to fill small propane tanks. Also two (2) small storm drains are located behind the building in a stoned area that discharges to a swale/drainage ditch at the southwest end of the site. The swale terminates at a pipe that is connected to the local storm drain system, which ultimately drains to Farrington Lake, a Natural Heritage Program site. A storage shed is located to the west of the building and there is another on a concrete pad used to store mainly files and new automobile parts located behind the building.

The majority of the site is paved with macadam except for the area behind the one story building (south of the building), which is mainly stoned and to the southwest of the onsite building, which is grass. Small grass areas are also located at the north end of the site and the northeast and northwest corners of the site. The stoned area behind the building is enclosed by a chain link fence. There is some asphalt in the stoned area near the chain link entrance gate.

The eastern part of the site's topographical setting can be characterized as relatively flat lying. From approximately the middle of the site the land surface slopes to the west toward Washington Place. According to the USGS Topographic Map of the area, and verified by field observations, there are no water bodies located within 1,000 feet of the site. The closest surface water body is Farrington Lake located approximately 1,300 feet to the south of the site and the closest stream (Lawrence Brook Tributary) is located approximately 1,058 feet to the southwest of the site **(Figure 4)**. Based on a review of the NJDEP GeoWeb site, no community or non-community ground water wells were identified within 1,000 feet of the site. Ground water at the site is classified by the NJDEP as Class IIA. Also according to the NJDEP GeoWeb site the closest wetland is approximately 275 feet to the northwest (across RT 130), which is topographically up-gradient **(Figure 4)**. Inspection of the area within 200 feet of the site indicated that there are no child care facilities, schools or parks. However, there is a child care facility (Committed Hands Child Care & Preschool) located approximately 540 feet to the north west of the site, which is hydraulically up gradient **(Figure 2)**.

3.0 GEOLOGY & HYDROGEOLOGY

The site is located in the Piedmont Physiographic Providence. According to the NJDEP GeoWeb site the surficial geology is associated with the Pennsauken Formation: sand, clayey sand, pebble, gravel, minor silt and clay and cobble gravel, yellow reddish yellow, white as much as 140 foot thick and overlays the Potomac-Raritan-Magothy formation.

Based on the results of environmental investigations conducted at the site there are significant lithology changes in the material between the eastern and western parts of the site. The material at the eastern part of the site consists mainly of silty clays to a depth of 12 feet underlain by fine to medium sand with thin interbedded silty and sandy clays. The material from the middle of the site to the west is mainly a silty clay. Beneath the sand in the northeast and the silty clay to the west at a depth of approximately 20 feet below grade is s plastic clay of undetermined thickness.

To the rear of the onsite building approximately three feet of fill was placed around 1980 to raise the grade of the site, which is characterized by miscellaneous soil and red rock fragments.

The depth to ground water at the site ranges from 2 to 8 feet at the western end of the site depending on the season and from 4½ to 8 feet at the northeast end of the site depending on the season. Based on investigations conducted at the site ground water flow at times is radial but the overall direction of flow is expected to mirror local topography, which slopes to the south, which is in the direction of Farrington Lake. The average depth to water at the site is shown on **Figure 5**.

Based on slug tests performed on monitoring wells at the site the hydraulic conductivity ranges from 3.34 ft/day at the north eastern end of the site to 7.7×10^{-3} ft/day at the western end of the site. Using the geometric mean of the average hydraulic conductivity, the average hydraulic gradient (0.0215) an assuming an effective porosity of 25% the groundwater seepage velocity was calculated to be approximately 0.012 feet per day (4.38 feet per year) for the most mobile contaminant tertiary butyl alcohol (TBA).

4.0 AREAS OF CONCERN (AOCs)

There are 14 AOCs at this site, which are listed and described below **(Figure 3)**.

- AOC 1: Historic & current USTs locations.
- AOC 2: Former gasoline pump island
- AOC 3: Area behind station where a high level of lead was detected.
- AOC 4: Unregulated heating oil UST that is closed-in-place.
- AOC 5: Unregulated heating oil above ground storage tank (AST).
- AOC 6: Waste oil & heating oil AST on concrete pad.
- AOC 7: Storm drains behind station.
- AOC 8: Swale/drainage ditch that receives outfall from the storm drains.
- AOC 9: Two former floor drains in service area.
- AOC 10: Three former hydraulic lifts in service area.
- AOC 11: Former septic system.
- AOC 12: Former parts cleaning basin
- AOC 13: Groundwater media
- AOC 14: Soil media

AOC 1: AOC 1 is the area where historic and the current USTs are located. The first generation of UST reportedly consisted of three gasoline USTs and were installed in 1957 and removed in 1976 by the Gulf Oil Corporation. The second generation of USTs reportedly installed in 1976 in the same location as the first generation USTs consisted of four 6,000 gallon tanks used to store gasoline and were removed in December 2001 after one of the tanks was damaged during a Phase II investigation. A closure report was reportedly submitted to the NJDEP for the 2nd generation USTs. The third generation of USTs were installed in June 2003 in the same location as the former USTs and consist of one 12,000 gallon UST used to store gasoline and two 6,000

gallon USTS (one stores gasoline and the other stores diesel). When the 3rd generation of USTs were installed new lines were installed to the existing dispensers and a diesel dispenser was installed in a separate location. The 3rd generation of USTs are currently in operation. Impacts to the soil and groundwater have been detected at this AOC and they appear to be comingled with impacts from AOC 2.

AOC 2: AOC 2 is the area where an old pump island was located. The pump island and associated piping was reportedly removed in 1998 when the 2nd generation USTs underwent modifications to comply with the USTs regulations. No documentation was available relative to the closure of the old pump island. Impacts to the soil and groundwater have been detected at this AOC and appear to be comingled with impacts from AOC 1.

AOC 3: This is an area where a high concentrations of lead was detected behind the on-site building at a depth of 3 to 4 feet below grade. The source of the lead impacts is unknown.

AOC 4: This AOC is where a 550 gallon unregulated UST that was used to store heating oil for onsite consumption was reportedly closed-in-place in the late 1990s. It is located east of the onsite building. No impacts to the soil or groundwater from this AOC have been detected.

AOC 5: This AOC is where a 275 gallon unregulated heating oil AST is located. Although surface staining was observed at this AOC in 2010 this AOC does not appear to be associated with a release that impacted the soil or groundwater above the standards.

AOC 6: This AOC is where one 275 gallon waste oil AST and one 275 gallon heating oil AST are located on a concrete pad located to the rear of the on-site building. Signs of staining were observed at this AOC in 2010. Impacts above the soil and groundwater standards have been detected in the vicinity of this AOC, which indicates surface spillage occurred in the vicinity of this AOC.

AOC 7: This AOC involves two storm drains located behind the on-site building. The drains are approximately 2 by 4 feet in length and approximately 2 feet deep and connected by a pipe that outfalls to a swale/drainage ditch at the southwest end of the site. The drainage ditch outfalls to the local storm drain system, which drains to Farrington Lake, located approximately 1300 feet from the site. One of the drains is located down gradient of the waste oil AST. Impacts above the standards have been detected in the storm drains.

AOC 8: This AOC is where the swale/drainage ditch at the southwest end of the site is located. The ditch is approximately 78 feet long and 8 feet at its widest point. It is lined with rip rap and in an area where brush and deciduous trees are located. No signs of stressed vegetation have ever been reported in the swale. There is a buried storm drain pipe between the ditch and the township owned storm drain on Washington Place, which is approximately 20 feet long. Impacts above the standards have been detected in the swale/drainage ditch.

AOC 9: This AOC is where two 4-inch floor drains were located inside the building. The floor drains are currently sealed with concrete. The floor drain in the center bay area was reportedly

connected to an onsite septic system until approximately 1973 when the floor drain was connected to the local sanitary system. The floor drain in the western most bay has always been connected to the local sanitary system. The floor drains do not appear to be a source of subsurface contamination.

AOC 10: This AOC is where three hydraulic lifts were located. Two were reportedly center post lifts and one was a dual post lift. The center post lifts which held the oil were reportedly removed and only the sleeves and safety rods were left in the ground. The dual post lift along with the UST that held the oil was reportedly removed approximately during May 2001 with no apparent discharge reported. Impacts above the standards have been detected where the former dual post lift was located (western most service bay), which indicates a release occurred at that location.

AOC 11: This AOC is where the former septic system is located. The septic tank was reportedly removed when the site was connected to the municipal sanitary system in 1973 but the location of the former tank is unknown. During subsurface investigation the location of a stoned filled pit with a sewage odor was discovered, which is believed to be the former septic system. Impacts to the soil and groundwater in the vicinity of the stone filled pit indicate a release to the environment occurred from the former septic system.

AOC 12: This AOC was where a former Safety Kleen parts cleaning basin was located inside the building. No cracks were detected in the concrete floor at that area and a release to the environment does not appear to have occurred at that location.

AOC 13: This AOC is related to an environmental media (groundwater). Investigation have indicated that the groundwater has been impacted with volatile organic and semi volatile organic compounds above the Class IIA groundwater quality standards from releases from AOC 1, AOC 2, AOC 6, and AOC 11.

AOC 14: This AOC is related to an environmental media (soil). Investigations have indicated that the soil has been impacted with volatile organics, semi volatile organics and metals.

5.0 BACKGROUND INFORMATION
5.1 Site Ownership & Operation

The site has been a retail gasoline and service station for over 50 years. According to aerial photographs the site was undeveloped in the 1930s. In 1951 a house was located at the west corner of the property near the intersection of RT 130 and Washington Place. In 1957, the Gulf Oil Corporation constructed a gasoline service station on the property and rented it to Walter Lapp Sr. (deceased) who operated an automobile repair service center and sold retail gasoline at the site. In 1976, Walter Lapp Sr. and Jathina Lapp purchased the property from Gulf and continued to operate a retail gasoline facility and an automobile repair center at the site. At the time Gulf sold the property, Gulf reportedly replaced three steel USTs with four 6,000 gallon fiberglass reinforced tanks. Before Mr. Walter Lapp passed he reported the replacement tanks

were installed at the same location as the Gulf tanks. Around 1981 an addition was added onto the onsite building.

Between December 1998 and March 1999, the tanks system underwent modifications to comply with the regulatory deadline in December 1998. These modifications were conducted by P&R Maintenance (now defunct) of Warrington, NJ. The modifications consisted of (1) new double walled FRP piping, (2) spill prevention and overfill protection, (3) Veeder Root TLS 350 automatic tank gauging and interstitial monitoring for the piping, and (4) line leak detectors. A new pump island, kiosk and canopy were also constructed. The old piping from the tanks to the former pump island was also reportedly removed at that time. The location of the former pump island is shown on **Figure 3**.

Due to an incident that occurred in August 2001, (that is discussed in more detail below) the four tanks mentioned above were removed in December 2001 and in June 2003 one 12,000 gallon unleaded gasoline, one 6,000 gallon unleaded gasoline and one 6,000 gallon diesel tank was installed in the same location as the previous tanks. Also a diesel dispenser and new piping to the existing gasoline dispensers were installed. Due to the August incident fuel was not sold at the site between August 2001 and approximately July 2003. Around June/July 2003, NBG reopened the station and began to sell diesel fuel and unleaded gasoline. They also operated an automobile repair center at the site until around 2005/2006. At that time NBG started to lease the site to Summit Reality who subleased the site to the tenants listed below.

Name of Operators	Dates From and To	Use or Operations
Summit Reality/Petroleum Supply Corp: Ted Cohen: lessee	2005/2006 to present	
Brunswick Auto Craft: Hossan : sub lease	2006 to present	Automobile repair
Hare Krishna Fuel Inc. : sub lease	2013 to present	Retail gasoline & diesel sales
Avis: sub lease	2008	Car rentals
Avis Rent A Car: sub lease	2008	Car rentals
Shreeram Gas Inc.: sub lease	2008, 2007	Retail fuel sales
Fai Fuel, Inc.: sub lease	2005	Retail fuel sales
Precision Auto Service: sub lease	2004, 2003	Automobile repair

On April 6, 2016, the Licensed Site Remediation Professional (LSRP) for the site filed a Site and Contact Information Update Form with the NJDEP to inform them that Walter Lapp Sr. and Jathina K.Lapp (former owners) passed and that their children (Walter Lapp Jr. and Ruth Frey) were the new responsible parties and that they established an organization for the site, which is called 1696 Route 130 LLC. The site is still operated as a retail gasoline and automobile repair service center. In July 2018, the facility operator filed a NJDEP UST registration form, which apparently changed the name of the facility to Lawrence Fuel LLC (but the owner of the tanks is still Walter Lapp Jr and Ruth Frey).

5.2 August 30, 2001 Incident

On August 30, 2001, Environmental Compliance Monitoring was conducting a Phase II site assessment to evaluate the environmental conditions at the subject property in preparation of a potential property transfer. As part of that assessment Terra Probe Inc. installed several borings around the USTs. One of the borings damaged an UST that stored unleaded gasoline. The location of the damaged UST is shown on **Figure 6**, which shows the layout of the facility at that time. Note that the rear of the station was never inspected in 2001/2002. The damaged UST was taken out of service that day and the NJDEP was notified of the release and case numbers were assigned to the incident (01-08-30-1546-07 and 01-08-30-1549-55).

Approximately 6,100 gallons of waste (i.e., a combination of gas and water) was pumped from the tank that was damaged by ECM's contractor AWT. The owner of the facility contacted Gulf Oil who contracted Mystic to remove the contents of the sister tank that was manifolded to the damaged tank. Mystic reportedly removed 5,150 gallons of good gas, meaning gas without water from the sister tank. On August 31, 2001 AWT excavated soil to the northwest of the concrete pad to access damage. AWT excavated to a depth of approximately 10 feet below grade until the end of the tank was exposed. The impact point and associated crack in the fiberglass tank was thus confirmed. Before backfilling ECM installed an approximate 10-foot deep by 4-inch diameter sump in the excavation backfill where the tank was damaged. On September 4, 2001, ECM gauged the sump and detected a trace (0.01 feet) of floating product on the water table. The amount of gasoline released was estimated at 1,500 gallons.

In response to the inadvertent release, interim remedial measures were conducted during 2001/2002 by Environmental Maintenance Company (EMC) under the supervision of RedHawk Environmental Consulting, Ltd (RedHawk). The interim measures included the excavation of approximately 1,050 tons of impacted soil, recovery of approximately 38,330 gallons of ground water and 500 gallons of free product from the excavation (and closure of the four UST in December 2001).

Interim remedial activities stopped on February 11, 2002 when it was discovered that the soil degradation in the UST excavation extended up gradient and that significant soil and ground water degradation appeared to be associated with the up gradient/northeastern end of the site.

To evaluate the extent of the impacts RedHawk installed 6 test pits, 28 test borings and 4 monitoring wells and had 29 soil samples analyzed for volatile organic compounds (VOCs) and lead, 31 for VOCs and 34 for forensic analysis **(Figure 6)**.

When that data is compared to the current soil standards it indicates benzene, toluene, ethylbenzene, xylenes, (BTEX), methyl tert butyl ether (MTBE), tertiary butyl alcohol (TBA), naphthalene and lead were above the direct contact standards and the default impact to ground water soil screening levels (IGWSSL). RedHawk also collected ground water samples from 4 temporary wells and the 4 ground water monitoring wells **(Figure 6: TW 1 through TW 4 and MW 1 through MW 4)**. That data indicated BTEX, MTBE. TBA, naphthalene, 1,2-

dibromoethane (EDB), volatile organic tentatively identifiable compounds (VOC TICs) and possibly 1,1,2 trichloroethane was above the current ground water quality standards (GWQS).

Slug tests were also conducted in the monitoring wells, which indicated there are 4 orders of magnitude difference in the hydraulic conductivity of the material in the east part of the site as compared to the material at the western part of the site and that MW 1 had the highest hydraulic conductivity value (3.34 ft/day) and MW 4 had the lowest value 7.7×10^{-3} ft/day).

Due to discussions between the interested parties EMC did not remove the damaged UST until the end of December 2001. Because the damaged UST shared a common excavation with three other USTs the four USTs were removed between December 26 and December 27, 2001. Closure activities were performed by EMC (NJDEP Closure and Subsurface Evaluator Certification # US01154). All USTs closure sampling was performed by Mr. Charlie McGuth, P.G. (NJDEP Closure and Subsurface Evaluator Certification # 0020973). An UST Closure Report & Groundwater Remedial Action Report dated February 14, 2002 was prepared by EMC and reportedly submitted to NJDEP by North Brunswick Gulf, Inc personnel.

The size of the excavation was approximately 53 feet long by 35 feet wide by 13 feet deep. The extent of the excavation is shown on **Figure 3 and 6**. Those figures also shows the extent of a shallow excavation (on the average of 3 feet deep) on the down gradient end of the main USTs excavation that was conducted by EMC to address elevated levels of MTBE in soil in that area. All excavated soil was disposed of at Carteret Biocycle Corporation of Carteret, New Jersey. In conjunction with the interim remedial soil activities discussed above approximately 38,330 gallons of groundwater and 500 gallons of free product was pumped from the excavation into a 20,000 gallon holding tank. The recovered liquid was removed periodically from the site by Clean Venture, Inc. of Elizabeth, New Jersey and International Petroleum Corporation of Wilmington, DE.

After the USTs were removed RedHawk submitted a report entitled "*Preliminary Site Investigation/Remedial Action Report"* dated May 1, 2002 to the NJDEP. In that report RedHawk concluded that most, if not all of the contamination associated with the August 2001 release was remediated and the remaining contamination was mainly related to older releases that occurred at the site that appeared to be coming from the abandon pump island located near the northeastern end of the site. Note that RedHawk did not collect any samples beneath the building or behind the building before that report was submitted.

A list of the samples RedHawk collected and had analyzed along with maps showing sample location and summary tables of the analytical data is presented in **Appendix A**. Although electronic data deliverables (EDDs) were not submitted to the NJDEP for these samples the analytical data does provide useful information regarding the historical release. Note that the tables in **Appendix A** compare the results to the current standards not the 2001 and 2002 standards when the samples were collected. Also recognize the forensic samples were analyzed by Friedman & Bruya and they are not a NJDEP certified laboratory. The non forensic samples were analyzed by Seven Trent Laboratories (now owned by Eurofins) and Wastex. **Figure A in**

Appendix A shows the locations where exceedances above current soil standards and screening levels were reported.

The soil disposal manifests, the manifest for the recovered liquid, the slug tests data, analytical reports and well permits and records discussed above were presented to the NJDEP in the report submitted by RedHawk and are not resubmitted in this report. Logs of all the borings and wells installed by RedHawk were submitted to the NJDEP in RedHawk's report but are re-presented in **Appendix B** for easy review.

6.0 ACTIVITIES CONDUCTED - JULY 2002 to MARCH 2012

6.1 Introduction

The activities discussed in this section (Section 6.0) were conducted by RedHawk Environmental Consulting, Ltd and the Whitman Company before the LSRP program came into effect. However, it should be noted that the LSRP on record (Frank Jasiulewicz with On-Site Environmental, Inc.) was the subsurface evaluator (SSE) that was contracted by RedHawk to perform their investigations under their supervision. Although not documented in a Quality Assurance Project Plan (QAPP) field investigations conducted under the supervision of RedHawk were conducted in accordance with the NJDEP Field Sampling Procedures Manual. Reduced data deliverables (RDDs) and electronic data deliverables (EDDs) were not available or submitted to the NJDEP for the samples collected by the Whitman Company and most of the samples RedHawk collected. In addition, it should be known that some of the samples RedHawk had analyzed were analyzed by Friedman & Bruya, which is not an NJDEP certified laboratory, therefore RDDs and EDDS are not available for submittal to the NJDEP for those samples.

Recognizing the deficiencies mentioned above the analytical data presented in this section still does have some value it that it provides insight into why and where samples were collected.

6.2 Well Search - July 2002

On July 16, 2002 a well search was conducted at the NJDEP Bureau of Water Allocation (NJBWA), contacting Middlesex County and searching the NJ Geological Survey web site (http://www.state.nj.us/dep/njgs/geodata/dgs97-1.htm).

According to Mr. Tom Sirkorski of Middlesex County, the County was not aware of any wells or surface water supply intakes within a 1-mile radius of the NBG site. The wells discovered through review of the NJBWA database and Geological Survey web site are listed on **Table 1 in Appendix C (**along with some well records found in a well survey conducted in 2010, which will be discussed later). Their locations are shown on **Figure 1 in Appendix C**, and were plotted using the latitude and longitude measurements provided in the NJDEP databases. Well locations and use was not field checked for accuracy in 2002.

In summary, within 1 mile from the NBG site there were 60 wells records. A breakdown of the water use listed on the well records is listed below.

- 26 domestic wells
- 24 monitoring or observation wells
- 1 piezometer with a steel casing
- 1 industrial well
- 2 public supply wells
- 1 well used at a chicken farm
- 1 well used at a garage
- 1 well discontinued

- 1 well with intermittent use
- 2 water withdrawal surface water intakes

Within 1,000 feet of the site there were 2 domestic wells. According to the well records they not were not located down gradient of the NBG site.

To evaluate the location of the surface water intakes RedHawk contacted American Water Services the water purveyor for North Brunswick Township. A Mr. Dan Berardinelli stated that their surface water intake is located in Franklin Township on Canal Road, Somerset, New Jersey approximately 13 miles from the North Brunswick Gulf site. In addition, RedHawk contacted the New Brunswick Water Utility (NBWU) that services New Brunswick, Milltown and parts of Franklin Township. A Mr. Edward Mohony of NBWU stated their surface water intake was located downstream of Farrington Lake near the intersection of Route 18 and Route 1. This intake is located approximately 5 miles from the NBG site. Furthermore, RedHawk contacted the Middlesex Water Company (MWC) that services Edison, Woodbridge, South Amboy and Carteret. A Mr. Dave Brogel of MWC stated their surface water intake is the Delaware Raritan Canal approximately 10 miles from the North Brunswick Gulf site.

6.3 Installation of Temporary Pump and Treat System - January to July 2003

Since the excavation dug by EMC (53' x 35' x 13') was still open in January 2003, RedHawk requested an On-Scene Co-coordinator (OSC) emergency discharge authorization from the NJDEP to control the water level in the tank grave excavation and prevent overflow onto Washington Place. The authorization was approved and a pump and treat system was installed, which discharged treated water to a storm drain that outfalls to Farrington Lake. The system was started on January 8, 2003 and operated until July 3, 2003 during which time it recovered and treated 402,920 gallons of groundwater. While the system was in operation, monthly samples were collected before, between and after the granular activated carbon treatment system and the results of the samples were submitted to the NJDEP in monthly discharge monitoring reports and are not resubmitted in this report.

6.4 USTs and Recovery Well Installation - May June 2003

During May and June 2003 Pine Run Construction a licensed tank installer from Doyelstown, Pa. installed two 6,000 and one 12,000 gallon UST in the tank grave, which were the 3rd generation USTs. They also installed new piping to the existing gasoline dispensers and a diesel dispenser. The tanks that were installed were double wall fiberglass with interstitial monitoring and spill and overflow protection.

During the USTs installation, a 12-inch diameter sump was installed in the back fill material for dewatering, which was converted to a permitted well by Tri State Environmental Probing and Drilling after the tanks were installed. The well was constructed of 6-inch diameter PVC casing and screen. The total depth of the well was 15 feet. Water and electric lines were installed from the well to the existing water treatment shed and a pump was installed in the well, however, the recovery well was never started. The location of the well (RW 1), the new USTs and new diesel

dispenser is shown on **Figure 3**. The well permit, record and Form A for RW 1 are presented in **Appendix D**.

6.5 Borings and Wells Installed by the Whitman Companies, Inc. - December 2004

From December 20 to December 23, 2004, the Whitman Companies reportedly oversaw the installation of 19 borings and six 2-inch groundwater monitoring wells at the site. The borings and wells were reportedly installed by Environmental Probing Investigations, Inc. The boring locations and wells (MW 5 – MW 10) are shown on **Figure 3** and the well permits and records are presented in **Appendix** D (but Form A's were not available). During the boring and well installations Whitman reportedly collected 37 soil samples for volatile organics+10 (VOC+10) analysis. The samples were reportedly analyzed by Integrated Analytical Laboratories, LLC of Randolph, NJ. The analytical reports are summarized in **Appendix A: Table 17**. The analytical reports were not available for review and EDDs were not submitted to the NJDEP. However, that data indicates:

- BTEX were the only compounds that exceeded the current non-residential direct contact standards and the default IGWSSL. The highest concentration of benzene (30.9 mg/kg), toluene (281 mg/kg), ethylbenzene (180 mg/kg) and xylenes (1,100 mg/kg) were detected in a sample from boring N13-1, which was installed inside/beneath the onsite building by AOC 10 **(Figure A in Appendix A)**.
- Other locations where benzene exceeded a standard were in samples N7-2, N7-3, TB7-1, TW16-1 **(Figure A)**.
- Xylenes exceeded a soil standard in N2-V **(Figure A)**.

On January 11 and 12, 2005, Whitman collected groundwater samples from the 10 groundwater monitoring wells at the site and determined the direction of groundwater flow was towards the south, which was in line with the previously determined flow direction. The samples were analyzed for VOC+10. In addition, samples from MW 4 and MW 9 were reportedly analyzed for lead. The samples were reportedly analyzed by Integrated Analytical Laboratories, LLC. The analytical reports are summarized **in Appendix A: Table 18** and the concentrations are annotated on **Figure B in Appendix A.** The analytical reports were not available for review and EDDs were not submitted to the NJDEP. However, that data indicated:

- The following compounds exceeded the NJDEP Class II-A GWQS: BTEX, MTBA, TBA and VOC TICs.
- The highest BTEX concentrations were detected in MW 7.
- The highest MTBE and TBA concentrations were detected in MW 4.
- Down gradient wells MW 9 and MW 10 did not have concentrations above the NJDEP GWQS,
- The extent of the groundwater degradation was not defined by the existing configuration of monitoring wells.

6.6 Groundwater Sampling – December 2007

On December 5 and 6, 2007, RedHawk collected samples from all the groundwater monitoring wells to secure updated information on the groundwater quality. The samples were collected in accordance with *NJDEP Field Procedure Manual, August 2005*. Before the wells were sampled, the water level in the wells was recorded to determine the amount of water to purge and to determine if free product was present (no free product was detected). Each well was purged with a decontaminated submersible pump with new tubing. Field data collected during the purging event such as water level, amount of water purged, ph, temperature, dissolved oxygen (DO), and conductivity measurements is presented in **Appendix E**. Purge water was treated with granular activated carbon (GAC) before discharge to the ground surface. After the samples were collected they were placed in a cooler with ice and a chain-of-custody was completed for the samples.

The samples were submitted to Test America Laboratories (TAL) for VOC+10 and TBA analysis by EPA Method 624. The analytical reports are summarized on **Table 19 in Appendix A** and annotated on **Figure C in Appendix A**. The analytical data indicated the results overall were similar to the sample results obtained by Whitman in 2004, except TBA was not detected in MW 4. **Figures D and E in Appendix A** show the inferred distribution of benzene and MTBE detected in the December 2007 samples, respectively. Electronic data deliverables (EDDs) were submitted to srpedd@dep.nj.gov on 7/30/18 by the LSRP. An email from the NJDEP that indicated the EDD passed is presented in **Appendix K**.

6.7 Elevation Survey – February 29, 2008

On February 29, 2008, a professional licensed NJ surveyor (Precision Surveying Technology, LLC) surveyed the site and determined the elevation of the groundwater monitoring wells at the site. Form B's certified by the surveyor are presented in **Appendix F**.

The water level data collected on December 5, 2007 before the wells were purged was used to prepare an updated water table gradient map **(Figure F in Appendix A)**. That map indicates there was a high spot in the water table in the vicinity of MW 4, MW 8 and MW 10 and that the prominent direction of groundwater flow appeared to be towards the east and west. Previous gradient maps indicated the flow was to the south. The water level data used to prepare **Figure F** is presented in **Table 20 in Appendix A.**

6.8 Soil and Groundwater Investigations – August 2008

Before additional monitoring wells were installed to define the extent of the soil and groundwater impacts, RedHawk supervised the installation of 9 borings on August 25 and 26, 2008. Three of the borings were installed on the NBG property, two were installed in Washington Place and four were installed in RT 130. The boring locations are shown on **Figure 3: (F 1 through F 9)**. Before the off-site borings were installed, Road Opening Permits were secured from the NJ Department of Transportation and North Brunswick Township.

The borings were installed by direct push technology by Tri State Environmental. The depth of the borings ranged from 10.5 to 21 feet below grade. Continuous soil samples were collected during the installation of each boring. A geologist/subsurface evaluator inspected the soil for signs of degradation and the soil was logged and monitored with a calibrated photo-ionization detector (PID). The boring logs and PID data are presented in **Appendix B**.

The material encountered during the installation of the borings at the southern and east end of the site was mainly clay but some locations were characterized by clay with interbeded stringers of sand. Borings F 6 and F 7 located towards the north end of the site encountered a fine to coarse sand below a depth of 10 feet.

Twenty three soil samples were collected from the 9 borings from various depths and analyzed by Friedman and Bruya, Inc for VOC+10 and TPH analysis. At least one soil sample was collected from each boring. The exception was no sample was collected from boring F6 because no positive PID readings were detected. The samples selected for analysis were those that exhibited the highest PID reading. If elevated PID readings were not detected then the sample was collected from the soil just above the saturated zone. The analytical reports of the soil samples are summarized on **Table 21 in Appendix A,** which compares the results to the 2019 standards. Although F&B was not a NJDEP certified laboratory **t**hat data indicates:

- The only compounds detected above a standard was benzene (2.3mg/kg) and naphthalene (12 mg/kg) in a sample collected from boring F 5, which needed to be confirmed because the benzene exceedance was detected at 19-20' bg.
- All the detection levels were below the residential direct contact soil standard, however, the samples were not analyzed for EDB as required by the May 7, 2012 NJDEP regulations.
- The detection level for benzene, TBA and EDC exceeded the default impact to groundwater soil screening level for the analyses conducted on samples F 7: 1-2' and F 7: 2-3', which were samples collected in Rt. 130.

The borings where exceedances were detected are highlighted on **Figure A in Appendix A**.

Immediately after the borings mentioned above were installed they were completed as temporary wells. The exception was a temporary well was not installed in boring F8 and F9. The wells were constructed with 10 or 15 feet of 1-inch diameter PVC screen and appropriate lengths of solid casing. The actual amount of casing and screen used to construct each temporary well is presented on the boring logs in **Appendix B**. Temporary wells F 1 and F 2 installed in Washington Place had less than 1 foot of water in their casings at the end of the first day of drilling, therefore, water samples were not collected from those points until the following day. The depth of F1 and F 2 was 21 feet. Temporary well F5 drilled the second day never accumulated more than 4 inches of water, therefore, a water sample was not secured from that point. However, on August 26, 2008, water samples were collected from temporary wells F1, F2, F 3, F 4, F 6 and F 7. Before the temporary wells were sampled the wells were gauged and purged of at least 3 well volumes or until the well was dry (which ever occurred first) and measurements of ph, conductivity, DO and temperature were secured before, during and after the

sampling event. Although some wells did not recharge to within 90% of the original water level (see purge data in **Appendix E**) a water sample was still collected for analysis. After the samples were collected they were place on ice in a cooler and a chain-of-custody form was completed for the samples. The samples were sent to F&B for VOC+10 analyses. The analytical reports are summarized on **Table 22 in Appendix A**, which compares the results to the 2019 standards. Although F&B is not a NJDEP certified laboratory that data indicates:

- The compounds detected above the NJDEP GWQS included: benzene, MTBE, TBA and EDC.
- The highest concentration of benzene (690 ppb) and EDC (3.4 ppb) were detected in temporary well F3 located along the swale at the south end of the site **(Figure 3)**.
- The highest concentration of MTBE (300 ppb) and TBA (2,500 ppb) was detected in temporary well F1, which was installed in Washington Place.
- Benzene in F 3 and F 7 and EDC in F 3 exceeded the Ground Water Screening Level for Vapor Intrusion (GWSLVI).
- The samples were not analyzed for EDB.
- The extent of the groundwater degradation was not defined and the groundwater contamination appears to extend beneath RT 130 and Washington Place.

The locations where the groundwater samples exceeded the standards are highlighted on **Figure AB in Appendix A**. Electronic data deliverables (EDDs) were not submitted to the NJDEP and reduced data deliverables were not available for review.

6.9 Disposal of Drill Cuttings – January 2009

On January 19, 2009 RedHawk contracted EMC to dispose of 6 drums of drill cutting left at the site by the Whitman Company, which were generated during the installation of MW 5 through MW 10. The disposal manifests are provided in **Appendix G**.

6.10 Soil and Groundwater Investigations – February 2009

To further evaluate the extent of the soil and groundwater degradation, RedHawk supervised the installation of 15 additional borings **(Figure 3: F 10 through F 24)** on February 18 & 19, 2009. One boring was installed in RT 130, two were installed in Washington Place, one was installed at 368 Washington Place (a residential property owned by Denise Luzak), six were installed at 359 Washington Place (a residential property owned by Thomas Csepes) and six were installed to the rear of the building at the NBG site.

Before the off-site borings were installed, Road Opening Permits were secured from the NJ Department of Transportation and North Brunswick Township and access agreements were secured from the two residential properties.

The borings were installed by Tri State Environmental by direct push drilling techniques. The depth of the borings ranged from 12 to 25 feet below grade. Continuous soil samples were collected during the installation of each boring. A geologist/subsurface evaluator inspected the

soil for signs of degradation and the soil was logged and monitored with a calibrated photo-ionization meter. The material encountered during the installation of the borings mainly consisted of interbeded layers of clay, clays with fine/medium sand and fine/medium sands. The boring logs and PID data are presented in **Appendix B**.

Thirteen soil samples were collected from the 15 borings from various depths and analyzed by Friedman and Bruya, Inc for VOC+10 analyses. Some samples were also analyzed for lead. In addition, five samples were analyzed for TPH and organic carbon to develop a site specific soil to groundwater cleanup standard using the NJDEP recommended soil-water partition equation. Soil samples were only collected from borings where additional data was needed to evaluate the extent of the soil degradation based on the analytical requirements that were in place at that time. Samples collected to evaluate soil quality where collected where the highest PID reading was detected and samples collected for total organic carbon were collected in relatively clean areas as required by the NJDEP.

The analytical reports of the soil samples are summarized on **Table 23 in Appendix A,** which compares the results to the 2019 standards. Although F&B is not a NJDEP certified laboratory that data indicates:

- Benzene (2.3 mg/kg), naphthalene (9.7 mg/kg) and lead (1,490 mg/kg) were detected above the residential direct contact standard in the sample collected from boring F 24 located to the rear of the onsite building at a depth of 3 to 4 feet below grade. Lead was also above the non-residential standard.
- Benzene (10 mg/kg) was also detected above the non-residential direct contact standard in the sample collected from boring F 20 at a depth of 5 to 6 feet bg, which was also collected to the rear of the onsite building.
- Benzene in F 17, F 20 and F24 exceeded the default IGWSSL.
- Toluene, ethylbenzene, xylenes and naphthalene exceeded the default IGWSSL in F 20.
- The detection levels for TBA and EDC exceeded the default impact to groundwater soil screening level in the analysis of the soil sample collected from F 17, F 20 & F 24.
- The detection level of MTBE exceeded the default impact to groundwater soil screening level in F20.
- The samples were not analyzed for EDB as the new May 7, 2012 regulations require.

Locations where samples exceeded the 2019 default impact to groundwater soil screening levels and the current residential direct contact standards are highlighted on **Figure A in Appendix A**. That figure also highlights all the soil samples from all sampling events discussed in this report thus far that exceeded the current residential direct contact standard or the default impact to groundwater soil screening level.

Immediately after the borings mentioned above were installed select borings were completed as a temporary well. Specifically, 9 of the borings were completed as a temporary well to collect groundwater samples. However, no water entered the F 11 boring installed in Washington Place after 3 hours, therefore, a sample was not collected at that location. Also a sample was not collected from boring F 12 because that hole was abandon before completion due to water

entering the hole from beneath the asphalt. Before the temporary wells were sampled the wells were gauged and purged of at least 3 well volumes and measurements of ph, conductivity, DO and temperature was secured before, during and after the sampling event. The purge data is presented in **Appendix E**. After the samples were collected they were place on ice in a cooler and a chain-of-custody form was completed for the samples. The samples were sent to F&B for VOC+10 analyses. The analytical reports are summarized on **Table 24 in Appendix A.** Although F&B is not a NJDEP certified laboratory that data indicates:

- The compounds detected above the NJDEP GWQS included: BTEX, TBA, EDC and VOC TICs.
- The highest concentrations of BTEX were detected in the sample collected from temporary well F20 installed behind the building on the NBG property **(Figure 3)**.
- The highest concentration of TBA (300 ppb) and EDC (3.7 ppb) was detected in temporary well F17, which was installed in the backyard of 359 Washington Place **(Figure 3)**.
- Benzene exceeded the GWSLVI in the samples from F 15, F17, F 18 and F 20.
- Ethylbenzene exceeded the GWSLVI in the sample from F 20.
- EDC exceeded the GWSLVI in the sample from F 15 and F 17.

Locations where the groundwater standards were exceeded are highlighted on **Figure AB in Appendix A**.

6.11 Groundwater Monitoring and Well Head Maintenance – March 27 & 30, 2009

On March 27, 2009, another set of water levels were secured from the groundwater monitoring wells to develop an updated water table gradient map. The water level data is presented on **Table 25 in Appendix A** and an updated gradient map is presented as **Figure G in Appendix A**. That figure indicates there was a high spot in the water table elongated in a north south direction and that the groundwater likely radiated outward in all directions from that high spot.

On March 27 and 30, 2009, the manhole cover and concrete apron around MW 1 and MW 3 were replaced and new well caps were installed on MW 1, MW 2 and MW 7.

6.12 Monitoring Well Installations – September 22 & 24, 2009

On September 22 and 24, 2009, RedHawk supervised the installation of six (6) additional groundwater monitoring wells to secure extended data on the extent of the groundwater degradation **(Figure 3: MW 11 through MW 16)**. Two wells were installed on the NBG property, two were installed at 359 Washington Place, one was installed at 368 Washington Place and one was installed on the property located at 1674 RT 130 (owned by Jacob Krauszer) where the strip mall is located. The wells were installed by Hammer, Inc. using a hollow stem auger/air rotary drill rig. Drilling started using hollow stem augers, however, the penetration rate was very slow due to the clayey nature of the subsurface material, therefore, air rotary drilling methods were used to complete the holes. The wells were drilled to a depth of 20 feet below grade and constructed with 15 feet of screen and appropriate lengths of solid casing. The well

heads were completed with locking caps in flush mount manhole covers. During drilling a subsurface evaluator/geologist inspected the drill cuttings for signs of degradation and prepared a lithologic log of the material encountered. The material encountered was mainly interbedded layers of clays and clays with fine sand, however, at MW 15 fine sand was encountered at a depth of 12 to 20 feet bg. MW 15 was installed at the northeast end of the site.

After the wells were installed they were developed by RedHawk using decontaminated submersible pumps. All purge water was pumped to 55 gallon drums to allow sediment to settle out and then the purge water was treated with GAC prior to discharge to the ground surface. On November 25, 2009 the wells were surveyed by Precision Surveying Technology, LLC. Well permits, records and Form As are presented in **Appendix D,** Form B's are presented in **Appendix F** and lithologic logs are presented in **Appendix B**.

6.13 Groundwater Sampling – October 19 & 20, 2009

During October 19 and 20, 2009, RedHawk sampled all the groundwater monitoring wells. The samples were collected in accordance with the *NJDEP Field Sampling Procedure Manual, August 2005*. Before the wells were sampled, the water levels in the wells were recorded to determine the amount of water to purge and develop an updated water table gradient map. Recovered groundwater was treated with GAC before discharge to the ground surface. All the wells were purged on October 19, 2009, however, samples were not collected from most of the wells that day due to a slow recharge rate. The wells that exhibited a slow recharge rate included: MW 2, MW 3, MW 4 through MW 11, MW 13, MW 14 and MW 16. In contrast, the wells that recharged the same day were located at the northern end of the site (MW 1, MW 5, MW 6, MW 7, RW 1 and one well located topographically down gradient on the Crepes property (MW 12). It was later determined MW 12 was installed in a tank grave where a residential unregulated heating oil tank was formerly located.

Field data collected during the sampling event is presented in **Appendix E**. The samples were submitted to Test America Laboratories and analyzed for VOC+10. EDDs were submitted to srpedd@dep.nj.gov on January 6, 2019 by the LSRP. The analytical reports are summarized on **Table 26 in Appendix A.** That data indicates:

- The compounds that exceed the NJDEP GWQS included: BTEX, MTBE, TBA (and naphthalene as a TIC).
- VOC TICs also exceeded the NJDEP groundwater cleanup criteria.
- The highest concentrations of benzene were detected in MW 1 (4,500 ppb) and MW 7 (4,600 ppb).
- The highest concentrations of toluene were detected in MW 1 (21,000 ppb) and MW 7 (6,500 ppb).
- The highest concentrations of ethylbenzene were detected in MW 1 (2,900 ppb) and MW 7 (3,400 ppb).
- The highest concentrations of xylenes were detected in MW 1 (16,000 ppb) and MW 7 (21,000 ppb).
- The highest concentration of MTBE was detected in MW 3 (2,000 ppb).

- The highest concentration of TBA was detected in MW 3 (6,300 ppb).
- The highest concentration of naphthalene was detected in MW 7 (750 ppb).
- The highest concentration of VOC TICs was detected in MW 5 (4,900 ppb).
- MW 9 through MW 16 did not have concentrations above the NJDEP GWQS or cleanup criteria.
- Concentrations of benzene, ethylbenzene, xylenes, naphthalene and MTBE were above the groundwater screening levels for vapor intrusion.
- The samples were not analyzed for EDB because it was not required until the May 7, 2012.

Figures H, I & J in Appendix A were developed to show the inferred distribution of benzene, MTBE, and TBA detected in the groundwater samples collected in October 2009, respectively. Benzene was selected for contouring because it has the lowest cleanup standard, MTBE and TBA were selected for contouring because those compounds are very soluble in water and typically migrate the furthest from the source area. To fill in some data gaps the groundwater analytical data from temporary wells (F1 through F 24) are also annotated on those figures. That data indicates:

- The extent of the groundwater degradation had been defined based on the available analysis. However, no groundwater samples were analyzed for EDB.
- The groundwater plume extends off-site and is beneath RT. 130 to the north, beneath Washington Place to the southwest and appears to extent onto the Csepes property located at 359 Washington Place.

To show the extent of the groundwater degradation the benzene, MTBE and TBA plumes are overlaid on **Figure K in Appendix A**.

6.14 Groundwater Monitoring – 10/19/09 and 11/25/09

The water level data collected on 10/19/09 before the wells were purged and water level data collected on 11/25/09 were used to develop updated water table gradient maps. The water level elevation data used to prepare these maps are presented on **Tables 27 and 28 in Appendix A**.

Figure L in Appendix A depicts the elevation of the water table on 10/19/09 and **Figure M in Appendix A** shows the water table on 11/25/09. **Figure L** indicates there was a high spot in the water table in the vicinity of the storm drain piping located to the rear of the building on the NBG site but overall the direction of groundwater flow appears to be towards the southeast. **Figure M** indicates that the overall direction of groundwater flow appears to be towards the south towards Farrington Lake.

6.15 Sensitive Receptor Investigations and Well Search - 2010

RedHawk conducted investigations to determine if any sensitive receptors were at risk of being impacted by the gasoline released at the NBG property. The findings of those investigations are described below.

- The closest surface water body is Farrington Lake located approximately 1,400 feet to the south/southeast and the closest stream (Lawrence Brook Tributary) is located approximately 1,058 feet to the southwest of the NBG site.
- There are no sensitive natural resources of concern on or immediately adjacent to the NBG site. According to the NJ I-map system there is a forested wetland located approximately 253 feet to the northwest of the site and a forest landscape project located approximately 123 feet to the north of the site.
- Although concentrations of lead in soil were above the NJDEP ecological soil screening levels the concentrations are not an immediate concern because the areas where lead was detected above the screening levels are covered with macadam or stone and or were detected at depths greater than 2 feet from the surface.
- The site is not in a sole source aquifer area.
- According to the NJ Geo Web system there are no community or non-community well head protection areas near the site. The closest community well head protection area is located approximately 3 miles to the southeast of the site. The closest non-community well head protection area is located greater than 2 miles to the northwest of the site. These areas should not be a concern due to their distance from the site.
- According to the NJ Geo Web system the closest public community water supply well is owned by East Brunswick Water Department and is located approximately 4 miles to the southeast of the site. This well should not be a concern due to its distance from the site.
- Since RedHawk conducted a well search in 2002 at the BWA (which was discussed in Section 6.2), RedHawk used the NJDEP internet CEA Biennial Certification Well Search Grid application to determine if any additional wells were installed within 1,000 feet of the site. The web search was conducted in March 2010. Based on the co-ordinates listed on the individual well records (10) ten wells were identified in the grids searched, however, none of the wells were located within 1,000 feet of the site. Furthermore, 5 were duplicates of the wells found in the BWA well search performed in 2002. The individual well records found in the CEA Well Search Grid application along with certifications of grids searched are presented in **Appendix C.** A summary of the wells are presented on **Table 1 in Appendix C** and the well locations are plotted on **Figure 1 in Appendix C** based on the co-ordinates listed on the well records. Attempts were made to field check the well locations within 1,000 feet of the site by contacting Middlesex Township, the water purveyor (American Water), telecommunications with occupants of the properties and conducting a door to door survey in March 2010. Those investigations reveled the following:

    - North Brunswick Township was only aware of one well in the area. The well is listed on **Table 1** and **Figure 1** in **Appendix C** as well number 71. That well is located approximately ½ mile from the site.

  - One abandoned well was located through the door to door survey conducted on March 24, 2010. The abandon well is located at 368 Washington Place, which is approximately 260 down gradient from the NBG site. Inspection of the well confirmed it was abandon but not closed according to NJDEP closure requirements. The well is listed on **Table 1** and **Figure 1 in Appendix C** as # 72.
  - The piezometer listed on **Table 1** and shown on **Figure 1** in **Appendix C** as # 28 was not located in the correct location. The correct position was identified through the door to door survey and is plotted correctly on **Figure 1 in Appendix C** as # 28B.
  - Only 43 resident's out of approximately 200 where available to be interviewed during the door to door survey. No residents indicated they had a well on their property except for the abandoned well and piezometer mentioned above. Since most residents were not available RedHawk sent the water purveyor (American Water) a list that included all the block and lots within 1,000 feet of the site to determine if those properties are serviced by the water company. To date the water company has not responded. A copy of the list provided to the water company is provided in **Appendix C Table 3**. That list also indicates which resident were interviewed during the door to door survey.

- Underground utilities including storm, sewer, water, natural gas lines and DOT communication cables (for the traffic lights) exist in the roads adjacent to the NBG site. However, monitoring of the storm drains and utility access areas on August 8, 2008 and March 24, 2010 with a PID did not detect measurable readings.
- During the door to door survey attempts were made to identify basements within 200 feet of the NBG site. Basements were confirmed at block 282 lots 3 and 5 and block 283 lot 2. These locations are shown on **Figure 2 in Appendix C**, which is a reproduction of the local tax map. Other basements may be located within 200 feet of the site but that assumption has not been confirmed through interviews with the property owners as of that time.
- Inspection of the area within 200 feet of the site indicated that there are no child care facilities, schools or parks. However, there is a child care facility (Committed Hands Child Care & Preschool) located approximately 540 feet to the west of the site, which is hydraulically up gradient.
- Area inspections revealed there is one (1) offsite structure within 30 feet of groundwater with concentrations above the groundwater vapor intrusion screening levels. The structure is a residential house owned by Mr. Csepes located at 359 Washington Place **(Figure 2 Appendix C: Block 282 Lot 5)**. The office area in the building at the NBG site is also within 30 feet of the groundwater with concentrations above the groundwater vapor intrusion screening levels, however, the office area is not isolated from the rest of the facility and the facility currently handles or uses the subsurface contaminants of concern (COC).

6.16 Preliminary Extent of Soil Degradation

Based on the samples discussed thus far the compounds detected in soil samples that exceeded the residential and non residential direct contact standards included: benzene, naphthalene and lead and compounds that exceeded the default soil to groundwater screening level included: BTEX, MTBE, TBA, naphthalene and lead. Since the detection levels of samples analyzed for EDB were high it is not known if EDB was in the soil above the residential and non-residential direct contact standard or above the default soil to groundwater standard.

To show the inferred distribution of compounds that exceeded a soil standard, **Figures N through V** were developed using the analytical data developed in 2001 through 2009 except for the samples analyzed by Friedman & Bruya in 2009 that were below a standard. **Figure N, O and P in Appendix A** were developed to show the inferred distribution of benzene, naphthalene and lead above the residential and non-residential direct contact standards**. Figure P** also shows the extent of lead above the default soil to groundwater standard. **Figures Q, R, S, T, U & V in Appendix A** were developed to shows the inferred distribution of benzene, ethylbenzene, toluene, xylenes, MTBE and TBA above the default soil to groundwater screening levels, respectfully**.** In addition**, Figure W** and **Figure X** were developed to evaluate the concentration of EDC and EDB detected in soil, respectively. These figures indicate that:

- The highest concentration of benzene (30.1 mg/kg) in soil was detected beneath the onsite building in sample (N13-1) at a depth of 3.5 to 4 feet below grade **(Figure N)**.
- The highest concentration of naphthalene in soil (29 mg/kg) was detected in a sample collected from Test Pit 2 at a depth of 7 feet below grade **(Figure O)**.
- The highest concentration of lead (1,490 mg/kg) was detected behind the station building in sample F 24 at a depth of 3 to 4 feet below grade **(Figure P)**.
- The extent of benzene above the direct contact standards has not been defined **(Figure N)** and the extent of benzene above the default soil to groundwater screening level has not been defined **(Figure Q)**.
- The extent of naphthalene above the direct contact standard has not been defined **(Figure O)** and naphthalene concentrations in the unsaturated samples were only above the default soil to groundwater screening level in one sample (F20).
- The extent of lead above the direct contact standard and the default soil to ground water screening levels has not been defined **(Figure P)**.
- Benzene has the greatest aerial extent above the direct contact standards and there is not much difference between the residential and non-residential aerial extent of benzene **(Figure N)**.
- The extent of the naphthalene above the direct contact soil standard lies mainly within the footprint of the benzene plume but does extend beyond the footprint of the benzene plume in a few locations **(Figures O and N)**.
- There were two locations where lead exceeded the direct contact standards. One location is behind the station where sample F 24 was collected. The other location is where boring TB 8 was located, which was excavated to a depth of 3 feet back in 2001/2002, however, no post excavation samples were collected at that time **(Figure P)**.

- The extent of xylenes above the default soil to groundwater screening levels has the greatest aerial extent and is not defined **(Figure R)**.
- The extent of MTBE above the default soil to groundwater standard is relatively small and is limited to the area around the existing pump island **(Figure U)**.
- No concentration of EDC was detected above the residential or non-residential direct contact soil standard and only one sample collected from boring N-7 had a detection level higher that the non-residential direct contact standard **(Figure W)**. However, all of the samples for EDC had a detection level higher than the default soil to groundwater standard.
- None of the samples analyzed for EDB had a detection level low enough to determine if EDB in soil is below the direct contact standards or the default soil to groundwater standard **(Figure X)**.

Although soil samples were collected for total organic carbon (TOC) content for use in the development of a site specific soil to groundwater standard, those samples were collected in the saturated zone and therefore will not be discussed further. Additional soil samples will need to be collected in the unsaturated zone for TOC analysis to determine if a site specific soil to groundwater standard can be developed that is higher than the default soil to groundwater screening levels.

7.0 ACTIVITIES CONDUCTED UNDER LSRP PROGRAM

7.1 LSRP Retention

On February 4, 2012, Frank Jasiulewicz with On-Site Environmental, Inc. was retained as the LSRP by Mr. Walter Lapp Sr. His LSRP certification number is 585751.

7.2 Receptor Evaluation - March 2012

To comply with the NJDEP requirements a Receptor Evaluation form was completed by On-Site Environmental, Inc. (On-Site) and was submitted to the NJDEP on February 22, 2012, which was prior to the March 1, 2012 mandatory timeframe. A copy of the form and attachments are presented in **Appendix H** along with a copy of the initial Case Inventory Document that was submitted to the NJDEP at that time.

7.3 Public Notification - 2012

The NJDEP Public Notification and Outreach Program requirements were completed including notifying the owners and tenants of property within 200 feet of the site, the local municipality, the health department and the NJDEP Community Relations Office of the environmental conditions at the NBG site. A copy of the notification letters and fact sheet with applicable attachments and a copy of the local newspaper add that was published in the North Brunswick Sentinel Newspaper and a completed NJDEP Public Notification and Outreach form is presented in **Appendix I**.

7.4 Well Search - 2013

Since the last well search was conducted in 2010, On-Site conducted a well search in February 2013. The well search conducted by On-Site focused on wells within one mile from the site that were installed since 2010. The well search was conducted by using the NJDEP Data Miner Query, which indicated that no new wells were drilled but 4 potable wells have been decommissioned within one mile of the site since 2010. Information such as permit number and location, etc is listed in **Table 4 in Appendix C.** The decommissioned well locations found in the 2013 well search are shown on **Figure 3 in Appendix C**.

7.5 Vapor Intrusion Investigation - 2013

Since concentrations of gasoline compounds were in the groundwater above the groundwater screening levels (GWSL) for vapor intrusion within 30 feet of the neighboring Csepes residence a vapor intrusion investigation was initiated by RedHawk in March 2010. The investigation was initiated by identifying building and utilities within 30 feet of the known extent of the groundwater contamination in excess of the GWSL for vapor intrusion. The buildings include the on-site building at the NBG facility and the Csepes residence located at 359 Washington Place **(Figure 7: Block 282 Lot 1 & 5)**. A VI investigation was not initiated at the building at

the NBG site because that facility uses contaminants of concern (COC). However, after On-Site received approval to conduct the VI investigation at the Csepes residence on July 9, 2012, On-Site sent Mr. Csepes three certified letters and contacted his daughter by phone three times during the period from July 13, 2012 to January 16, 2013 to gain access. However, Mr. Csepes never responded to those request. On December 7, 2012 the LSRP requested that a court order be drafted by Kenneth Westreich of Swain & Westreich, LLC. After the LSRP provided the backup documentation for the court order it was sent to Mr. Westreich for execution on January 19, 2013. A copy of the order is presented in **Appendix J**. On January 21, 2013, Mr. Csepes finally called the LSRP and agreed to allow an inspection of his residence. Therefore Mr. Westreich was directed not to proceed with the court order until further notice.

A building walk through of the Csepes residence was conducted on January 22, 2013 and a building survey form was completed while interviewing Mr. Csepes. During that interview, Mr. Csepes stated he did not want sub slab soil gas points installed in his basement because he stated water comes up through cracks in the basement floor usually in the spring and he did not want any borings in the floor. He did however, agree to allow indoor air samples to be collected. Therefore a potable water and indoor air sampling notification form and spreadsheet was submitted to the NJDEP **(Appendix J)**. The samples were scheduled to be collected on February 12, 2013. On February 11, 2013, Mr. Csepes cancelled the sampling until February 18, 2013 because he was not able to remove items from his house as instructed in preparation for the VI sampling due to a recent snow event and his mother's health.

On February 19, 2013, On-Site collected two indoor air and an ambient air sample at the Csepes residence. Some compounds related to gasoline were detected in the indoor air samples but they were below the indoor air screening level **(Table 1)**. A copy of the letter sent to the property owner (Mr. Csepes) presenting the analytical results, the Full Laboratory Data Deliverable Form sent to the NJDEP and a letter sent to the NJ Department of Health are presented in **Appendix J**. The electronic data deliverable (EDD) was submitted to srpedd@dep.nj.gov on 3/10/14 and a copy of the email from the NJDEP indicating it passed is presented in **Appendix K**.

In the result letter to Mr. Csepes, On-Site recommended collecting a sample from the Csepes sump to secure another line of evidence to evaluate the vapor intrusion pathway. The sump sample was eventually collected on January 15, 2014. Chloroform (0.85 ppb) was the only compound reported in the sump sample, which was below the ground water screening level for vapor intrusion (1 ug/l) **(Table 2)**. The electronic data deliverable (EDD) was submitted to srpedd@dep.nj.gov on 3/10/14 and a copy of the email from the NJDEP indicating it passed is presented in **Appendix K**.

Based on the results of the initial vapor intrusion investigations the LSRP recommended that another round of air samples from the Csepes residence should be collected before the end of the heating season (March 31, 2014).

7.6 Preliminary Ecological Evaluation - February 2013

In February 2013, On-Site conducted a preliminary ecological evaluation (EE). The EE conducted for the NBG site was qualitative in nature and included:

1) An evaluation of site data collected in previous investigations to identify site specific contaminants of potential ecological concern (COPEC),
2) A search of the NJDEP Geographic Information System to identify ESNRs within the site boundaries and adjacent to the site,
3) An evaluation of potential migration pathways to ESNRs.

7.6.1 Environmentally Sensitive Natural Resources (ESNRs)

No ESNRs were detected during numerous site inspections conducted during 2002 and 2010 on or adjacent to the North Brunswick Gulf site. However, there are two storm drains located in the stoned area behind the onsite building that outfall to a small swale on the property. The swale discharges to the local storm drain system that outfalls to Farrington Lake located approximately 1,400 feet to the south. Farrington Lake is a sensitive environmental area and natural heritage priority site according to the NJDEP geographic information mapping system. The closest sensitive natural resource is a forested landscape project located approximately 123 feet to the north of the site and a forested wetland approximately 253 feet to the north of the site, both which are across RT 130 from the site. RT 130 is a four lane highway with heavy vehicular traffic. There is no surface water bodies located on or adjacent to the site. Furthermore, no endangered species was identified on or near the NBG site through the NJDEP I map system. The sensitive areas mentioned above and the closest surface water bodies are shown on **Figure 4**.

7.6.2 Contaminants of Potential Ecological Concern (COPEC)

COPEC had been identified in subsurface soils but no surface samples were ever collected at the site when the preliminary ecological evaluation was conducted. However, in 2010 surface staining was observed by the waste oil AST in the vicinity of the storm drains mentioned above. Since no surface soil samples had been collected at the site it was not known if COPEC in surface soil are present at concentrations above the NJDEP ecological soil screening levels.

7.6.3 Potential Migration Pathway

A potential migration pathway that could transport contaminants to a sensitive natural resource is the swale/drainage ditch located at the rear of the property. The ditch receives runoff from the two storm drains located in the stoned area behind the on-site building that ultimately outfalls to Farrington Lake through the local storm drain system. Since the storm drains are located near the area where surface staining was observed it was concluded this migration pathway is a concern and needs to be evaluated further.

7.6.4 Outcome of Preliminary Ecological Evaluation

The LSRP concluded that surface samples needed to be collected to determine if ecological receptors are at risk.

7.7 Response to Csepes Complaint: January 14, 2014

On January 14, 2014, Mr. Csepes contacted On-Site with a complaint that it was raining and runoff from the NBG site had a sheen from gasoline and oil and that it was running down the street to Farrington Lake, which is at the end of the street. He also stated he was concerned the water he was seeing going down the street was the water in his sump in the basement. On-Site advised him to report it to the township and after receiving approval to respond to the call, On-Site inspected the site the following day.

The site inspection revealed some staining along the road in gravelly and leafy material, which had an odor of diesel fuel, but no active seepage was noted along Washington Place. It appeared the sheen was likely related to minor surface spillage at the diesel dispenser at the NBG site. On-Site also inspected the storm drain at southwest corner of NBG site and the swale on NBG property. No positive photo-ionization detector (PID) reading from the storm drain or sheens was detected in the storm drain and only standing water was detected in the swale. To confirm the staining was not from ground water seepage to the surface, On-Site gauged the water level in MW 3 located at the west end of the NGB site. The depth to water in MW 3 was 5.51 feet below ground.

During the inspection, a water sample was collected from the sump in the Csepes basement (as previously noted) and a sample of the standing water in the swale was collected. The samples were analyzed for VOC+15, semi volatile organics (SVOCs)+15 and Select Ion Monitoring (SIM) analysis. The analytical reports are presented on **Table 2** and indicated:

- Chloroform was detected in the sump sample (0.85 ug/l) and in the swale sample (1.1 ug/l), which was below standards.
- Bis(2-ethylhexyl)phthalate was detected in the swale sample (1.1 ug/l) and in the method blank, which was below standards.
- Benzo(a)anthracene was reported in the swale sample (0.188 ug/l) at a concentration slightly over the ground water standard (0.1 ug/l) and surface water standard (0.038 ug/l).

On-Site recommended another round of indoor air samples at the Csepes residence and the collection of another sample from the swale in addition to collecting ground water samples from at least the two closest monitoring wells and soil samples from the catch basins/storm drains on the NBG site. On-site received permission to collect another water sample from the swale. That sample was collected on February 21, 2014 and was analyzed for the same parameters as the first sample. The analytical report indicated no compounds were detected in the sample (**Table 2)**. The EDDs were submitted to the NJDEP and a copy of the emails from the NJDEP that indicated the EDDs passed are presented in **Appendix K**.

7.8 Public Notification - 2015

To comply with the public notification and outreach regulations to submit public notification to residence and property owners within 200 feet of the site every two years, On-Site submitted the required form and letters. A copy is presented in **Appendix I**.

7.9 Site and Contact Update - April 2016

The responsible parties (Mr. and Mrs. Walter Lapp Sr.) passed and their children (Mr. Walter Lapp Jr. and Ruth Frey) became the responsible parties and established an organization for the site called 1696 Route 130 LLC. A Site and Contact Information Update Form was submitted to the NJDEP naming Walter Lapp Jr. and Ruth Frey as the new responsible parties. A copy is presented in **Appendix L**.

7.10 Site Inspection - June 2016

Since On-Site never had the opportunity to inspected the inside of the onsite building, on June 3, 2016, On-Site met Walter Lapp Jr. at the site to locate the former floor drains and hydraulic lifts and to secure information from the owner regarding the location of the heating oil UST closed in place and the approximate location of the former septic leach field. During that site visit On-Site also had the opportunity to interview the current facility manager and conduct a thorough site inspection. Findings of that site inspection are highlighted below:

- Currently the site is leased to Petroleum Supply Corp. (PSC/Ted Cohen) who rents or sub leases part of the site to Brunswick Auto Craft, LCC (Hossan), who operates an automobile repair service center known as Brunswick Auto Craft (BAC). PSC also sub leases the retail gasoline operations to Hare Krishna Fuel Inc who operates a MOBIL gasoline service station at the site.
- BAC reported they do not use solvents and that they have Mercury Oil Recovery from Ocean County, NJ remove used motor oil when their waste oil AST is full. BAC also stated the 275 gallon AST by the waste oil AST is used to store heating (this AST was not there in 2001/2002 according to the Phase I1 report).
- Mr. Lapp stated the other 275 gallon AST, which was there during the earlier investigation is also used to store heating oil.
- The two former floor drains ere easily identified by the concrete that was used to seal the AOCs.
- The two former center post hydraulic lifts in the center bay were easily identified by the concrete that was used to seal the AOCs. Mr. Lapp stated the two center post (ram), which held the oil was removed and only the sleeve was left in the ground and the safety rod.
- The former dual post hydraulic lift in the western bay was also easily identified by the rectangular concrete patch in the floor. Mr. Lapp stated the person that installed the Mohawk rotary lift removed it and the associated tank and that no samples were collected.

- The location of the heating oil UST that was reportedly closed in place was not in the exact location On-Site believed it was located in. Mr. Lapp indicated it was located further to the north east. Mr. Lapp also believed the former septic leech field was located in the area between the building and the asphalt in the back.
- The site inspection also revealed a storage shed approximately 15 X 20 feet was installed to the rear of the onsite building which was not there previously. Also inspection of the two storm drains in the rear could not be inspected due to inoperable automobiles parked over them. There also was new stone on the ground in the vicinity where oil staining was observed in the past.
- On-Site located all the monitoring wells except for MW 10. Mr. Lapp stated he would have the operator cut the tall grass in that area so it could be located. The well at the Csepes residence needs the concrete pad replaced because it was lower that the manhole which was sticking up above it.
- The wooded property across RT 130 had a NOTICE sign that indicated the zoning board (732-247-0922) is evaluating if that site can be used for a storage shed building. There was also an American Properties Reality, Inc. sign at the site that indicated it was 3.5 acre and up for sale (732-692-1350).
- The Getty station across Washington Place was now a PB station.

7.11 Timeframe Extension Request - August 18, 2016

On August 18, 2016, a Remedial Timeframe Extension Notification Form was submitted to the NJDEP to extend the submittal of a Remedial Investigation Report (RIR) from 3/01/17 to 3/01/19. A copy of the form is presented in **Appendix M**.

7.12 Preliminary Assessment Report - September 12, 2016

On September 12, 2016, A Preliminary Assessment Report (PA) and updated Case Inventory Document (CID) and PA form was submitted to the NJDEP. The PA identified 14 AOC highlighted in Section 4.0 including groundwater and soil. A copy of the PA form and CID is presented in **Appendix N.**

7.13 Ground Penetrating Radar Survey - October 31, 2016

On October 31, 2016, Geo-Graf, Inc. conducted a Ground Penetrating Radar (GPR) survey to locate the heating oil UST that was closed in place in and to locate the former septic field. During the survey the owner stated he believed the former septic system may have been a circular structure made of cinder blocks similar to a dry well. The location of the UST closed in place was identified and is shown on **Figure 3**.

To locate the former septic, Geo-Graf searched the area approximately 20 feet to the south of the original portion of the building behind the station where Mr. Lapp believed it may be located. However, no anomalies were detected in that area. The entire back lot could not be surveyed due to a number of inoperable automobiles in that area. Geo-Graf did detect a possible anomaly just south of the UST closed in place but a boring installed in that area at a later date did not find

evidence of the former septic in that area **(Figure 3: P 5)**. During the installation of another boring **(Figure 3: P72)** the location of the septic was determined.

7.14 Groundwater Sampling - December 19-21, 2016

On December 19 through 21, 2016, On-Site purged and sampled the seventeen monitoring wells at the NBG site (MW 1 through MW 16 and RW 1). Because the wells were not open and sampled for approximately seven years volume average purging was used to purge the wells according to the QAQC plan **(Appendix O)**. Three well volumes could not be purged from ten of the wells due to low well yields and the amount of draw down recorded in the wells (MW 2, MW 3, MW 4, MW 8, MW 9, MW 10, MW 11, MW 13, MW 14 and MW 16). Because those wells did not return to static conditions they were sampled the following day within 24 hours. However, seven of the wells did not recharge to static conditions even after approximately 24 hours of purging (MW 2, 3, 4, 8, 9, 11, 13, 14 & 16). MW 11 had the poorest recharge rate. The wells with poor recharge rates were located at the southern end of the site and off-site. In contrast, the wells that recharged the same day were located at the northern end of the site (MW 1, MW 5, MW 6, MW 7, MW 15, RW 1 and one well located topographically down gradient on the Csepes property MW 12, which was determined to be located in a heating oil tank grave).

All the samples were analyzed by Eurofins Lancaster Laboratories for volatile organic compounds (VOCs) plus 15 tentatively identifiable compounds (TICs); semi volatile compounds (SVOCs) plus 15 TICs; tertiary butyl alcohol (TBA); 1,2,4-trimethylbenzene (TMB); 1-methylnaphthalene; ethylene dibromide (EDB), Select Ion Monitoring (SIMs); and Target Analyte List (TAL) metals except the sample from MW 11 was not analyzed for SVOCs+15, SIMS and TAL metal because sufficient water was not in the well to collect samples, i.e. after approximately 24 hours after purging.

Although not used to determine stability some purge data was collected including Ph, temperature, conductivity, dissolved oxygen, turbidity and depth to water, which is presented in **Appendix E**. QAQC samples collected as part of the sampling event included Trip blanks, Rinsate blank (poured DI through teflon bailer before collecting sample from RW 1; matrix spike (MS); matrix spike duplicate (MSD); duplicate (MW A = duplicate of MW 2). QAQC samples were analyzed for the same parameters as the well samples except the trip blanks were only analyzed for VOCs+15; TBA; 124 TMB; and EDB.

Purge water was treated by pumping the water through two 55 gallon drums of virgin activated carbon (GAC) before discharge to an area where it would not run off site. A sample of the treated water was collected after the purge water was treated. The treated water was analyzed for the same parameters as the ground water samples from the wells. Approximately 40 gallons of purge water from wells (MW 1, MW 5, MW 6, MW 7) that had a strong odor of gasoline was stored on site in two 30 gallon sealed drums for offsite disposal.

Water level data collected on December 19, 2016 before any of the wells were purged is presented on **Table 3.** That data was used to develop an updated water table gradient map **(Figure 8)**, which indicates the direction of flow was towards the southeast.

The analytical reports are summarized on **Tables 4, 5 and 6.** That data indicates:

- Overall the concentrations of VOCs decreased compared to the last samples collected in 2009.
- The compounds that exceed the current NJDEP Ground Water Quality Standards (GWQS) included: benzene; toluene; ethylbenzene; xylenes; MTBE; TBA; EDB; 1,2,4-TMB, naphthalene; 1-methylnaphthalene; 2-methylnaphthalene VOC TICs; SVOC TICs and a number of metals including: Aluminum, arsenic, barium, beryllium, cadmium, cobalt, copper, iron, lead, manganese, mercury, nickel, and sodium. Note that aluminum, iron, manganese and sodium are secondary contaminants and are not a concern.
- The metals that exceeded the standard are most likely due to sediment in the samples. Future sampling techniques should be collected using low flow sampling to minimize sediment in the samples and analyzing the samples for total and dissolved metals to demonstrate that most of the metals are related to the natural mineralogy of the soil.
- The analytical results of the carbon effluent indicated bis(2-thylhexyl)phthalate, arsenic and sodium were above the GWQS in the sample. The concentration of bis(2-ethylhexyl)phthalate was likely due to a new plastic hose installed on the effluent of the GAC units that the sample was collected from.

Figures that show the inferred extent of the organic compounds above the standards are presented as **Figures 9 through 19**. Comments relative to those figures are offered below.

- **Figure 9** shows the inferred distribution of benzene in the ground water above the GWQS of 1 ug/l and the ground water screening level for vapor intrusion (GWSLVI) of 20 ug/l. The only building within the 30 foot GWSLVI target distance is the onsite building. MW 7 had the highest concentration of benzene. MW 7 is located along the west side of the onsite building.
- **Figure 10** shows the inferred extent of toluene in ground water above the GWQS of 600 ug/l. The only sample above the toluene standard was the sample from MW 7 (810 ug/l).
- **Figure 11** shows the inferred extent of ethyl benzene above the GWQS of 700 ug/l and the ground water screening level for vapor intrusion (700 ug/l). The onsite building and the Csepes residence located at 359 Washington place are within the 30 foot trigger distance of the GWSLVI contour line.
- **Figure 12** shows the inferred extent of xylenes in ground water above the GWQS of 1,000 ug/l. The only sample above the xylene standard was the sample from MW 7 (5,200 ug/l).
- **Figure 13** shows the inferred extent of MTBE in ground water above the GWQS of 70 ug/l. The highest concentration (20 ug/l) was detected in the sample from MW 3 a down gradient well near Washington Place.
- **Figure 14** shows the inferred extent of TBA in ground water above the GWQS of 100 ug/l. The highest concentration was detected in the sample from MW 3 (2,100 ug/l).
- **Figure 15** shows the inferred extent of 1,2,4-TMB above the GWQS of 100 ug/l. The highest concentration was detected in the sample from MW 7 (1,800 ug/l).

- **Figure 16** shows the inferred extent of EDB in ground water above the GWQS of 0.3 ug/l and the GWSLVI of 0.4 ug/l. The onsite building is within the 30 foot trigger distance of the GWSLVI contour line.
- **Figure 17** shows the inferred extent of 1-methylnaphthalene in ground water of 5 ug/l. The highest concentration (100 ug/l) was detected in the sample from MW 5, a well located near the northern end of the site.
- **Figure 18** shows the inferred extent of 2-methylnaphthalene in ground water above the GWQS of 30 ug/l. The highest concentration (120 ug/l) was detected in the sample from MW 5.
- **Figure 19** shows the inferred extent of naphthalene in ground water above the GWQS of 300 ug/l. The highest concentration was detected in the sample from MW 7.

The electronic data deliverable (EDD) was submitted to srpedd@dep.nj.gov on 2/12/17 and a copy of the email from the NJDEP indicating it passed is presented in **Appendix K**.

7.15 Soil Samples & Temporary Well Sample - April 27 & 28 and May 8 & 9, 2017

To initiate investigations at the 14 AOC listed in Section 4.0, during April and May 2017, On-Site installed 46 borings **(Figure 3: P1 through P 46)** and collected 187 soil samples for various analyses. The analysis that was run on a sample was mainly determined by the product type associated with the Area of Concern (AOC) where the sample was collected. However, some analysis was conducted to fill in data gaps on the iso-concentration maps that were developed from the soil sampling events conducted in 2001 to 2009 shown in **Appendix A**. If contingency samples were required per the regulations and the analytical results the contingency samples were analyzed per the regulations.

The number of samples analyzed per analysis is listed below:

Analysis	**Number of samples analyzed**
Extractable petroleum hydrocarbons (EPH)	32
Volatile organic compounds (VOCs)	58
Semi volatile organic compounds (SVOCs)	6
Lead	64
Target Analyte List Metals (TAL metals)	6
Naphthalene & 2-methylnaphthalene	1
Polynuclear aromatic hydrocarbons (PAHs)	1
Polychlorinated biphenyl (PCBs)	6
Total organic carbon (TOC)	3
Field rinsate blanks: for VOCs & lead	4
Matrix spike (MS) for VOCs & lead	3
Matrix spike duplicates (MSD) for VOCs & lead	3

The samples were collected in accordance with the QAQC plan and Sampling Plan presented in **Appendix O.** The sampling plan details the logic where and why a sample was collected. One boring (P 6) was converted to a temporary well and a groundwater sample was collected from it

to evaluate if the building to the east of the site was within the VI trigger distance, which the analysis indicated it was not. Purge data collected from P 6 is presented in **Appendix E**.

The borings were installed by EPI using Geo-Probe techniques. Most of the borings were installed to a depth of 20 feet below grade. Continuous soil samples were collected during the boring installations and monitored by the LSRP with a calibrated photo-ionization detector. The LSRP also prepared a lithologic log of the material encountered. The PID readings are presented on the boring logs in **Appendix B**. Two samples were collected from most from of the borings. One sample was collected in the unsaturated zone and one was collected in the saturated zone where the highest PID readings were detected.

The samples were analyzed by SGS Accutest Laboratories and the analytical results are summarized in **Tables 7, 8 & 9** and compares the results to the residential direct contact (RDC) standard, the non-residential direct contact (NRDC) standard, the default impact to ground water soil screening levels (IGWSSL), the EPH soil cleanup criteria and the lowest ecological soil screening level (ESSL) if the sample was collected in the upper one foot of the soil column in an undeveloped area. Since only unsaturated soil samples (i.e., samples collected above the water table) should be compared to the default impact to ground water soil screening level, On-Site utilized **Figure 5**, which is a map showing the highest and lowest water level in each well collected over time and the average water level in each zone. That information in conjunction with the depth of a sample determined whether a sample was collected in the unsaturated or saturated zone and in turn whether or not the sample should be compared to the default impact to ground water soil screening levels.

- Compounds that exceeded the residential direct contact standard included: benzene, naphthalene, lead, benzo(a)anthracene, benzo(a)pryene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pryene and the old EPH criteria
- Compounds that exceeded the non-residential direct contact standard included: benzene, naphthalene, benzo(a)anthracene, benzo(a)pryene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pryene.
- Compounds that exceeded the default soil to ground water impact screening level included: benzene, toluene, ethyl benzene, xylenes, naphthalene, 2-methylnaphthalene, benzo(a)anthracene, benzo(a)pryene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pryene, aluminum, beryllium, lead, mercury and manganese.
- Compounds that exceeded the lowest ecological screening level included: benzene, ethylbenzene, xylenes, naphthalene, bis(2-ethylhexyl)phthalate, lead, chrysene, EPH, cadmium, chromium, cobalt, copper, nickel, vanadium and zinc.
- EPH was also detected above the residual product level of 8,100 mg/kg for waste oils.

Iso-concentration maps showing the inferred extent of the impacts are presented in a latter section of this report. EDDs were submitted to srpedd@dep.nj.gov and a copy of the email from the NJDEP indicating it passed is presented in **Appendix K**.

7.16 Seepage Sample - May 11, 2017

During the boring installation described above on May 9, 2017, On-Site observed water seepage in the grassy area at the western end of the site in the vicinity of test pit 4 **(Figure 3)**. After receiving approval to collect a sample of the water On-Site collected a sample on May 11, 2017. The sample was analyzed for VOC+15, TBA, 1,2,4-TMB, naphthalene, EDB & lead. The analytical results are summarized on **Table 10** and indicated the concentrations did not exceed the Class IIA groundwater or surface water standards. During the sampling event On-Site determined the seepage was coming from the top of plastic that was installed in 2001 when the excavation in the grassy area was conducted. The EDD was submitted to srpedd@dep.nj.gov on 5/26/17 and a copy of the email from the NJDEP indicating they passed is presented in **Appendix K**.

7.17 Public Notification - July 13, 2017

To comply with the public notification and outreach regulations to submit public notification to residence and property owners within 200 feet of the site every two years, On-Site submitted the required form and letters. A copy is presented in **Appendix I**.

7.18 Well Search - July 2017 & July 2018

On-Site performed a well search on July 20, 2017 in accordance with the NJDEP well search guidance. The search was initiated using the NJDEP Data Minor web site to search for all potentially portal wells located within a 1-mile radius of the site. That search identified 138 well permits and records. A copy of most of those permits and records was secured from the NJDEP back in 2013, therefore only a few permits and records had to be secured from the NJDEP as part of the current well search. A 1-mile Water Allocation Diversion Radial Search was also requested from the NJDEP to identify large (100,000 gallon per day) ground water or surface water withdrawal points within a mile radius of the NBG site. Two water withdrawal points were identified within that distance by the NJDEP Water Allocation search. One of those wells was decommissioned and the other was slightly more than a mile from the site. In addition, the NJDEP Geo-Web site was searched for Well Head Protection Areas near the site. That search indicated there is no Community or Non-Community Well Head Protection Area located within a mile of the NBG site. Each well permit and record was reviewed to confirm it was plotted as accurately as possible. In summary that data indicated there may be 18 domestic wells, 1 irrigation well and 3 decommissioned wells within a half-mile of the NBG site but that those wells are not within the required canvas area (250 up gradient, 500 side gradient and 500 feet down gradient) of the NBG site. Nonetheless the NJDEP required a Door-to-Door survey within the above mentioned canvas area if any domestic or irrigation well is located within a half mile of the site. In 2010 a Door-to-Door survey was conducted by RedHawk but it was never completed. The residences that were available during the 2010 survey are highlighted on **Figure 4 in Appendix C**. That figure also shows the residences that still needed to be questioned to determine if they have a well on their property. Those residences include the following Block and Lots:

Block	Lot	Block	Lot	Block	Lot
282	3	278	27	283	4.01
278	1.01	278	28	283	4.02
278	1	278	29	283	5
278	2	278	34	230	16
278	3	278	35		
278	4	284	1		
278	25	284	2		
278	26	284	3.01		

In April 2018, since most residences are not home during the day to interview On-Site developed a form letter to send to the owners and residences with a self addressed stamped envelope to complete the door to door survey. A copy of the letter and a list of the owners and residents that the letter was sent to is presented in **Appendix C Table 5**. No wells were reported as part of that survey.

On July 17, 2018, On-Site utilized the NJDEP Data Minor web site to conduct another well search. That search identified 6 more wells than was found in the 2017 search. Those wells included 5 industrial wells and one domestic well all of which were outside the canvas area. The wells found in the 2017 and 2018 search are listed in **Table 6 and shown on Figure 5 in Appendix C**.

7.19 Soil and Temporary Well Samples - October 3 and 4, 2017

During October 3 and 4, 2017, On-Site supervised the installation of 28 direct push borings and 3 hand borings **(Figure 3: P 47 to P 76)**. During the October 2017 soil investigation, 125 soil samples were collected for analysis. The analysis that was run on a soil sample was mainly determined by the product type associated with the Area of Concern (AOC) where the sample was collected. However, some analyses were conducted to fill in data gaps on the iso-concentration maps that were developed from previous soil sampling events. If contingency samples were required per the regulations and the analytical results the contingency samples were analyzed per the regulations.

The number of samples analyzed per analysis is listed below:

Analysis	**Number of samples analyzed**
Extractable petroleum hydrocarbons (EPH)	18
Volatile organic compounds (VOCs)	20 soil
Volatile organic compounds (VOCs)	1 groundwater
Polynuclear aromatic hydrocarbons (PAHs)	27
Target Analyte List Metals (TAL metals)	16
2-methylnaphthalene	5
Lead	16
Aluminum	5
Beryllium	3

Manganese	5
Mercury	3
Field rinsate blanks: for VOCs & lead	2
Matrix spike (MS) for VOCs & lead	2
Matrix spike duplicates (MSD) for VOCs & lead	2

A ground water sample was also collected from a temporary well installed in the medium of Route 130 and was analyzed for volatile organic compounds (VOCs) to provide information on the extent of the ground water plume to the north **(Figure 3: P 48)**. Purge data collected from P 48 is presented in **Appendix E**.

The borings were installed by EPI using Geo-Probe techniques. The depth of the borings ranged from 2 to 20 feet below grade. Continuous soil samples were collected during the boring installations and monitored by the LSRP with a calibrated photo-ionization detector. The LSRP also prepared a lithologic log of the material encountered. The PID readings are presented on the boring logs in **Appendix B**

The samples were collected in accordance with the QAQC plan and Sampling Plan presented in **Appendix O.** The sampling plan details the logic where and why a sample was collected. At least one sample was collected from each boring and the samples were analyzed by SGS Accutest. **Tables 11, and 12** summarize the analytical reports of the samples collected in October 2017 and compares the results to the residential direct contact (RDC) standards, the non-residential direct contact (NRDC) standards, the default impact to ground water soil screening levels (IGWSSL), the EPH soil cleanup criteria, the ecological soil screening level (ESSL) if the sample was collected in the upper one foot of the soil column and uncapped. Since only unsaturated soil samples (i.e., samples collected above the water table) should be compared to the default impact to ground water soil screening level, On-Site utilized **Figure 5**, which is a map showing the highest and lowest water level in each well collected over time (from available data) and the average water level in each zone in conjunction with the depth of a sample to determine whether a sample was collected in the unsaturated or saturated zone and in turn whether or not the sample should be compared to the default impact to ground water soil screening levels.

- Compounds that exceeded the residential direct contact (RDC) standard in the October samples included: benzene, naphthalene, lead, benzo(a)anthracene, benzo(a)pryene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pryene.
- Compounds that exceeded the non-residential direct contact standard (NRDC) included: benzene, naphthalene, benzo(a)anthracene, benzo(a)pryene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pryene.
- Compounds that exceeded the default soil to ground water impact screening level (IGWSSL) included: benzene, toluene, ethyl benzene, xylenes, naphthalene, 2-methylnaphthalene, benzo(a)anthracene, benzo(a)pryene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pryene, aluminum, beryllium, lead, mercury, manganese and zinc.

- Compounds that exceeded the ecological soil screening level (ESSL) for samples collected in the upper one foot of exposed soil included: naphthalene, lead, benzo(a)anthracene, benzo(a)pryene, benzo(b)fluoranthene, benzo(ghi)perylene, dibenz(a,h)anthracene, fluoranthene, indeno(123-cd)pryene, chrysene, phenanthrene, pryene, aluminum, barium, cadmium, chromium, cobalt, copper, manganese, mercury, nickel, vanadium and zinc.
- A groundwater sample collected from a temporary well installed in the medium of RT 130 (P48) contained concentrations of benzene (44.4 ug/l), MTBE (80.4 ug/l) and TBA (136 ug/l), above the ground water standards.

Iso-concentration maps showing the inferred extent of the impacts are presented in a latter section of this report. EDDs were submitted to srpedd@dep.nj.gov on 11/27/18 and a copy of the email from the NJDEP indicating they passed is presented in **Appendix K**.

7.20 Soil and Temporary Well Samples - February 20 & 21, 2018

During February 20 and 21, 2018 On-Site supervised the installation of 27 direct push borings two of which were completed as temporary wells. Samples were also collected from the two storm drains located to the rear of the onsite building **(Figure 1: P 77 to P 100)**. During the February 2018 soil investigation, 66 soil samples and 2 groundwater samples were collected for analysis as listed below:

Analysis	**Number of samples analyzed**
Extractable petroleum hydrocarbons (EPH)	4
Volatile organic compounds (VOCs)	6 soil
Semi volatile organics	2
Volatile organic compounds (VOCs), EDB	2 groundwater
Polynuclear aromatic hydrocarbons (PAHs)	2
Target Analyte List Metals (TAL metals)	11
2-methylnaphthalene, Manganese, Beryllium	1
Naphthalene	2
Lead	9
Aluminum	1
Aluminum, zinc	1
Lead, mercury	1
Mercury	8
Mercury, manganese	1
Manganese	1
Field rinsate blanks: for VOCs, EDB	2
Matrix spike (MS) for VOCs, EPH, SVOCs, TAL metals	1
Matrix spike duplicates (MSD) for VOCs, EPH, SVOCs, TAL metals	1
Trip: Volatile organic compounds (VOCs), EDB	1

The analysis that was run on a soil sample was mainly determined by the product type associated with the Area of Concern (AOC) where the sample was collected. However, some analyses were

conducted to fill in data gaps on the iso-concentration maps that were developed from previous soil sampling events. A ground water sample was also collected from two temporary wells installed in the south bound shoulder of Route 130 and was analyzed for volatile organic compounds (VOCs and EDB) to provide information on the extent of the ground water plume to the north.

The borings were installed by EPI using Geo-Probe techniques. The depth of the borings ranged from 2.5 to 20 feet below grade. Continuous soil samples were collected during the boring installations and monitored by the LSRP with a calibrated photo-ionization detector. The LSRP also prepared a lithologic log of the material encountered. The PID readings are presented on the boring logs in **Appendix B**

The samples were collected in accordance with the QAQC plan and Sampling Plan presented in **Appendix O.** The sampling plan details the logic where and why a sample was collected. At least one sample was collected from each boring and the samples were analyzed by SGS Accutest.

Tables 13, and 14 summarize the analytical reports of the samples collected in February 2018 and compares the results to the residential direct contact (RDC) standards, the non-residential direct contact (NRDC) standards, the default impact to ground water soil screening levels (IGWSSL), the EPH soil cleanup criteria, the ecological soil screening level (ESSL) if the sample was collected in the upper one foot of the soil column and uncapped and above background concentrations. Since only unsaturated soil samples (i.e., samples collected above the water table) should be compared to the default impact to ground water soil screening level, On-Site used **Figure 5**, which is a map showing the highest and lowest water level in each well collected over time and the average water level in each zone in conjunction with the depth of a sample to determine whether a sample was collected in the unsaturated or saturated zone and in turn whether or not the sample should be compared to the default impact to ground water soil screening levels. **Tables 13 and 14** also list background concentrations of PAH and TAL metals that was latter determined to be related to naturally occurring conditions. Background samples are discussed in **Sections 7.22 and 8.1**.

- Compounds that exceeded the residential direct contact (RDC) standard in the February samples included: naphthalene, benzo(a) pryene, dibenzo(a,h)anthracene, arsenic and vanadium,
- Compounds that exceeded the non-residential direct contact standard (NRDC) included: benzo(a)pryene and arsenic.
- Compounds that exceeded the default soil to ground water impact screening level (IGWSSL) included: 2-methylnaphthalene, benzo(a)anthracene, benzo(a)pryene, benzo(b)fluranthene, arsenic, beryllium, lead, manganese, aluminum, chromium and mercury.
- Compounds that exceeded the ecological soil screening level (ESSL) for samples collected in the upper one foot of exposed soil that were above background levels included: benzo(a)pryene, naphthalene, aluminum, barium, cadmium, chromium, cobalt, copper, lead, mercury, manganese, nickel, vanadium and zinc.

- Groundwater samples collected from two temporary wells installed in the south bound shoulder of Route 130 (P97 & P 98) did not contain compounds above the Class IIA ground water standards.

Iso-concentration maps showing the inferred extent of the impacts are presented in a latter section of this report. EDDs were submitted to srpedd@dep.nj.gov and a copy of the email from the NJDEP indicating they passed is presented in **Appendix K**.

7.21 Vapor Intrusion Investigation - March 5, 2018

From 2/28/17 to 4/2/17 On-Site sent letters and emails to Mr. Csepes to secure access to collect another air sample but Mr. Csepes did not respond. On April 2, 2017 Mr. Lapp met with Mr. Csepes and acquired his signature on an access agreement. However, at that time it was past March 31, therefore the sampling had to be delayed until next heating season.

On March 5, 2018, On-Site initiated collection of two indoor air and an ambient air sample at the Csepes residence. Due to a regulator problem on the ambient air canister that sample was not collected. Some compounds related to gasoline were detected in the indoor air samples but they were below the indoor air screening level **(Table 15)**. A copy of the letter sent to the property owner (Mr. Csepes) presenting the analytical results, the Full Laboratory Data Deliverable Form sent to the NJDEP and the NJ Department of Health checklist with attachments are presented in **Appendix J**. The electronic data deliverable (EDD) was submitted to srpedd@dep.nj.gov on March 19, 2018 and a copy of the email from the NJDEP indicating it passed is presented in **Appendix K**.

All though the letter to the property owner indicated another set of samples would be required during the next heating season, the LSRP latter concluded the VI pathway was no longer a concern at the Csepes residence based on the two sets of indoor air samples that were below the indoor air standards.

7.22 Soil Samples & Monitoring Well Installations- May 24 & 24, 2018

On May 24 and 25, 2018 On-Site supervised the installation of 5 direct push borings. Samples were also collected from eight (8) shallow hand dug locations **(Figure 3: P 101 through P 113)**. The depth of the sample locations ranged from 1 to 20 feet below grade. Two monitoring wells were also installed during that time **(Figure 3: MW 17 & MW 19)**. A planned well in Washington Place (MW 18) was not installed at that time due to logistic problems with the local police department.

During the May 2018 soil investigation, soil samples were collected for the analysis listed below:

Analysis	**Number of samples analyzed**
Volatile organic compounds (VOCs)	2
Polynuclear aromatic hydrocarbons (PAHs)	10
Target Analyte List Metals (TAL metals)	6

2-methylnaphthalene	1
Cadmium	2
Lead	9
Mercury	3
Manganese, beryllium, lead	1
Manganese	2
Zinc	2
Field rinsate blanks: TAL metals	1
Matrix spike (MS) for PAHs & TAL metals	1
Matrix spike duplicates (MSD) for PAHs & TAL metals	1

The analysis that was run on a soil sample was mainly determined by the product type associated with the Area of Concern (AOC) where the sample was collected. However, some analyses were conducted to fill in data gaps on the iso-concentration maps that were developed from previous soil sampling events.

The direct push borings were installed by EPI using Geo-Probe techniques. Continuous soil samples were collected during the boring installations and monitored by the LSRP with a calibrated photo-ionization detector. The LSRP also prepared a lithologic log of the material encountered. The PID readings are presented on the boring logs in **Appendix B.**

The soil samples were collected in accordance with the QAQC plan and Sampling Plan presented in **Appendix O.** The sampling plan details the logic where and why a sample was collected. At least one sample was collected from each boring and the samples were analyzed by SGS Accutest.

Tables 16 summarize the analytical reports of the samples collected in May 2018 and compares the results to the residential direct contact (RDC) standards, the non-residential direct contact (NRDC) standards, the default impact to ground water soil screening levels (IGWSSL), and the ecological soil screening level (ESSL). i.e., if the sample was collected in the upper one foot of the soil column and in an uncapped area and was above background concentrations. **Tables 16** also list background concentrations of PAH and TAL metals that were latter determined to be related to naturally occurring conditions. Background samples are discussed in **Sections 7.22 and 8.1**.

Since only unsaturated soil samples (i.e., samples collected above the water table) should be compared to the default impact to ground water soil screening level, On-Site used **Figure 5**, which is a map showing the highest and lowest water level in each well collected over time (from available data) and the average water level in each zone in conjunction with the depth of a sample to determine whether a sample was collected in the unsaturated or saturated zone and in turn whether or not the sample should be compared to the default impact to ground water soil screening levels.

The data in **Table 16** indicates:

- Compounds that exceeded the residential direct contact (RDC) standard in the May samples included: benzo(a)pryene & naphthalene.
- No compound exceeded the non-residential direct contact standard (NRDC) in the May 2018 samples.
- Compounds that exceeded the default soil to ground water impact screening level (IGWSSL) that was above the background concentration included: benzo(a)anthracene, benzo(a)pryene, benzo(b)fluranthene, aluminum, beryllium, and manganese.
- Compounds that exceeded the ecological soil screening level (ESSL) for samples collected in the upper one foot of exposed soil included: naphthalene, aluminum, cadmium, chromium, cobalt, copper, mercury, nickel, vanadium, and zinc.

Iso-concentration maps showing the inferred extent of the impacts are presented in a latter section of this report. EDDs were submitted to srpedd@dep.nj.gov and a copy of the email from the NJDEP indicating they passed is presented in **Appendix K**.

Two monitoring wells were also installed by EPI using hollow stem augers. MW 17 was installed in the shoulder of the south bound lane of RT 130 and MW 19 was installed in the stoned area behind the building on the NBG site **(Figure 3: MW 17 & MW 19)**. MW 17 was drilled to 13 feet below grade and MW 19 was drilled to 20 feet below grade. MW 17 was completed with 10 feet of screen and 3.2 feet of solid casing. MW 19 was completed 15 feet of screen and 5.4 feet of solid casing. Both wells were finished with locking caps in flush mount manhole covers. During drilling a subsurface evaluator/geologist inspected the drill cuttings for signs of degradation and prepared a lithologic log of the material encountered.

After the wells were installed they were developed by EPI using decontaminated submersible pumps. Purge water and drill cuttings were stored in 55 gallon drums for future offsite disposal. Lithologic logs are presented in **Appendix B** and well permits, records and Form A's are presented in **Appendix D**.

7.23 Soil Samples & Monitoring Well Installation - September 13, 2018

On September 13, 2018, On-Site supervised the installation of two (2) direct push soil borings. Samples were also collected from 5 shallow hand dug locations **(Figure 1: P 114 to P 120)**. Nineteen **(**19) samples were analyzed for Polynuclear Aromatic Hydrocarbons (PAHs) and Target Analyte List (TAL) metal analysis including MS and MSD samples. In addition, On-Site supervised the installation of one 2-inch diameter ground water monitoring wells (MW 18). MW 18 was drilled in Washington Place to act as a sentinel well **(Figure 3)**.

The drilled borings were installed by Environmental Probing using Geo Probe techniques. The depth of the drilled borings were 10 feet below grade. The depth of the hand installed sample locations were to a depth of 1 foot below grade. Continuous soil samples were collected during the boring installations and monitored by the LSRP with a calibrated photo-ionization detector.

The LSRP also prepared a lithologic log of the material encountered. The PID readings are presented on the boring logs in **Appendix B**. Most of the samples were collected to determine if naturally occurring concentrations were associated with the site soils and a few were collected where additional analytical data was needed to fill in data gaps to define the extent of the impacts.

The soil samples were collected in accordance with the QAQC plan and Sampling Plan presented in **Appendix O.** The sampling plan details the logic where and why a sample was collected. At least one sample was collected from each boring and the samples were analyzed by SGS Accutest.

On September 13, 2018, On-Site also supervised the installation of one 2-inch diameter ground water monitoring wells (MW 18). As mentioned above MW 18 was drilled in Washington Place to act as a sentinel well. The well was installed by Environmental Probing using hollow stem augers. Before augering EPI used Geoprobe techniques to collect continuous soil samples to a depth of 10 feet, which the LSRP monitored with a calibrated PID. PID readings ranging from 2 to 40 ppmv were detected in the upper 4 feet and had an odor similar to asphalt. A sample was collected at a depth of 5-5.5 feet to secure information on the extent of the soil that exceeded the default impact to ground water standard. The sample was analyzed for PAHs and TAL metals.

MW 18 was drilled to a depth of 20 feet and was constructed with 15 feet of 0.01 PVC well screen and approximately 5 feet of solid casing. The annulus was packed with # 1 sand to approximately 1 foot above the well screen and the remaining annulus was filled with bentonite to within 1 foot of the surface. The well head was completed in a surface mount manhole cover embedded in concrete. The depth to water in MW 18 before development was 7.46 feet below the top of the casing. The well was developed by pumping using a submersible pump for approximately 0.75 hours. During development the well went dry several times and was allowed to recharge each time. Approximately 16 gallons was recovered and was stored in a drum at the site for off-site disposal. The well log is presented in **Appendix B** and the well permit, record and Form A is presented in **Appendix D**.

Tables 17 summarize the analytical reports of the samples collected in September 2018 and compares the results to the residential direct contact (RDC) standards, the non-residential direct contact (NRDC) standards, the default impact to ground water soil screening levels (IGWSSL), and the ecological soil screening level (ESSL) if the sample was collected in the upper two feet of the soil column and in an uncapped area. It also presents the concentration of each compound that was determined to be related to background conditions. Note that the samples from 0-0.5' and 0.5-1' from borings P 114, P 116, P 117 and P 118 were used to evaluate if the concentrations were due to background conditions. P 114 and P 116 were installed onsite in areas where releases did not occur. P 117 and P 118 were installed off-site at neighboring properties.

The data in **Table 17** indicates:

- The concentrations of some compounds were related to background conditions **(Discussed in Section 8.1)**.
- Compounds that exceeded the residential direct contact (RDC) standard in the September samples included: benzo(a) pryene but the highest concentration (0.71 mg/kg) was reported in a sample from P117 a boring installed off-site at a neighboring property, which was a background sample.
- No compound exceeded the non-residential direct contact standard (NRDC) in the September 2018 samples.
- Compounds that exceeded the default impact to ground water soil screening level (IGWSSL) above the background concentration included: manganese. However, since manganese is a secondary contaminant in groundwater the NJDEP does not require that manganese met the IGWSSL.
- Compounds that exceeded the ecological soil screening level (ESSL) for samples collected in the upper one feet of exposed soil that was above the background concentration included: cadmium, mercury and nickel.
- Some of the samples analyzed for benzo(a)pryene, naphthalene, cadmium, cobalt, selenium, silver, thallium had detection levels higher than the standards but the detection levels were not above the background concentration.

Iso-concentration maps showing the inferred extent of the impacts are presented in a latter section of this report. EDDs for the samples were submitted to srpedd@dep.nj.gov and a copy of the email from the NJDEP indicating they passed is presented in **Appendix K**.

7.24 Groundwater Sampling - October 3, 2018

On October 3, 2018, On-Site sampled three (3) groundwater monitoring wells at the North Brunswick Gulf site **(Figure 3: MW 17, MW 18 & MW 19)**. The wells were sampled for VOCs +15, SVOCs+15, TBA; 1,2,4-TMB; EDB, SIMs, and TAL metals.

Before the wells were purged the water level in the wells was gauged using an electronic interface probe to evaluate the presence/absence of phase separated hydrocarbons (PSH) and to determine the amount of water to purge. A centrifugal pump was used to purge three well volumes before sampling because this was the first time the wells were sampled. MW 17 and MW 18 were purged and sampled on 10/3/18. MW 19 was purged on 10/3/18 but did not recharge by the end of the day and was sampled on 10/4/18 within 24 hours of purging. Field data collected during purging included: Ph, specific conductance, dissolved oxygen, temperature, oxidation reduction potential (ORP), turbidity and depth to water measurements is presented in **Appendix E**.

Quality assurance quality control (QAQC) samples were also collected as part of the sampling event included a trip blank, a rinsate blank, a matrix spike, a matrix spike duplicate, and a duplicate sample from MW 17. QAQC samples were analyzed for the same parameters as the

ground water samples except the trip blank was only analyzed for VOCs+15, TBA, 124 TMB and EDB.

The samples were analyzed by SGS Accutest, however, the samples analyzed for SVOCs from MW 17, MW 18 and the Rinsate Blank were extracted slightly out of hold time (approximately 8 and 12 hours). MW 20 a duplicate sample of MW 17 was analyzed within holding time and was used for the concentrations in MW 17. Although MW 18 was extracted out of hold time, one compound was reported in the sample above the Ground Water Quality Standard (GWQS). That compound was benzo(a)anthracene. The concentration was 0.208 ug/l and the groundwater standard is 0.1 ug/l. Since the concentration was above a standard the data was considered usable.

The analytical data is summarized on **Table 18, 19 and 20.**

- No VOC or SVOC was reported above the standards in the samples from MW 17 located across RT 130.
- Benzo(a)anthracene (0.208 ug/l) in MW 18 exceed the GWQS of 0.1 ug/l. Note that MW 18 was installed in Washington Place to act as a sentinel well.
- BTEX; TBA; Naphthalene; 1,2,4-TMB; VOC TICs; 1 methylnaphthalene; 2-methylnaphthalene and SVOC TICs exceeded the GWQS in MW 19 located behind the station.
- Benzene, ethylbenzene, xylenes and naphthalene in MW 19 exceeded the GWSLVI.
- Aluminum, iron, manganese and sodium exceeded the GWQS in the sample from MW 17. Note that these are secondary contaminants and not a concern to public health.
- Iron and manganese exceeded the GWQS in the sample from MW 18 but are not a concern.
- Aluminum, arsenic, chromium, iron, lead, manganese, and vanadium exceeded the GWQS in the sample from MW 19. Note that aluminum, iron and manganese are not a concern.

The electronic data deliverable (EDD) was submitted to srpedd@dep.nj.gov on and a copy of the email from the NJDEP indicating it passed is presented in **Appendix K**.

7.25 Groundwater Sampling - November 15, 2018

On November 15, 2018, On-Site collected another groundwater sample from MW 18 for SVOC and SIM analysis. A filtered sample and a duplicate sample (MW 20) were also collected for analysis. Before the well was sample it was gauged and purged in the same manner as on October 3, 2018. The purge data is presented in **Appendix E**. SGS Accutest analyzed the sample and the analytical reports are summarized on **Table 21**. That data indicates:

- Benzo(a)anthracene (0.0135 ug/l) slightly exceeded the GWQS in the sample from MW 18 and in the duplicate sample MW 20 (0.121 ug/l).

- 1-methylnaphthalene (5.3 ug/l) slightly exceeded the GWQS of 5 ug/l in the duplicate sample.
- 2-methylnaphthalene and 3&4 methylphenol exceeded the GWQS in the MW 18, MW 18 filtered and the duplicate sample.

The concentrations above the standards could have been related to an asphalt odor detected in the upper four feet of soil when the well was drilled **(see MW 18 well log in Appendix B)**. However, to be conservative the LSRP recommended that another sentinel well should be installed further down gradient and sampled.

The electronic data deliverable (EDD) was submitted to srpedd@dep.nj.gov on and a copy of the email from the NJDEP indicating it passed is presented in **Appendix K**.

7.26 Notice of Failure to Comply Form - December 10, 2018

On December 10, 2018, On-Site emailed a Notice of Failure to Comply with a Mandatory Remediation Timeframe Form to srpnotifications@dep.nj.gov, which indicated the mandatory timeframe to submit an RIR by March 1, 2018 would likely be missed. A copy is presented in **Appendix L**.

7.27 Monitoring Well Installation - December 14, 2018

On December 14, 2018, On-Site supervised the installation of another sentinel well (MW 20) in Washington Place. The well was installed approximately 50 down gradient of MW 18 and was installed by EPI using soft dig to a depth of 3 feet to clear utilities and 4-inch I.D. hollow stem augers from 3 to 19 feet. The well was constructed with 15 feet of 0.01 PVC well screen and approximately 4 feet of solid casing. The annulus was packed with # 1 sand to approximately 1 foot above the well screen and the remaining annulus was filled with bentonite to within 1 foot of the surface. The well head was completed in a surface mount manhole cover embedded in concrete. Approximately 1.5 hours after drilling the well there was only 0.5 foot of water in the well casing. Due to insufficient water in the well it was not developed after drilling. Drill cuttings were stored in a drum at the site for future off-site disposal. The well log is presented in **Appendix B** and the well permit, record and Form A is presented in **Appendix D**.

7.28 Groundwater Sampling - January 17 & 18, 2019

On January 17, 2019, On-Site purged MW 20 but the well had a slow recharge rate therefore it was not sampled until the following day (within 24 hours). The well was purged with a centrifugal pump in accordance with the QAQC procedures **(Appendix O)**. Although not used to determine stability field data was collected during purging including: Ph, temperature, conductivity, dissolved oxygen, turbidity and depth to water, which is presented in **Appendix E**. QAQC samples collected as part of the sampling event included: a rinsate blank (poured DI through Teflon bailer before collecting sample from MW 20; a duplicate sample (MW 21 is a duplicate of MW 20); and matrix spike and matrix spike duplicate samples. A filtered sample was also collected for TAL metal analysis to evaluate if sediment could be affecting the sample

results. The samples were analyzed by SGS Accutest Laboratories for VOCs +15, TBA, 1,2,4-TMB; SVOCs+15, SIMS and total and dissolved TAL metals. Purge water was stored in a 55-gasllon drum for future disposal (the purge water had a sewage odor). SGS Accutest analyzed the sample and the analytical reports are summarized on **Table 22, 23 and 24**. That data indicates:

- No VOC or SVOC compound was detected above a standard.
- Aluminum, beryllium, iron, lead, manganese, nickel, and sodium concentrations exceeded the GWQS in the unfiltered sample.
- The same metals listed above except for lead exceeded the GWQ in the filtered sample.
- Aluminum, iron, manganese and sodium are secondary standards and should not be a high concern.

The LSRP recommended that low flow sampling should be conducted next time the wells are sampled to further evaluate if the concentrations of beryllium and nickel are related to sediment in the samples. The electronic data deliverable (EDD) was submitted to srpedd@dep.nj.gov and a copy of the email from the NJDEP indicating it passed is presented in **Appendix K**.

7.29 Ecological Evaluation - February 13, 2019

Since contaminants of potential ecological concern were detected in surficial soil in the vicinity of a potential migration pathway (drainage ditch/swale) to an environmental sensitive receptor (Farrington Lake) in January 2019, On-Site on behalf of 1696 RT 130 LLC, contracted TRC Environmental Corp (TRC) to conduct an ecological evaluation. The ecological evaluation concluded no further ecological evaluation was needed but recommended the drainage ditch should be maintained to limit the potential for erosion. A copy of the TRC report is presented in **Appendix P**.

7.30 Discharge Reporting - 5/8/19

After evaluating soil analytical data collected between April 2017 to September 2018, the LSRP concluded discharges likely occurred from AOC 6 (waste oil area), AOC 10 (hydraulic lift in western most bay) and AOC 11 (former septic). Therefore, on May 8, 2019, On-Site called the NJDEP HOTLINE to report the historic discharges. Case number 09-05-08-1010-08 was assigned to the incidents.

On May 14, 2019, On-Site filed a Confirmed Discharge Notification (CDN) using the NJDEP ONLINE service. The Authorization Form to Submit a CDN and the letter from the NJDEP confirming they received the notification is presented in **Appendix L**.

7.31 Groundwater Sampling - May 21 & 22, 2019

On May 21 and 22, 2019, all the groundwater monitoring wells were sampled using low flow sampling techniques. On-Site contracted Terra Nova, Inc. (NJDEP certification # 13026) to perform the low flow sampling. Before purging began On-Site gauged all the wells to secure water level data to develop an updated water table gradient map. The water level data collected on May 21, 2019 before any of the wells were purged is presented on **Table 25.** The updated gradient map indicates the overall direction of groundwater flow is towards the south and southeast **(Figure 20)**. Purge data secured during the sampling event is presented in **Appendix E**.

The samples were analyzed by SGS Accutest for VOCs+15, TBA, 124 TMB, EDB, SVOCs+15, 1-methylnaphthalene, SIMs and TAL metals. Quality assurance quality control (QAQC) samples were also collected as part of the sampling event included a trip blank, a rinsate blank, a matrix spike, a matrix spike duplicate, and a duplicate sample from MW 1. QAQC samples were analyzed for the same parameters as the ground water samples except the trip blank was only analyzed for VOCs+15, TBA, 124 TMB and EDB. The analytical reports are summarized on **Tables 26, 27 and 28**, which compares the results to the Ground Water Quality Standards (GWQS) and the groundwater screening level for vapor intrusion (GWSLVI). That data indicates:

- The volatile organic compounds (VOCs) that exceeded the GWQS included: benzene; ethylbenzene; toluene; xylenes; MTBE, TBA; PCE; 1,2,4-TMB and VOC TICs.
- Compounds that exceeded the groundwater screening levels for vapor intrusion included: benzene, ethylbenzene and xylenes.
- Semi volatile organic compounds (SVOCs) that exceeded a standard included: bis(2-ethylhexyl)phthalate; 2-methylnaphthalene; naphthalene and SVOC TICs. Naphthalene also exceeded the groundwater screening level for vapor intrusion. Note that bis(2-ethylhexyl)phthalate is a common laboratory contaminant.
- Metals that exceeded a standard included: Aluminum, arsenic, beryllium, cobalt, iron, lead, manganese, nickel and sodium. Note that aluminum, iron, manganese and sodium are secondary contaminants and are not a concern.

EDDs for the samples were submitted to the NJDEP and a copy of the email from the NJDEP that indicated the EDDs passed is presented in **Appendix K**. Iso-concentration maps showing the inferred extent of the concentrations are presented in a latter section of this report.

7.32 Vapor Intrusion Investigation - June 2019

Since concentrations of benzene and ethylbenzene were above the groundwater screening levels for vapor intrusion (GWSLVI) and within 30 feet of the convenience store located at 1674 RT 130 (based on groundwater samples collected in May 2019 from the monitoring wells) the LSRP contacted the LSRP on record for that site (which has a PCE problem) and secured summary tables and sample location figures of sub-slab soil gas samples collected at the convenience store **(Appendix J)**. That data indicated the only compounds above the standards were PCE and TCE

and that the concentrations of gasoline related compounds were below the sub-slab soil gas samples, therefore, the LSRP for the North Brunswick Gulf site concluded the VI pathway at that location is incomplete and that further VI investigations will not be required at that location.

Although concentrations of benzene, ethylbenzene, xylenes and naphthalene in the May 2019 groundwater samples exceeded the GWSLVI and were within 30 feet of the onsite service station building vapor intrusion investigations were not conducted at that location since the facility uses compounds of concern it its operations. It is anticipated a deed notice will be used to address the VI pathway at that location to ensure public health will be protected in the future if land use or facility operations change. Based on the groundwater samples collected in May 2019 the Csepes residence was not within the VI 30 foot trigger distance.

7.33 Well Search - August 29, 2019

On August 29, 2019, On-Site conducted another well search using the NJDEP Data Minor service. That search identified six (6) well that were not in the July 2018 search. The six wells were all reportedly decommissioned. A copy of the well search spreadsheet emailed to srpgis_wrs@dep.state.nj.us on 9/5/19 is presented in **Appendix C on Table 7** and a map showing the well locations are presented **in Appendix C Figure 6**.

7.34 Receptor Evaluation - August 2019

The initial Receptor Evaluation was submitted to the NJDEP on February 22, 2012 **(Appendix H)**. Pursuant to N.J.A.C. 7:26E-1.12 an updated Receptor Evaluation form has been submitted with this RIR and a copy is presented in **Appendix H**. The receptor Evaluation included four components: land use, groundwater, vapor intrusion and ecological.

7.34.1 Receptor Evaluation Land Use

The North Brunswick Gulf site has been used as a retail gasoline and automobile service station since 1957. The land use in the vicinity of the site is a mix of commercial and residential as shown on **Figure 1 of the 2019 RE in Appendix H**. The only sensitive populations within 200 feet of the site are nine residential properties. There are not schools, child care centers, or recreational areas within 200 feet of the site. A list of the properties within 200 feet of the site is presented in **Table 1 of the 2019 RE in Appendix H**.

7.34.2 Receptor Evaluation - Groundwater

An updated well search was completed on August 29, 2019 as mentioned in **Section 7.32**. No active potable wells well identified within 250 feet up gradient, 250 feet side gradient or 500 feet down gradient of the groundwater impacts**. Figure 2 in the 2019 RE in Appendix H** shows the wells within 1-mile of the site and **Table 2 in the 2019 RE in Appendix H** list the wells found within 1-mile of the site.

7.34.3 Receptor Evaluation - Vapor Intrusion

Figure 3 of the 2019 RE in Appendix H shows the three buildings which are or were within 30 feet of the groundwater plume with concentrations above the GWSLVI. Vapor Intrusion investigations have been conducted at 359 Washington Place and were discussed in **Section 7.5 and Section 7.20**. Vapor intrusion relative to the building at 1674 RT 130 and the onsite building were discussed in **Section 7.31**. In summary, a complete VI pathway has not been identified at 359 Washington Place or at 1674 RT 130 and a deed notice will be used to address the VI pathway for the onsite service station.

7.34.4 Receptor Evaluation - Ecological Evaluation

An ecological evaluation was conducted in January 2019 as discussed in **Section 7.28**. The findings indicated no further ecological evaluation was required. A copy of the ecological evaluation is presented in **Appendix P of this RIR**.

8.0 NATURE and EXTENT OF IMPACTS

8.1 Background Concentrations in Soil

Samples were collected at six (6) locations to evaluate background concentrations **(Figure 3: P 110, P 111, P 114, P 116, P 117 and P 118**. P 110, P 111, P 114 and P 116 were collected at the site in areas where discharges did not occur. P 117 and P 118 were collected offsite at neighboring properties. Samples were collected at each of those borings at a depth of 0-0.5' and 0.5-1' and were analyzed by SGS Accutest for PAHs and TAL metals except P110 and P 111 were only analyzed for lead. The analytical data is summarized on **Table 16 and 17** and indicates the compounds listed below had concentrations either greater than the default IGWSSL or the ESC. Therefore, if the concentration in a background sample was higher than the default IGWSSL or the ESC, the highest background concentration was used to evaluate the soil analytical results for those compounds instead of the default IGWSSL and the ESC. Also samples only in the upper one (1) foot of the soil column in undeveloped areas were compared to the background ESC since those soils were the only soils that could potentially migrate to an environmentally sensitive area (Farrington Lake).

Compound	Background Concentration (mg/kg)	Default IGWSSL (mg/kg)	ESCS (mg/kg)
Benzo(a)pryene	0.71	0.2	1.52
Aluminum	12,900	6,000	50
Beryllium	1	0.7	10
Chromium	25.5	-	0.4
Cobalt	9	90	0.14
Copper	53.1	11,000	5.4
Lead	233	90	0.0537
Manganese	617	65	220
Mercury	0.077	0.1	0.00051
Nickel	19.1	48	13.6
Vanadium	37.2	-	2
Zinc	122	930	6.62

8.2 Nature and Extent of Soil Impacts

Compounds that were reported in samples greater than the Residential Direct Contact Standards (RDCS), the Non-residential Direct Contact Standards (NRDCS), the default Impact to Groundwater Soil Screening Levels (IGWSSL) that were above background levels and the Ecological Soil Screening Criteria (ESC) that were above background levels in an undeveloped area in the upper one foot of soil are listed in the table below.

Compound Above RDCS	Compound Above NRDCS	Compound Above Default IGWSSL that was Above Background Concentration	Compound Above ESC That was above Background Concentration
Benzene	Benzene	Benzene	Benzene
		Toluene	
		Ethylbenzene	Ethylbenzene
		Xylenes	Xylenes
		MTBE	
Naphthalene	Naphthalene	Naphthalene	Naphthalene
Benzo(a)pryene	Benzo(a)pryene	Benzo(a)pryene	Benzo(a)pryene
Benzo(a)anthracene	Benzo(a)anthracene	Benzo(a)anthracene	Benzo(a)anthracene
Benzo(b)fluoranthene	Benzo(b)fluoranthene	Benzo(b)fluoranthene	Benzo(b)fluoranthene
Dibenzo(a,h)anthracene	Dibenzo(a,h)anthracene	Dibenzo(a,h)anthracene	Dibenzo(a,h)anthracene
Indeno(1,2,3-cd)perylene	Indeno(1,2,3-cd)perylene	Indeno(1,2,3-cd)perylene	Indeno(1,2,3-cd)perylene
Benzo(k)fluoranthene		Benzo(k)fluoranthene	
Arsenic	Arsenic		
Lead	Lead	Lead	Lead
Manganese	Manganese		Manganese
Vanadium			Vanadium
		2-Methylnaphthaleene	
		Chrysene	Chrysene
		Beryllium	
			Nickel
		Mercury	Mercury
			Acenaphthalene
			Benzo(g.h.i)perylene
			Fluoranthene
			Phenanthrene
			Pryene
			Aluminum
			Barium
			Cadmium
			Chromium
			Cobalt
			Copper
			Zinc
			EPH

To show the inferred distribution of compounds in soil that exceeded a standard **Figures 21 through 58** were developed. Those figures were developed using the 2017 and 2018 analytical data and the analytical data developed in 2001 through 2009 except for the samples analyzed by Friedman & Bruya in 2009 that were below a standard. To be conservative samples that were analyzed by F&B that were above a standard were used to develop the figures. Also to develop the figures samples only in the upper one (1) foot of the soil column in undeveloped areas were compared to the background ESC since those soils are the only soils that could potentially migrate to an environmentally sensitive area (Farrington Lake). In addition, the zone of water table fluctuation map **(Figure 5)** in conjunction with the sample depth was used to determine if a sample was collected in the unsaturated or saturated zone when comparing the results to the

default IGWSSL. Also the background levels listed in the table in **Section 8.1** that had concentrations higher than the default IGWSSL were used instead of the default IGWSSL when evaluating the data.

- **Figure 21** shows the inferred distribution of benzene above the RDCS and the NRDCS. The highest concentration was detected in sample P 70: 3.5-4' (33.8 mg/kg) located along the northwest side of the swale. The deepest sample that had a concentration above the NRDCS was in TB7:10-11' (5.4 mg/kg).
- **Figure 22** shows the inferred extent of naphthalene above the RDCS and the NRDCS. The highest concentration (535 mg/kg) was detected in sample P 70: 3.5-4' located along the northwest side of the swale. The deepest samples that had concentrations above NRDCS was in P 38:13' (24.4 mg/kg) located in RT 130.
- **Figure 23** shows the inferred extent of lead above the RDCS and the NRDCS. The highest concentration was reported in F24: 3-4' (1,490 mg/kg) located to the rear of the onsite building. No other sample had a concentration above the NRDCS. Sample P16:4' collected by F 24 had a concentration of 14.9 mg/kg, which defined the vertical extent above the NRDCS.
- **Figure 24** shows the inferred extent of benzo(a)pryene above the RDCS, the NRDCS, the IGWSSL that was above the background concentration and the ESC that could migrate to the swale. The highest concentration (236 mg/kg) was reported in sample P 58: 0-0.5' located near the waste oil AST, which indicates a release to the surface likely occurred at AOC 6. Sample P 10: 3' installed near the waste oil AST had a concentration of 0.453, which defined the vertical extent above the RDCSRS and the NRDCSRS in that area. **Figure 24** also indicates there are concentrations in the swale above the NRDCS, the default IGWSSL that are above the background level (0.7 mg/kg) and the ESC.
- **Figure 25** shows the inferred extent of benzo(a)anthracene above the RDCS, the NRDCS, the default IGWSSL and the ESC. The highest concentration (233 mg/kg) was reported in sample P 58: 0-0.5' located near the waste oil AST, which indicates a release to the surface likely occurred at AOC 6. Sample P 58: 1.5-2' had a concentration of 0.653, which defined the vertical extent above the standards.
- **Figure 26** shows the inferred extent of indeno(1.2.3-cd)pryene above the RDCS, the NRDCS, the default IGWSSL and the ESC. The highest concentration (136 mg/kg) was reported in sample P 58: 0-0.5' located near the waste oil AST, which indicates a release to the surface likely occurred at AOC 6. The vertical extent was defined by sample P 58: 1.5-2', which had a concentration of 0.438 mg/kg.
- **Figure 27** shows the inferred extent of dibenzo(a,h)anthracene above the RDCS, the NRDCS, the default IGWSSL and the ESC. The highest concentration (48.1 mg/kg) was reported in sample P 58: 0-0.5' located near the waste oil AST, which indicates a release to the surface likely occurred at AOC 6. The vertical extent was defined by sample P 58: 1.5-2', which had a concentration of 0.0935 mg/kg.
- **Figure 28** shows the inferred extent of benzo(b)fluoranthene above the RDCS, the NRDCS, the default IGWSSL and the ESC. The highest concentration (281 mg/kg) was reported in sample P 58: 0-0.5' located near the waste oil AST, which indicates a release

to the surface likely occurred at AOC 6. The vertical extent was defined by sample P 58: 1.5-2', which had a concentration of 0.689 mg/kg.

- **Figure 29** shows the inferred extent of benzo(k)fluoranthene above the RDCS and the default IGWSSL. The highest concentration (65.3 mg/kg) was reported in sample P 58: 0-0.5' located near the waste oil AST, which indicates a release to the surface likely occurred at AOC 6. The vertical extent was defined by sample P 58: 1.5-2' which had a concentration of 0.269 mg/kg. No sample exceeded the NRDCS of 170 mg/kg.
- **Figure 30** shows the inferred extent of manganese above the RDCS, the NRDCS, and the ESC that was above the background concentration that could migrate to the swale. The highest concentration above background (12,500 mg/kg) was reported in sample P 92: 0-0.5' located near the southwest corner of the onsite building. The vertical extent was defined by sample P 92: 1.5-2', which had a concentration of <570 mg/kg. Note that the default IGWSSL is not applicable because manganese is a secondary contaminant per the NJDEP. Compliance averaging discussed in a latter section indicated manganese in the upper two feet of the soil column was complaint to the RDCSRS and the NRDCSRS.
- **Figure 31** shows the inferred extent of vanadium above the RDCS and the ESC that was above the background concentration that could migrate to the swale. The highest concentration above background (80 mg/kg) was reported in sample P 92: 0-0.5' located near the southwest corner of the onsite building. The vertical extent was defined by sample P 92: 1.5-2', which had a concentration of 17.9 mg/kg. Compliance averaging discussed in a latter section indicated vanadium in the upper two feet of the soil column was complaint to the RDCSRS.
- **Figure 32** shows the inferred extent of arsenic above the RDCS and the NRDCS. Only one sample out of 52 had a concentration above the standards. That sample was collected from P82: 5.5-6'. The concentration was 20.5 mg/kg, which is only slightly higher than the standard of 19 mg/kg. The concentration in P 82 was likely an anomaly or related to natural conditions because it was not detected in shallower samples. Compliance averaging discussed in a latter section indicated arsenic in the soil from two feet and deeper was complaint to the RDCSRS and NRDCSRS.
- **Figure 33** shows the inferred extent of benzene above the default IGWSSL (and the ESC in exposed soil from 0 to 1 foot in undeveloped areas). That figure indicates the exceedances above the default IGWSSL are quite extensive and extend approximately 50 feet into RT 130 and approximately 9 feet onto the property at 359 Washington Place.
- **Figure 34** shows the inferred extent of toluene above the default IGWSSL.
- **Figure 35** shows the inferred extent of ethylbenzene above the default IGWSSL and the ESC. It also shows the location of four (4) samples that had concentrations above the soil saturation limit, which will have to be remediate if the selected remedial solution is monitoring natural attenuation.
- **Figure 36** shows the inferred extent of xylenes above the default IGWSSL and the ESC. It also shows the location of thirteen (13) samples that had concentrations above the soil saturation limit, which may have to be remediate if the selected remedial solution is monitoring natural attenuation.
- **Figure 37** shows the inferred extent of MTBE above the default IGWSSL. It also shows where MTBE was above the standard in the past but is no longer above the standard.

- **Figure 38** shows the inferred extent of TBA that was above the default IGWSSL in the past but is no longer above the standard based on recent samples.
- **Figure 39** shows the inferred extent of 2-methylnaphthalene above the default IGWSSL of 8 mg/kg. The highest concentration (23.3 mg/kg) was in P17: 4' located near the former hydraulic lift that was in the western most service bay, which indicates a release likely occurred at AOC 10.
- **Figure 40** shows the inferred extent of naphthalene above the default IGWSSL and the ESC in exposed soil from 0 to 1 ft. The highest concentration (535 mg/kg) was in P 70: 3.5-4' located near the drainage ditch. A sample from P43: 2' which is located near P 70 had a concentration of 4.04 mg/kg, which defined the vertical extent near the drainage ditch.
- **Figure 41** shows the inferred extent of chrysene above the default IGWSSL and the ESC in exposed soil from 0 to 1 ft. The highest concentration (249 mg/kg) was in P 58: 0-0.5' located near the waste oil AST. The vertical extent was defined by P58: 1.5-2' where the concentration was only 0.651 mg/kg.
- **Figure 42** shows the inferred extent of beryllium above the IGWSSL that was above the background level of 1 mg/kg. The highest concentration (1.9 mg/kg) was in P 85: 0-0.5', which is only slightly higher than the concentration detected in background samples (1 mg/kg). The vertical extent was defined by P85: 3.5-4' where the concentration was 1 mg/kg.
- **Figure 43** shows the inferred extent of mercury above the default IGWSSL and the concentrations higher than the background level of 0.077 mg/kg that could migrate to the swale. The highest concentration (0.75 mg/kg) was in P 91: 1.5-2', which is located near the southern property line. A sample at P91: 5-5.5' (0.046 mg/kg) did not exceed the default IGWSSL of 0.1 mg/kg.
- **Figure 44** shows the inferred extent of lead with concentration higher than the background level of 233 mg/kg that could impact groundwater and the concentrations higher than the background level of 233 mg/kg that could migrate to the swale. The exceedances are located near the waste oil AST. The highest concentration relative to impacts to groundwater was detected in F 24: 3-4' (1,240 mg/kg). The highest concentration in the upper foot of the soil column was 343 mg/kg in P 58:0-0.5'. The vertical extent above the IGWSSL was defined by F24 by a sample from P16:4', which had a concentration of 14.9 mg/kg.
- **Figure 45** shows the inferred extent of acenaphthene above the ESC in exposed soil from 0 to 1 ft. Only one (1) sample had an exceedance. That sample was in P 58: 0-0.5' and the concentration was 27.9 mg/kg. The sample was located by the waste oil AST.
- **Figure 46** shows the inferred extent of benzo(ghi)perylene above the ESC in exposed soil from 0 to 1 ft. Only one (1) sample had an exceedance. That sample was in P 58: 0-0.5' and the concentration was 167 mg/kg. The sample was located by the waste oil AST.
- **Figure 47** shows the inferred extent of fluoranthene above the ESC in exposed soil from 0 to 1 ft. Only two (2) samples had an exceedance. Those samples were in P 58: 0-0.5' (643 mg/kg) and P59: 0-0.5' (127 mg/kg). The samples were located by the waste oil AST.

- **Figure 48** shows the inferred extent of phenanthrene above the ESC in exposed soil from 0 to 1 ft. Only two (2) samples had an exceedance. Those samples were in P 58: 0-0.5' (423 mg/kg) and P59: 0-0.5' (51.8 mg/kg). The samples were located by the waste oil AST.
- **Figure 49** shows the inferred extent of pryene above the ESC in exposed soil from 0 to 1 ft. Only two (2) samples had an exceedance. Those samples were in P 58: 0-0.5' (575 mg/kg) and P59: 0-0.5' (101 mg/kg). The samples were located by the waste oil AST.
- **Figure 50** shows the inferred extent of barium above the ESC in exposed soil from 0 to 1 ft. Only one (1) sample had an exceedance. That sample was in P 85: 0-0.5' (401 mg/kg) The sample was located by the heating oil AST.
- **Figure 51** shows the inferred extent of cadmium above the ESC of 0.36 mg/kg in exposed soil from 0 to 1 ft. The highest concentration (1.8 mg/kg) was detected in P54:0.5-1'. The sample was collected in the swale.
- **Figure 52** shows the inferred extent of cobalt above the ESC in exposed soil from 0 to 1 ft. The highest concentration (18.3 mg/kg) was detected in P10:.0-1'. The sample was located by the waste oil AST.
- **Figure 53** shows the inferred extent of nickel above the ESC in exposed soil from 0 to 1 ft. The highest concentration (38.3 mg/kg) was detected in P10:.0-1'. The sample was located by the waste oil AST.
- **Figure 54** shows the inferred extent of chromium above the background level that could migrate to the swale. The highest concentration (88.5 mg/kg) was detected in P92: 0-0.5'. The sample was located near the southwest corner of the onsite building.
- **Figure 55** shows the inferred extent of copper above the background level of 53.1 mg/kg that could migrate to the swale. The highest concentration (458 mg/kg) was detected in P22:.0-0.5'. The sample was collected in the swale.
- **Figure 56** shows the inferred extent of aluminum above the background level of 17,700 mg/kg in the upper one foot of soil that could migrate to the swale. The highest concentration was 23,500 mg/kg located by the southwest corner of the onsite building.
- **Figure 57** shows the inferred extent of zinc above the background level of 122 mg/kg in the upper one foot of soil that could migrate to the swale. The highest concentration was 357 mg/kg in sample P 102 located by the propane tank.
- **Figure 58** shows the inferred extent of EPH above the default product limit of 8,000 mg/kg for unknown petroleum products in the vicinity of the waste oil AST, the residential soil cleanup criteria (5,100 mg/kg) in the vicinity of the former hydraulic tank in the western most service bay and the ecological SRC (1,700 mg/kg). Note that the samples with EPH concentrations greater than 2,300 mg/kg were not analyzed using the fractionated option in the NJDEP EPH Method (N.J.A.C. 7:26E-2.1 (a)(6). If remediation is not conducted in the area of the former hydraulic tank then additional samples analyzed by the method referenced above will be required to develop an EPH Soil Remediation Criteria (SRD) to evaluate remedial options. Since the EPH concentration in P 10 near the waste oil ATS was collected in historic fill and is not suitable for grain size analysis the default product limit of 8,00 mg/kg is applicable and therefore will need to be remediated.

To summarize the soil impacts the following comments are offered:

- The extent of benzene in soil above the NRDCS is extensive but is limited to the site. The highest concentration was detected near the swale.
- The extent of naphthalene above the NRDCS is also extensive but extends off site (approximately 34 feet to the north of the site, .i.e., beneath RT 130).
- PAH compounds including: benzo(a)pryene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(a,h)anthracene, indeno(1,2,3-cd)perylene had concentrations above the NRDCS and were limited to soil located behind the onsite building. The analytical data suggest a release likely occurred by the waste oil AST (AOC 6). Benzo(a)pryene had the greatest aerial extent of the PAH compounds above the NRDCS and was also above the NRDCS in the swale.
- Arsenic above the NRDCS was only detected in one sample out of 52 at a depth of 5.5-6' and is likely an anomaly and compliance averaging discussed in a following section indicates the soil is compliant to the standard.
- Lead above the NRDCS is limited to a small area behind the onsite building near the waste oil AST and was not detected above the NRDCS at a depth of 4 feet. Compliance averaging discussed in a following section indicated lead was complaint to the NRDCSR but not the RDCSRS.
- Manganese above the NRDCS is limited to a very small area located at the southwest corner of the onsite building and was not detected above the NRDCS at a depth of 1.5 feet below grade. Compliance averaging discussed in a latter section indicated manganese in the upper two feet of the soil column was complaint to the RDCSRS and the NRDCSRS
- Concentrations of BTEX and MTBE were above the default IGWSSS and extend to a depth of approximately 6.5 feet below grade were the average depth to the water table was encountered. Benzene has the greatest aerial extent above the default IGWSSL and extends off site to the north approximately 52 feet beneath RT 130.
- Concentrations of 2-methylnaphthalene were above the default IGWSSL in the vicinity of the former hydraulic lift in the western most bay and indicate a release from the former hydraulic tank (AOC 10) likely occurred.
- Concentrations of naphthalene and PAH compounds including: benzo(a)pryene, benzo(a)anthracene, indeno(1,2,3-cd)pryene, dibenzo(a,h)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene and chrysene were above the background IGWSSL and were limited to soil located behind the onsite building. Benzo(a)pryene had the greatest aerial extent of the PAH compounds above the background IGWSSL and was also above the standard in the swale.
- Lead and beryllium were detected above the background IGWSSL in soil behind the onsite building.
- Mercury was detected above the default IGWSSL in soil behind the onsite building Concentrations above the standard extended to the swale.
- Concentrations of the following compounds were detected in the swale above the background ESC or the ESC: benzo(a)pryene, cadmium, cobalt, chromium, copper, mercury, nickel, vanadium and zinc.

- There are a number of other compounds (listed in Section 8.1) that was detected in the upper one foot of soil located behind the onsite building that could erode to the swale.
- EPH was detected above the default product limit of 8,000 mg/kg and will need to be remediated.
- Concentrations of ethylbenzene and xylenes were above the soil saturation limit and will need to be addressed if monitoring natural attenuation is selected as the remedial approach.
- Soil in the swale with concentrations above the background ESC should be remediated to prevent potential migration to an environmentally sensitive area (Farrington Lake). Steps should also be taken to prevent further erosion of soil with concentrations above the background ESC located behind the onsite building from eroding to the swale.

8.3 Compliance Averaging

Compliance averaging was used to demonstrate that concentrations of arsenic, manganese, vanadium and lead in soil are compliant to the NRDCSRS. Compliance determination using compliance averaging was conducted in accordance with the NJDEP guidance document "Technical Guidance for the Attainment of Remediation Standards and Site-Specific Criteria" dated September 24, 2012 using the PRO UCL software to calculate the upper confidence level (UCL) of the mean for manganese, vanadium and lead and using the arithmetic mean to demonstrate compliance for arsenic since there were only nine (9) samples analyzed for arsenic.

Since the AOCs where impacts above a standard were relatively close to each other and the site is a non-residential site and 0.63 acres, the entire site was considered the functional area for the compliance averaging analysis. The exception was to evaluate lead only the samples needed to define the extent was used because of the large amount of lead data that was collected at the site.

To determine compliance to the direct contact standards for manganese and vanadium the vertical function area only included soil from the surface to a depth of two feet. A vertical functional area from a depth of two feet and deeper was not required for manganese and vanadium because the impacts above the direct contact standards did not extend below two feet. For arsenic and lead the vertical function area only included soil from a depth of two feet and deeper because arsenic and lead was not above the direct contact standard in samples collected from the surface to a depth of two feet.

Comments related to the compliance averaging is presented below and data required to be submitted for submission to the NJDEP is presented in **Appendix Q**.

- Manganese in soil from the surface to a depth of two feet had a 95% UCL of 4,209 mg/kg, which indicates compliance with the RDCSRS of 11,000 mg/kg and the NRDCSRS of 5,900 mg/kg.
- Vanadium in the soil from the surface to a depth of two feet had a 95% UCL of 43.4 mg/kg, which indicates compliance with the RDCSRS of 78 mg/kg.

- Arsenic in soil from two feet and deeper had an arithmetic mean of 6.15, which indicates compliance to the RDCSRS and the NRDCSRS of 19 mg/kg.
- Lead in soil from two feet and deeper had a 95% UCL of 651.8 mg/kg, which indicates compliance to the NRDCSRS of 800 mg/kg but not the RDCSRS.

8.4 Fill Area

As mentioned in Section 3, to the rear of the onsite building approximately five feet of fill was placed around 1980 to raise the grade of the site, which is characterized by miscellaneous soil and red rock fragments. **Figure 59** shows the depth of the fill detected during the borings install between 2017 and 2019. Although the fill may contribute to the concentrations of PAH and metals it does not appear to be the main contributor to contaminants above the soil standards.

8.5 Nature and Extent of Groundwater Impacts

The analytical data from the last set of groundwater samples, which was collected in May 2019 was used to evaluate the nature and extent of the groundwater impacts. Those samples were collected using low flow sampling techniques and were described in **Section 7.30**. **Figures 60 through 68** shows the inferred extent of volatile organic compounds above the GWQS. **Figures 69 through 72** shows the inferred extent of semi volatile organic compounds above the GWQS and **Figures 73 through 78** inferred extent of metals above the GWQS. Comments related to those figures are offered below:

- **Figure 60** shows the inferred extent of benzene in groundwater above the GWQS of 1 ug/l and the groundwater screening level for vapor intrusion (GWSLVI) of 20 ug/l. The highest concentrations were reported in the samples from MW 1 (1,550 ug/l) located near the old pump island and MW 19 (1,530 ug/l) located to the rear of the onsite building where the former septic system was believed to be located. Note that the contour lines are dashed where approximated and that the buildings within the 30 foot GWSLVI include the onsite building and the convenience store located at 1674 RT 130 to the east of the site. Since the facility uses the contaminants of concern in its operations collecting VI samples at the onsite building was not recommended and the VI pathway will need to be addressed in a deed notice to ensure public health will be protected in the future if the land use or facility operations change. As mentioned **in Section 7.30**, to evaluate the VI pathway at the adjacent property On-Site contacted the LSRP on record for the 1674 RT 130 site (which has a PCE problem) and secured summary tables and sample location figures of sub-slab soil gas samples collected at the convenience store. That data indicated the only compounds above the standards were PCE and TCE and that the concentrations of gasoline related compounds were below the sub-slab soil gas samples, therefore, the LSRP on record for the North Brunswick Gulf site concluded further VI investigations will not be required at that location.
- **Figure 61** shows the inferred extent of ethyl benzene above the GWQS of 700 ug/l and the ground water screening level for vapor intrusion (700 ug/l). The highest concentrations were in MW 1 (1,750 ug/l) and MW 19 (2,800 ug/l). The onsite building and the convenience store located at 1674 RT 130 are within the 30 foot trigger distance

of the GWSLVI contour line. Evaluation of the VI pathway at those locations was discussed above. The elevated concentrations in MW 1 imply a release likely occurred at the old pump island and the elevated concentrations in MW 19 imply a release likely occurred at the former septic.

- **Figure 62** shows the inferred extent of toluene in ground water above the GWQS of 600 ug/l. The only samples above the toluene standard were the samples from MW 1 (2,510 ug/l), MW 2 (1,140 ug/l) and RW 1 (940 ug/l).
- **Figure 63** shows the inferred extent of xylenes in ground water above the GWQS of 1,000 ug/l and the GWSLVI of 8,600 ug/l. The highest concentrations were reported in MW 19 (10,800 ug/l) and MW 1 (10,300 ug/l). The elevated concentrations in MW 19 imply a release likely occurred at the former septic and the elevated concentrations in MW 1 imply a release likely occurred at the old pump island.
- **Figure 64** shows the inferred extent of MTBE in ground water above the GWQS of 70 ug/l. The only concentration reported above the GWQS was in the sample from MW 1 (83.6 ug/l).
- **Figure 65** shows the inferred extent of TBA in ground water above the GWQS of 100 ug/l. The only concentrations above the GWQS were in the samples from MW 2 (241 ug/l) and RW 1 (111 ug/l), however, the detection level in MW 1 and MW 19 were above the standard.
- **Figure 66** shows the inferred extent of 1,2,4-TMB above the GWQS of 100 ug/l. The highest concentrations were detected in the samples from MW 19 (2,450 ug/l) and MW 1 (1,030 ug/l). The elevated concentrations in MW 19 imply a release likely occurred at the former septic and the elevated concentrations in MW 1 imply a release likely occurred at the old pump island.
- **Figure 67** shows the inferred extent of tetrachloroethene (PCE) in ground water above the GWQS of 1 ug/l. The only sample above the GWQS was reported in the sample from MW 9 (1.8 ug/l). Four samples (MW 1, MW 19, RW 1 and MW 2 did have detection levels above the GWQS. This is a compound related to solvents and not gasoline or petroleum products. It is also the contaminant of concern at the adjacent site to the east. Since this compound was never detected in previous groundwater samples additional samples are required to confirm the presence/absence of this contaminant in groundwater.
- **Figure 68** shows the inferred extent of VOC TICs above the cleanup criteria reported in the samples. The highest concentrations were reported in MW 2 (8,140 ug/l) and MW 19 (10,800 ug/l). The elevated concentrations in MW 19 imply a release likely occurred at the former septic.
- **Figure 69** shows the inferred extent of bis(2-ethylhexyl)phthalate in groundwater above the GWQS of 3 ug/l. The only reported sample above the standard was in the sample from MW 1 (5 ug/l). This compound is a common laboratory contaminant and is also associated with PVC wells and is likely not related to a release at the site.
- **Figure 70** shows the inferred extent of 2-methylnaphthalene in ground water above the GWQS of 30 ug/l. The highest concentration (92.3 ug/l) was detected in the sample from MW 19. The elevated concentrations in MW 19 imply a release likely occurred at the former septic and or the waste oil AST.

- F**igure 71** shows the inferred extent of naphthalene in ground water above the GWQS of 300 ug/l. The only sample reported above the sample was from MW 19 (433 ug/l). The elevated concentrations in MW 19 imply a release likely occurred at the waste oil AST and or the former septic.
- **Figure 72** shows the inferred extent of 1-methylnaphthalene in groundwater above the GWQS of 5 ug/l. The highest concentration (17.6 ug/l) was reported in the sample from MW 1. A slight exceedance (5.1 ug/l) was also reported in the sample from MW 18 a down gradient well. Since there are five wells up gradient of MW 18 that did not have detectable levels of 1-methylnaphthalene the exceedance in MW 18 is not related to a release at the North Brunswick Gulf site. It is likely related to an asphalt odor that was detected in the upper four feet of the soil when the well was installed (See log of MW 18 in **Appendix B**).
- **Figure 73** shows the inferred extent of SVOC TICs above the cleanup criteria of 500 ug/l. The highest concentration was reported in the sample from MW 19 (3,898 ug/l). The elevated concentration in MW 19 implies a release likely occurred at the waste oil AST and or the former septic.
- **Figure 74** shows the inferred extent of arsenic in the groundwater above the GWQS of 3 ug/l. The highest concentration was reported in the sample from MW 10 (17.4 ug/l) a well on the down gradient end of the site. Since only one (1) soil sample out of 52 had a concentration of arsenic above the default IGWSSL and since the concentration in MW 17 a monitoring well installed across RT 130 had 2 ug/l of arsenic (which is very close to the GWQS of 3 ug/l) it is believed the concentrations of arsenic in the groundwater samples is related to natural conditions.
- **Figure 75** shows the distribution of beryllium in the groundwater above the GWQS of 1 ug/l. The highest concentration was reported in the sample from MW 14 (6.7 ug/l), which is the well on the adjacent property to the east. The distribution pattern indicates the exceedance are not related to a discharge at the site.
- **Figure 76** shows the distribution of cobalt in the groundwater above the GWQS of 100 ug/l. The highest concentration was reported in the sample from MW 20 (121 ug/l), which is the most down gradient well located in Washington Place. No other sample was above the standard. The distribution pattern indicates the exceedance is not related to a discharge at the site.
- **Figure 77** shows the distribution of lead in the groundwater above the GWQS of 5 ug/l. The highest concentration was reported in the sample from MW 15 (17.5 ug/l), which is an up gradient well. The distribution pattern indicates the exceedances are not related to a discharge at the site.
- **Figure 78** shows the distribution of nickel in the groundwater above the GWQS of 100 ug/l. The highest concentration was reported in the sample from MW 20 (172 ug/l). The distribution pattern indicates the exceedances are not related to a discharge at the site.

In summary the groundwater analytical data indicates the following:

- Benzene has the greatest aerial extent and extends southeastward onto the property at 359 Washington Place owned by Mr & Mrs. Thomas Csepes and beneath RT 130 located to the north of the site.
- The extent of the groundwater contamination has been defined.
- The nature of the groundwater impacts related to discharges at the site includes compounds related to gasoline and waste oils including: BTEX, MTBE, TBA, Possibly PCE, 1,2,4-TMB, VOC TICs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, and SVOC TICs.
- Metals in groundwater above the GWQS that are believed to be related to naturally occurring conditions include: aluminum, arsenic, beryllium, cobalt, iron, lead, manganese, nickel and sodium.
- There are compounds in groundwater above the GWSLVI within the 30 foot trigger distance to structures. Investigations conducted regarding the VI exceedance at the property to the east were discussed above and did not identify a complete VI pathway to a receptor. A deed notice will likely be used to address the VI concern for the onsite building.
- The Csepes residence located at 359 Washington Place was not within the VI 30 foot trigger distance based on the groundwater data collected in May 2019.

9.0 FATE AND TRANSPORT ANALYSIS

A Classified Exemption Area (CEA) proposal form with supporting documentation is presented in **Appendix R**. Fate and transport analysis in the CEA is highlighted below:

Since the source of the most mobile compounds were removed 17 years ago and groundwater analytical data from monitoring wells indicates the plume is stable and in some locals shrinking, extent predictions were made using professional judgment that concluded:

- the plume will only decrease in size with time.
- The horizontal extent is equal to the current extent of the plume (253 ft in north to south direction and 273 ft in east to west direction).
- The vertical extent is estimated at 30 feet below grade, which is 10 feet below a clay layer detected at a depth of 20 feet below grade.

Data that supports this conclusion is highlighted below:

- Groundwater analytical data from down gradient monitoring wells MW 3 and MW 8 **(Appendix Q Figure 2)** indicate the concentrations of benzene, MTBE and TBA have decreased to below the standard with time as highlighted below:

Contaminant	Concentration in 2009 (ug/l)	Concentration in 2019 (ug/l)
Benzene MW 3	1.7	<0.43
MTBE MW 3	2000	65.4
TBA MW 3	6300	64.3
Benzene MW 8	32	<0.43
MTBE MW 8	280	0.75 J
TBA MW 8	340	<5.8

  Groundwater analytical data from 20 monitoring wells is summarized on individual well forms that show the concentrations in most wells have decreased over time **(Appendix R: Table 1)**.

- Nine (9) monitoring wells have been installed along the periphery of the plume to evaluate horizontal extent and contaminant transport (MW 9 through MW 18 and MW 20). Groundwater samples from those well that were collected over time have indicated that the concentrations of benzene, MTBE and TBA in those wells were always below the GWQS, which indicates the plume is not expanding. It also indicates the plume started to shrink around 2009 when the concentrations in MW 8 (the most down gradient impacted well) began to decrease.

- Although only four sampling events were available since remedial efforts stopped in July 2003 and R-squared values were low, concentration versus time plots for all volatile organic compounds that have had concentrations above the GWQS at one time (MW 1 through MW 8 & RW 1) do show a decreasing trend over time with the exception of the following:
  - Benzene in MW 4 increased.
  - BTEX, MTBE and TBA in RW 1 increased likely due to an elevated water table.

  The concentration versus time series plots are presented in **Appendix R**.

- Trend analysis using the Mann Kendall Statistical Test indicates:

  The concentrations of BTEX. MTBE and TBA is either stabile or decreasing in most wells. A summary of the Mann Kendal analysis is presented below and snap shots of the Mann Kendall spreadsheets are presented in **Appendix R**.

Well ID	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA
MW 1	Stabile	Non-stabile	Stabile	Stabile	Decreasing	Decreasing
MW 2	Stabile	Decreasing	Stabile	Stabile	Stabile	Decreasing
MW 3	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Non-stabile
MW 4	Non-stabile	Decreasing	Decreasing	Non-stabile	Decreasing	Decreasing
MW 5	Stabile	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
MW 6	Decreasing	Non-stabile	Non-stabile	Non-stabile	Non-Stabile	Decreasing
MW 7	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing
MW 8	Decreasing	Decreasing	Decreasing	Decreasing	Decreasing	Non-stabile
RW 1	Non-stabile	Non-stabile	Non-stabile	Non-stabile	Non-stabile	Stabile

- Based on slug test performed at the site in four wells the hydraulic conductivity of the subsurface aquifer ranges from 3.34 ft/day at the up gradient northeast end of the site (which is characteristic of a fine sand) to an average of 0.12 ft/day in the down gradient south west end of the site (which is characteristic of silt, clay and mixtures of sand, silt and clay). The low hydraulic conductivity of the material at the southwest end of the site has limited the horizontal migration of the contaminants. The slug test data is summarized below and printout of the slug test analysis were presented to the NJDEP in a *Preliminary Site Investigation/Remedial Action Report"* dated May 1, 2002.

Rising Head Permeability Test	
Location	ft/day
MW 1	3.339
MW 2	0.0599
MW 3	0.291
MW 4	0.007704
Geometric Mean	0.1455

- Based on borings installed at the site the subsurface material at the up gradient northeastern part of the site is composed of silty clays to a depth of 12 feet underlain by fine to medium sands with thin interbedded silty and sandy clays to a depth of 20 feet, which is underlain by a plastic clay of undetermined thickness. The material from the middle of the site to the southwest is mainly a silty clay to a depth of approximately 20 feet, which is also underlain by a plastic clay. The clayey nature of the material at the southwest end of the site has limited the horizontal migration of contaminants in the subsurface and the clay layer at a depth of 20 feet below grade will limit the vertical extent of the impacts.

- **Figure 3 in Appendix R** shows the proposed CEA boundary. The CEA boundary is based on two rounds of groundwater data collected in 2016 and 2019 from twenty (20) monitoring wells.

- **Figures 6 in Appendix R** is a water table gradient map showing the inferred direction of groundwater flow on 5/21/19, which indicates the main direction of groundwater flow is towards the south and southeast, which is in line with the topographic gradient.

The duration of the Classified Exemption Area (CEA) was estimated by performing regression analysis on groundwater data collected over time from individual wells to develop site specific degradation rates for the contaminants of concern. Then using that data in the formulas below:

Half life in days = $t_{1/2}$ = 0.693 divided by degradation rate

$$\text{Duration of CEA} = \frac{-t_{1/2}\,[\ln C/Co]}{.693}$$

where :
t1/2 is the half life in days
C: final concentration = ground water quality standard
Co: Initial concentration

Based on site specific degradation rates for the most mobile contaminants of concern the duration of the plume has been calculated to be above standards for 36.5 more years (which will be approximately 48 years after the source has been removed - year 2056). The regression analysis and duration calculations are summarized below and presented in **Appendix R**.

MW I.D.	Duration for benzene to reach GWQS from 5/22/19 (years)	Duration of MTBE to reach GWQS from 5/22/19 (years)	Duration of TBA to reach GWQS from 5/22/19 (years)
MW 1	36.53	Will likely reach standard in next few years	May have reached the standard
MW 2	15.13	Reached standard in last 2 samples	Will likely reach standard in next few years
MW 3	Reached standard in last 2 samples	Reached standard in last sample	Reached standard in the last sample
MW 4	Not determined because concentrations increased in last sample	Reached standard in last 2 samples	Reached standard in last 2 samples
MW 5	Reached standard in the last sample	Never was above the standard	Reached standard in last 3 samples
MW 6	9.73	Reached standard in last 2 samples	Reached standard in last 2 samples
MW 7	16.83	Reached standard in last sample	Reached standard in the last sample
MW 8	Reached standard in last 2 samples	Reached standard in last 2 samples	Reached standard in last 2 samples
RW 1	Not determined because concentrations increased in last sample	Not determined because concentrations increased in last sample	Not determined because concentrations increased in last sample

Since the longest time to reach the GWQS calculated to be at MW 1 and that duration is greater than 30 years additional remediation should be conducted at MW 1 to reduce the cleanup time. If further remediation is conducted then the duration will need to be re-evaluated.

Since the site data indicates the plume is stable and shrinking it has been concluded based on professional judgment that the plume will not travel further than its current extent. The current extent and the proposed CEA boundary is shown on **Figure 79.**

10.0 RELIABILITY OF LABORATORY DATA

During the investigations, standard field procedures were employed to document the investigative activities and to collect representative media samples for analysis. Samples were collected in accordance with the New Jersey Department of Environmental Protection Filed Sampling Procedures Manual. The collected samples were placed on ice and documented on chain of custody records. Samples were submitted to the laboratory in appropriate timeframes to comply with specific holding time requirements.

Laboratory data deliverables were requested in the reduced and Hazsite formats. Laboratory analytical results for samples collected by On-Site are summarized in **Tables 1 through 27.** Electronic deliverables were submitted to the NJDEP @srpedd@dep.state.nj.us.

The laboratory analytical data have been reviewed by laboratory personnel and conformance/non-conformance summaries are provided in each of the laboratory data deliverables. Review of the summaries and reduced data packages indicates that the data are representative of the site conditions.

11.0 ELECTRONIC DELIVERABLES

Electronic laboratory data deliverables for the samples collected by On-Site have been submitted to srpedd@dep.state.nj.us as required by the NJDEP. Copies of the emails from the NJEP that indicates the submittals have passed are presented in **Appendix K**.

12.0 REGULATORY TIMEFRRAME

The applicable regulatory timeframe to submit the RIR was March 1, 2019.

13.0 CONCLUSION

The following comments highlights the findings of the remedial investigations conducted at the North Brunswick Gulf site:

- The site has been a retail gasoline service station and automobile repair center for over 50 years and extensive impacts to the soil and groundwater have occurred.
- The average depth to water at the eastern part of the site is approximately 6.5 feet below grade, while the average depth to water at the south west end of the site is approximately 2.5 feet below grade.
- The soil at the eastern part of the site consists mainly of silty clays to a depth of 12 feet underlain by fine to medium sand with thin interbedded silty and sandy clays. The material from the middle of the site to the west is mainly a silty clay will a very low permeability. Beneath the sand in the northeast and the silty clay to the west at a depth of approximately 20 feet below grade is s plastic clay of undetermined thickness. To the rear of the onsite building approximately three feet of fill was placed around 1980 to raise the grade of the site, which is characterized by miscellaneous soil and red rock fragments.
- Based on water level data the direction of groundwater flow is towards the south southeast. There may also be a component of flow to the north based on contaminant distribution patterns in groundwater.
- The area is serviced by public water and sanitary sewer systems and there are no potable or irrigation wells located near the site.
- There are no sensitive natural resources located on or adjacent to the site but there is a potential migration pathway (drainage ditch) located on the site that ultimately outfalls to Farrington Lake located approximately 1,300 feet from the site via the storm drain system.
- There are 14 AOCs at the site including the groundwater and soil medias. The site data indicates that releases occurred at six of the AOCs including: AOC 1 (historic and current USTs locations, AOC 2 (former pump island), AOC 3(area behind station where high levels of lead was detected), AOC 6 (waste oil and heating oil AST), AOC 10 (hydraulic lift in western most bay area) and AOC 11 (former septic system). The release at AOC 6

appears to have been from surface spillage and not a release from the actual waste oil AST. The release at AOC 3 was likely a small surface spill that occurred before the fill was place in that area around 1980 because the extent of lead was not detected in surface soils in that area. Furthermore, although releases did not occur at AOC 7 (storm drains) and AOC 8 (swale/drainage ditch) those AOCs do have concentrations above the standards most likely from surface spillage by the waste oil AST.

- Concentration in soil above the non-residential direct contact soil remediation standard (NRDCSRS) include: benzene, naphthalene, benzo(a)pryene, benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(a,h)anthracene and indeno(1,2,3-cd)perylene. There are also concentrations of benzo(k)fluoranthene, lead and EPH above the residential direct contact soil remediation standards (RDCSRS).
- EPH also exceeds the non-residential product limit of 8,000 mg.kg at AOC 6 (waste oil AST).
- A soil remediation criteria has not been determined for EPH at AOC 10 (former hydraulic lift in western most bay) to determine compliance to the standards since this area may be remediated due to other concerns such as ethylbenzene and xylenes that exceeded the soil saturation limits.
- Benzene has the greatest aerial extent above the NRDCSRS and includes an area with a perimeter of approximately 650 feet and extends from approximately 1 foot below grade near the drainage ditch to approximately 13 feet deep near RT 130. The concentrations above the RDCSRS extends approximately 15 feet off site to the north, i.e., beneath RT 130.
- The concentrations of naphthalene above the NRDCSRS extends from beneath the western most service bay area to the drainage ditch and at four other hot spots located throughout the site. The concentrations above the RDCSRS extends off site approximately 48 feet to the north, i.e., beneath RT 130.
- Based on compliance averaging using the 95% UCL lead does not exceed the NRDCSRS at AOC 3 (2ft and deeper) but it does exceed the RDCSRS at AOC 3 (2ft and deeper).
- Benzo(a)pryene has the greatest areal extent of the PAH compounds above the NRDCSRS and includes an area with a perimeter of approximately 320 feet in the

undeveloped area behind the station that extends into the drainage ditch and extends from the surface to a depth of approximately 3 feet below grade behind the station near AOC 6 (waste oil AST).

- Based on compliance averaging manganese, vanadium and arsenic are compliant to the RDCSRS.
- There were concentrations of the following compounds in back ground samples higher than the default impact to groundwater soil screening levels: benzo(a)pryene, aluminum, beryllium, lead and manganese. Note that aluminum and manganese are not a concern if they are above the impact to groundwater screening level per the NJDEP.
- There were concentrations of the following compounds in back ground samples higher than the ecological screening levels: aluminum, chromium, cobalt, copper, lead, manganese, mercury, nickel, vanadium and zinc.
- Compounds that exceeded the impact to groundwater soil screening levels (IGWSSL) that were above background concentrations included: BTEX, MTBE, naphthalene, benzo(a)pryene, benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)perylene, benzo(k)fluoranthene, lead, 2-methylnaphthalene, chrysene, beryllium and mercury.
- Benzene has the greatest aerial extent above the default IGWSSLs and includes an area approximately 205 x 170 ft in size and extends off site to the north approximately 50 feet beneath RT 130 and approximately 9 feet to the south onto the property at 359 Washington Place owned by Mr. & Mrs. Csepes.
- The concentrations above the default IGWSSL varies across the site depending on the compound. For example benzene at the north end of the site extends from approximately 2.5 to 6.5 feet and from approximately 1 to 3 feet below grade near the drainage ditch. 2-methylnaphthalene extends from approximately 1 to 6.5 feet below grade beneath the onsite building near the western most service bay. Benzo(a)pryene above the background concentration by the waste oil AST extends from the surface to approximately 4.5 feet below grade. Chrysene by the waste oil AST extends from the surface to a depth no greater than 1.5 feet below grade. Mercury has been detected in the drainage ditch at the

surface and extends from approximately 1 foot to no greater than 4.5 feet near the waste oil AST (AOC 6).

- Compounds in undeveloped areas in the upper one foot of the soil column that can potentially migrate to the swale that are above the background concentrations and can be of potential ecological concern include: benzene, ethylbenzene, xylenes, acenaphthalene, naphthalene, benzo(a)pryene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(ghi)perylene chrysene, dibenzo(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)perylene, phenanthrene, pryene, aluminum, barium, cadmium, cobalt, copper, chromium, lead, manganese, nickel, vanadium, zinc and EPH. Although some of these compounds including: benzo(a)pryene, cadmium, chromium, copper, mercury, nickel, vanadium and zinc have been detected in the drainage ditch above background concentrations an ecological evaluation indicated no further ecological evaluation was needed but that the drainage ditch should be maintained to limit the potential for erosion.
- There are also concentrations of ethylbenzene and xylenes above the soil saturated limit, which may need to be addressed if monitoring natural attenuation is selected as a remedial approach.
- The nature of the groundwater impacts related to discharges at the site includes compounds related to gasoline and waste oils including: BTEX, MTBE, TBA, 1,2,4-TMB, VOC TICs, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, SVOC TICs and possibly PCE, which was only detected in the last set of samples at a low concentration (1.8 ug/l).
- Metals in groundwater above the GWQS that are believed to be related to naturally occurring conditions include: aluminum, arsenic, beryllium, cobalt, iron, lead, manganese, nickel and sodium.
- There are compounds in groundwater above the GWSLVI within the 30 foot trigger distance to two off site structures and the onsite building. Investigations conducted at the offsite structures did not identify a complete VI pathway to a receptor. A deed notice will likely be used to address the VI concern for the onsite building.

- Benzene has the greatest aerial extent above the GWQS and extends southeastward onto the property at 359 Washington Place owned by Mr & Mrs. Thomas Csepes and approximately 73 feet to the north of the site beneath RT 130.
- The horizontal extent of the groundwater contamination has been defined. The vertical extent is believed to extend to a depth of no greater than 30 feet below grade, which is 10 feet beneath a clay layer located at 20 feet below grade.
- A CEA proposal has been submitted for the groundwater contamination with a duration of 36 years.

14.0 RECOMMENDATIONS

- The priority remedial action that should be conducted at this site is to remove by excavation the compounds of concern in the drainage ditch that exceed the ecological background screening levels. Also steps should be taken to prevent surface soil to the rear of the onsite building from eroding to the onsite storm drains and re-contaminating the drainage ditch. In conjunction with this recommendation the soil to the rear of the onsite building that has concentrations above the EPH residual product level (AOC 6) **(Figure 58: P 10)**, and the area where xylenes were detected above the soil saturation limit **(Figure 36: F20)** should be removed to met the requirements to implement Monitoring Natural Attenuation (MNA), which will likely be the final remedial option used for the site. In addition, that area will also need to be capped with asphalt and two years of groundwater monitoring data will be needed (again to met the requirements to demonstrate MNA) and demonstrate that capping of volatile organics with concentrations above the default impact to groundwater screening levels will not cause an increase in the groundwater concentrations.

- Note that historically capping of VOC in the unsaturated zone was not allowed because capping can create conditions that result in an exceedance to the groundwater via vapor phase diffusion. However, in January 2019 the NJDEP developed an approach to allow capping of soil with VOC in the unsaturated zone to be capped under certain conditions. That approach was described in the NJDEP Guidance " Capping of Volatile compounds for the Impact to Groundwater Pathway" - January 2019. The conditions are highlighted below:
  - Soil with concentrations above the residual product level and soil with concentrations above the soil saturation limits need to be removed.
  - Cap the site with an impermeable material such as asphalt and then collect two years of groundwater data to demonstrate compliance to the impact to groundwater pathway.

- Compliance to the impact to groundwater pathway will be achieved if the groundwater data indicates a decrease in the groundwater concentrations.
- If the concentrations in groundwater do not show a decrease in the concentrations then additional remediation will be required.

- The soil to the north west of the drainage ditch should also be excavated when the ditch is remediated because there are concentrations of benzene and naphthalene above the non-residential direct contact standard in that area (that area is currently a grassy area) unless that area will also be covered with asphalt to prevent exposure to the impacts.

- Once the soil to the rear of the onsite building is capped, On-Site recommends excavating the soil where the remaining soil with concentrations above the soil saturation limit is located. Note that the MNA guidance requires that soil above the soil saturation limit be excavated to the extent practicable. The locations where those exceedance are located are shown on **Figures 35 and 36** and include an area inside the building where the western most bay is located, the area to the west of the onsite building and the area by the pump island. Since it would not be practicable to excavate the soil by the pump island those soils may not have to be excavated.

- A limited excavation should also be conducted at the former pump island (AOC2) to remove source contamination, which should result in lowering the concentrations in groundwater at MW 1.

- After the remedial actions described above are completed soil and groundwater permits need to be secured because there will still be soil with concentrations above the non-residential soil standards and the default impact to groundwater screening levels. Also the groundwater will still have concentrations above the GWQS. A deed notice will also be required to ensure public health will be protected in the future.

- The soil and groundwater permits will require initial fees, annual fees and inspections and biennial certification reporting that ensures the conditions remain the same and that the engineering controls (cap) continue to be protective of public health and the environment. Once the permits are in place the annual remediation fee is no longer applicable.

- The deed notice will restrict the site to non-residential and describe where the soil exceeds the non-residential standards. The deed notice needs to be in place before a soil permit application is submitted. After the permits are in pace the LSRP can issue a Remedial Action Outcome (RAO).

- A Remedial Action Work Plan (RAP) needs to be developed to detail the remedial actions discussed above.

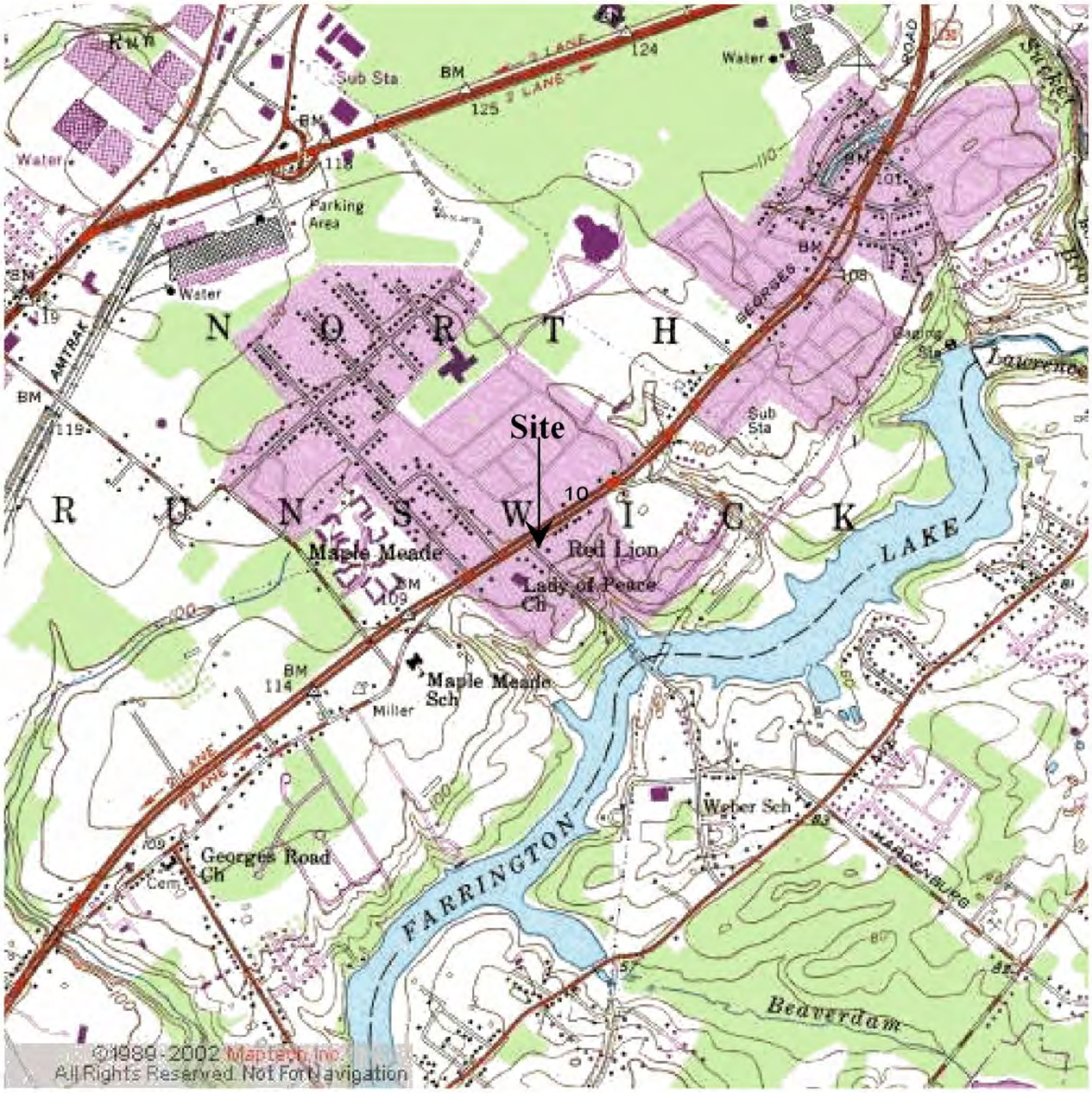
15.0 CONTACT INFORMATION

CONTACT	ADDRESS	NAME/TELEPHONE
Site Owner/Partner	555 Georges Rd Dayton, NJ 08810	Mr. Walter Lapp Jr. 732-710-7209
Site Owner/Partner	582 S. Waterloo Rd Devon, Pa. 19333	Mrs. Ruth Frey 267-426-6298
Licensed Site Remediation Professional	On-Site Environmental, Inc. 119 Shepherds Way Coatesville, Pa. 19320	Frank Jasiulewicz 610-384-2719

16.0 VARIANCE FROM REGULATIONS

- No Form A were available for submittal for MW 5 through MW 10 installed by the Whitman Company in 2004.
- No EDDS were available for submittal for the soil or groundwater samples collected by RedHawk from 2001 through February 2009.
- No EDDS were available for submittal for the soil and groundwater samples collected by the Whitman Co. 2004 & 2005.
- EPH sample P 17 was not fractionated to develop a soil remediation criteria because xylenes was over the soil saturation limit in the sample and would likely have to be remediated.
- The mandatory timeframe to submit the RIR has been exceeded, which was March 1, 2019.

FIGURES



North Brunswick Quadrangle

N

0' 2030'

(approximate scale in feet)

Contour Interval: 10 feet
Photo Revised: 1981

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: File : Topo 10

Date 8/12/16

Figure 1 Site Location

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey



KEY

- Residential Property
- Commercial Property
- Wooded
- Child Care Center
- 282 Block
- 2 Lot

Source: NJDEP Geo Web

0 242 '

APPROXIMATE SCALE IN FEET

ON-SITE ENVIRONMENTAL

Drawing #:
File : taxmap

Date
7/23/18

Figure 2 Land Use
North Brunswick Gulf
1696 Georges Road
North Brunswick, NJ

Rt 130

Rt 130

Grass

Gravel

Turning Lane

Grass Medium

Guard Rail

Water line

Fence

Property Boundary

Pump Islands with Canopy & Kiosk

D1 Dispenser

Kiosk

Electric lines

Office

asphalt

Electric

Stone

Quick Out Convience Store

Approximate local of old pump island

Excavation 12 ft deep

Concrete Over New Tanks

Excavation 2 ft deep

Excavation 3 ft deep

Excavation 6 ft deep

Test Pit1

Test Pit2

Test Pit6

Test Pit4

Shed

Swale

Storm Drain

Sewer line

Gas Line

Washington Place

Driveway

AOC 1
Diesel Fuel Dispenser

AOC 2

AOC 3

AOC 4
Heating Oil UST
(Closed-in-Place)

AOC 5
Heating Oil AST

AOC 6

AOC 7

AOC 8

AOC 9

AOC 10

AOC 11

AOC 12

MW 1 MW 2 MW 3 MW 4 MW 5 MW 6 MW 7 MW 8 MW 9 MW 10 MW 11 MW 12 MW 13 MW 14 MW 15 MW 16 MW 17 MW 18 MW 19 MW 20

RW 1

TB1 TB2 TB3 TB4 TB5 TB6 TB7 TB7-1 TB-7V

TP5

TW1 TW2 TW3 TW4 TW16-1 TW16-2

N1 N2 N2-V N3 N3-1 N4 N5 N6 N7 N7-2 N7-3 N8 N9 N10 N11 N12 N13 N13-1 N13-2 N14 N15 N16

D2 D3 D4

G1 G2 G3

SW1 SW2 SW3 SW4 SW5 SW6 SW7 SW8 SW9 SW10 SW11 SW12 SW13 SW14 SW15 SW16

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P14 P15 P16 P17 P19 P20 P21 P22 P23 P24 P25 P26 P27 P28 P29 P30 P31 P32 P34 P35 P36 P37 P38 P39 P40 P41 P42 P43 P44 P45 P46 P47 P48 P49 P50 P51 P52 P53 P54 P55 P56 P57 P58 P59 P60 P61 P62 P63 P64 P65 P66 P67 P68 P69 P70 P71 P72 P73 P74 P75 P76 P77 P78 P79 P80 P81 P82 P83 P84 P85 P86 P87 P88 P89 P90 P91 P92 P93 P94 P95 P96 P97 P98 P99 P100 P101 P102 P103 P104 P105 P106 P107 P108 P109 P110 P111 P112 P113 P114 P115 P116 P117 P118 P119 P120

F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 F15 F16 F17 F18 F19 F20 F21 F22 F23 F24

Property Boundary

Guard Rail

Fence

Water line

Sewer line

Gas Line

Storm Drain

Swale

Electric

Grass

Stone

Shed

Driveway

Office

Quick Out Convience Store

Approximate local of old pump island

Excavation 12 ft deep

Concrete Over New Tanks

Excavation 2 ft deep

Excavation 3 ft deep

Excavation 6 ft deep

Test Pit1

Test Pit2

Test Pit6

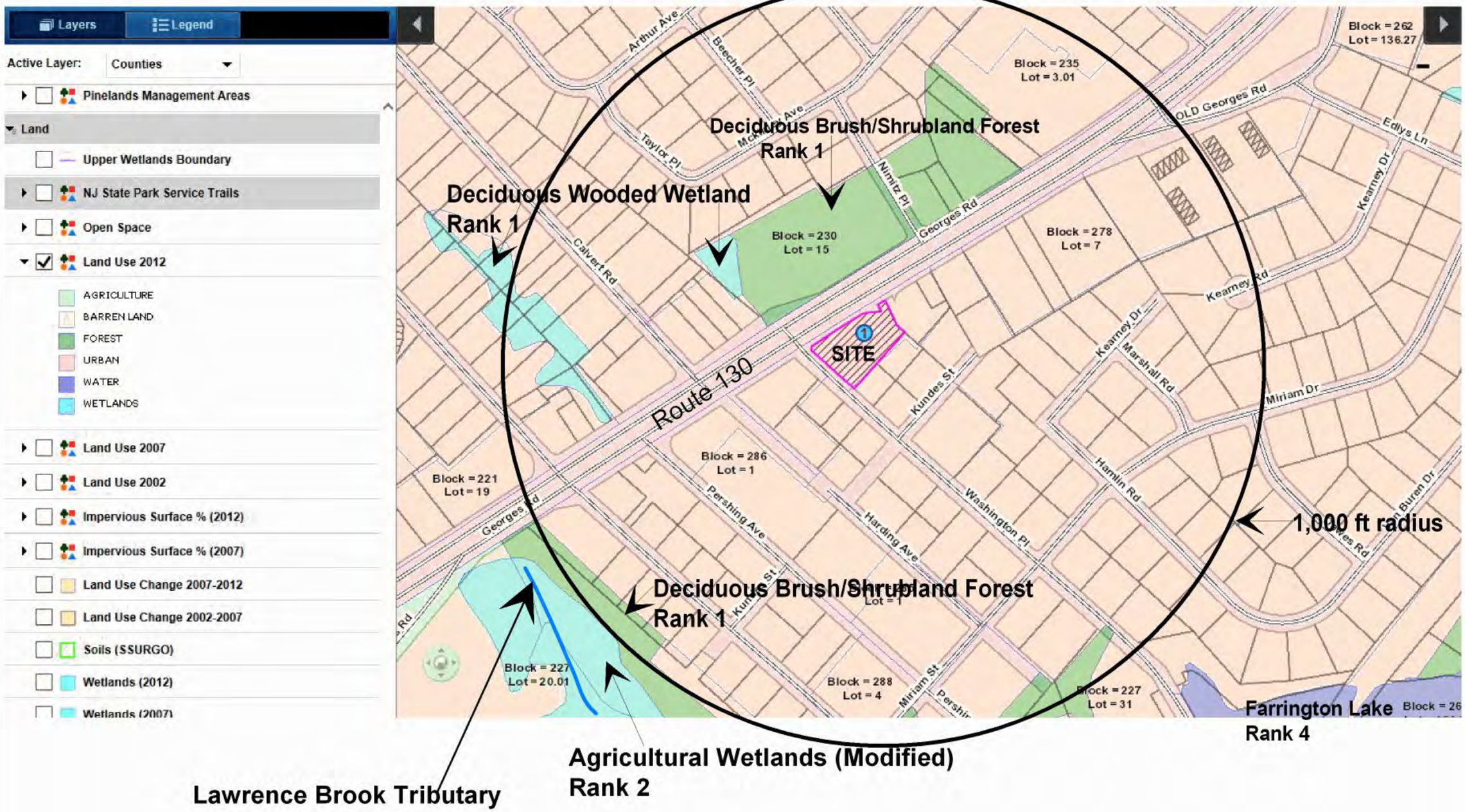
Test Pit4

Pump Islands with Canopy & Kiosk

D1 Dispenser

Kiosk

Electric lines



Source: NJDEP GeoWeb

N

0' 440'

APPROXIMATE SCALE IN FEET

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #:
File : land use2

Date
3/20/19

Figure 4 Environemental
Sensitive Natural
Resource Areas
North Brunswick Gulf
1696 Georges Road
North Brunswick, NJ

Gas line approximate location

Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
Shoulder of Road

Rt 130

Traffic Light

Grass
MW 15
5.79
8.24
6.84
Guard Rail
Fence

MW 5
4.92
8.96
6.94

Propane Tank Area

MW 6
4.58
8.44
6.54

Asphalt
MW 1
4.47
8.57
7.24

North Brunswick Gulf Station
asphalt
Fence

MW 14
0.10
7.16
2.73

Zone 1
Average = 6.6 ft

Pump Islands with Canopy

MW 2
4.86
8.79
6.70

Waste Oil AST

One Story Masonary Building

RW 1
3.52
7.23
5.45

MW 16
2.63
4.09
3.32
Grass

Concrete over Tanks

Asphalt

MW 7
4.29
8.07
6.24

Stone
Storm Drain
Fence
Shed
Shed

MW 11
5.52
7.26
6.73

Sewer Line
Water Line
Gas Line
Washington Place

Diesel Fuel Dispenser

Zone 2
Average = 4.7 ft

Fence
Guard Rail
Shed
Guard Rail
Property Boundary

MW 3
1.82
9.59
6.42

MW 4
2.18
10.25
4.38

MW 8
1.78
3.32
2.57

Fence
Shed
Fence

Getty Station

MW 9
0.79
3.88
2.30

Grass

Zone 3
Average = 2.6 ft

MW 10
1.37
8.29
2.84

Storm Drain

359 Washington Place House

MW 12
1.26
3.87
2.74

Driveway

Property of Denice Luzack
368 Washington Place

MW 13
0.52
3.18
1.46

House

Driveway

Well	Top of Casing Below Grade (ft)
Mw1	0.39
Mw2	0.25
Mw3	0.71
Mw4	0.57 above
Mw5	0.30
Mw6	0.10
Mw7	0.33
Mw8	0.10
Mw9	0.19
Mw10	0.24
Mw11	0.10
Mw12	0.12
Mw13	0.34
Mw14	0.13
Mw15	0.11
Mw16	0.39
Rw1	0.33

Key

Existing Groundwater Monitoring Well

4.47 Highest Observed Depth to Water Below Grade (ft)
8.57 Deepest Observed Depth to Water Below Grade (ft)

Zone WTF Zone of Water Table Fluctuation

Red Numbers are average DTW as of 4/4/17

N

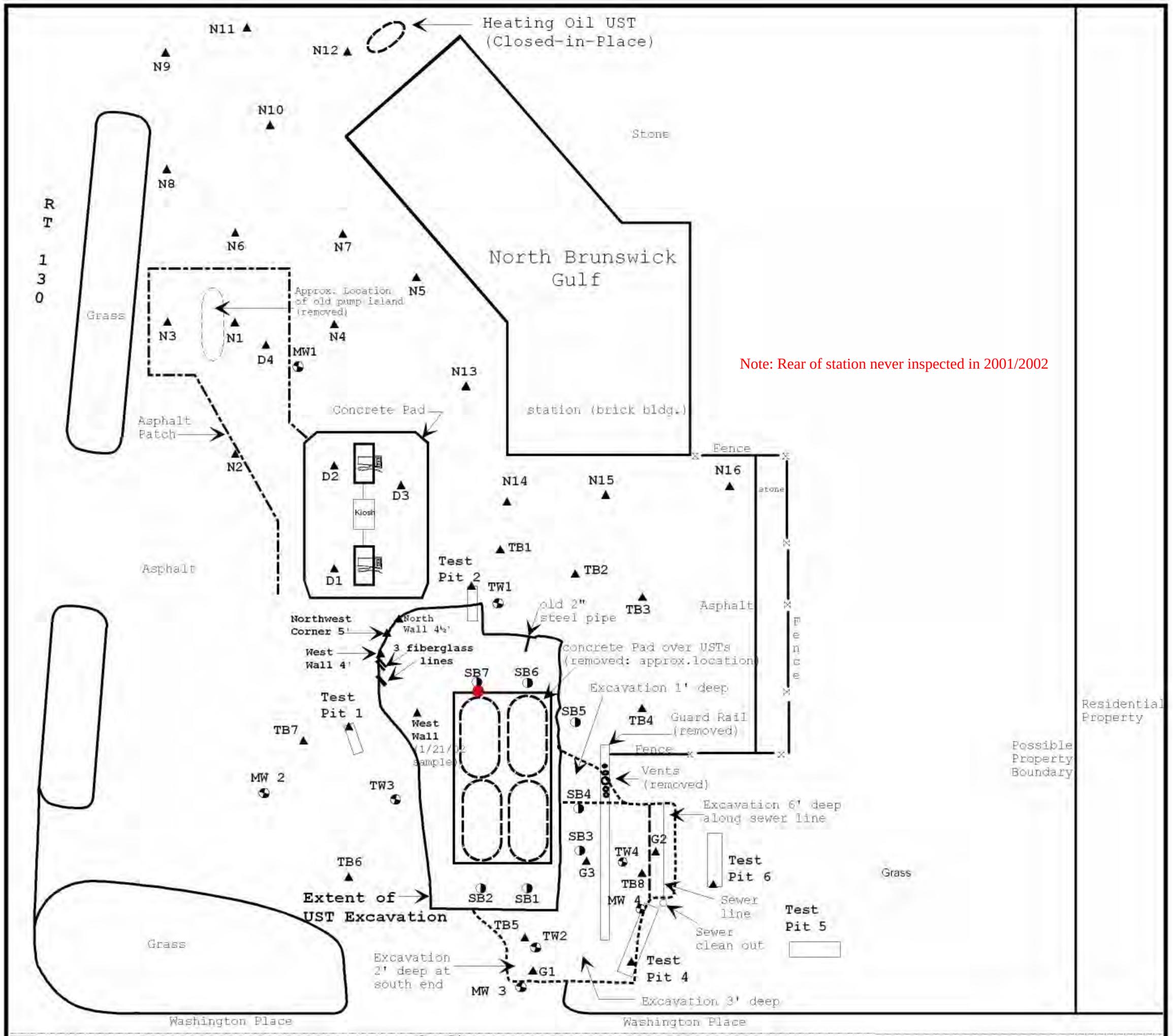
0' 35'
Approximate scale in feet

ON-SITE ENVIRONMENTAL

average DTW
4/2017

Figure 5: Zones of Water Table Fluctuation

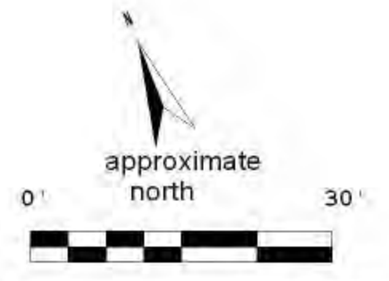
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902



Note: Rear of station never inspected in 2001/2002

KEY

- ▲ Soil Sample Location by RedHawk
- ◔ Monitoring & Temporary Well
- ◑ Location of ECM Boring
- ● Approximate Location of Tank Damage



APPROXIMATE SCALE IN FEET

Source: RedHawk Environmental Preliminary SI/RI Report

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: File : Layout 2002

Date 1/2018

Figure 6 Facility Layout
2001/2002
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

30 feet from groundwater with concentrations above vapor intrusion screening levels for groundwater

Nimitz Place

Wooded

Calvert Rd

Route 130

Harding Ave

Pershing Ave

Kundes St.

Keamey Dr

Hamlin Rd

Washington Place

230

278

NB Gulf 282

283

286

284

285

278

KEY

- (R) Residential Property
- (C) Commercial Property
- (W) Wooded
- 4208 Block
- 2 Lot
- Approximate Extent of Impacts above Vapor Intrusion Screening Levels for Groundwater

N

0' 242'

APPROXIMATE SCALE IN FEET

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: File : VI Target

Date 2/9/13

Figure 7 Properties Within VI Target Distance
North Brunswick Gulf
1696 Georges Road
North Brunswick, NJ

Gas line approximate location

Grass

Gravel

Paved Shoulder

Turning Lane

Grass Medium

Rt 130

Shoulder of Road

Traffic Light

Grass

Asphalt

(101.68)

MW 1

North Brunswick Gulf Station

Pump Islands with Canopy

102'

103'

104'

105'

MW 2

(102.65)

MW 16

(106.09)

Grass

Sewer Line

Water Line

Gas Line

Washington Place

BP Station

Grass

(101.58)

MW 6

(101.31)

MW 5

Grass

MW 15

(101.25)

101'

Guard Rail

Heating oil UST Closed in place

Fence

Propane Tank Area

Approximate Location of Stores

Dry Cleaner

Convenience Store

Fence

MW 14

(99.31)

asphalt

Waste Oil AST

Storm Drain

One Story Masonary Building

RW 1

(101.89)

Concrete over Tanks

Asphalt

MW 7

(101.76)

Stone

Storm Drain

Fence

Shed

Shed

Property Boundary

MW 11

(98.98)

Diesel Fuel Dispenser

Guard Rail

Fence

Shed

MW 3

(99.67)

MW 4

(104.41)

MW 9

(105.02)

Grass

Fence

MW 8

(105.27)

Fence

Fence

101'

102'

103'

104'

105'

Driveway

MW 10

(104.65)

Storm Drain

MW 12

(105.07)

359 Washington Place House

Property of Denice Luzack
368 Washington Place

MW 13

(105.27)

House

Driveway

Key

Existing Groundwater Monitoring Well

(106.09) Elevation of water table in feet

Dirction of groundwater flow

Tree

N

0' 35'

Approximate scale in feet

ON-SITE ENVIRONMENTAL

119 Norwood Way • Collegeville, PA 19420

Phone: (610) 584-2714 • Fax (610) 584-2799

Drawing #

File : WTGD 2016

Date

12/22/16

Figure 8 Water Table Gradient 12/19/16

North Brunswick Gulf

1696 Georges Road

North Brunswick, NJ

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10 (<1)
Rt 130
Traffic Light
Grass
Shoulder of Road
F7 (490)
20
F8
F9
MW 6 (51)
N3-1
N3
N8
N9
N11
N10-S
N10
N6
N12
MW 5 (83)
Grass
N1
Asphalt
N2
N2-V
TB7-1
MW 1 (190)
N4
N7
N7-V
N5
North Brunswick Gulf Station
Pump Islands with Canopy
MW 2 (1)
TB-7V
TB7
N13
N13-V
RW 1 (9)
N14
TB1
TB6
MW 16 (<0.5)
Grass
Concrete over Tanks
Asphalt
TB2
TB3
N15
MW 7 (2,200)
N16
Diesel Fuel Dispenser
1
N13-1
One Story Masonary Building
N7-1
Waste Oil AST
N7-2
N7-3
F22
F23
F24
Stone
Storm Drain
Fence
Guard Rail
Shed
Grass
MW 15
F6 (1.9)
Guard Rail
Fence
Propane Tank Area
Approximate Location of Stores
Dry Cleaner
Convenience Store
asphalt
Fence
F21
MW 14 (<0.5)
F20 (4,200)
F19
F5
F17 (270)
F18 (35)
F15 (38)
Shed
Shed
MW 11 (<0.5)
Property Boundary
Sewer Line
Water Line
Gas Line
Washington Place
MW 3 (<0.5)
Guard Rail
Fence
Shed
MW 4 (<0.5)
MW 9 (<0.5)
Grass
F1 (<1)
Driveway
F2
MW 10 (<0.5)
MW 8 (<0.5)
TW16-1
TW16-2
N16-2
N13-2
F3 (690)
Fence
Shed
F4 (<1)
F16 (<1)
359 Washington Place House
MW 12 (<0.5)
Storm Drain
F14 (<1)
MW 13 (<0.5)
Property of Denice Luzack
368 Washington Place
House
F11
F13 (<1)
Driveway
F12

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ — Soil Boring Installed by RedHawk in 2001 & 2002
- ⊕ — Soil Boring Installed by Whitman in 2004
- (190) — Benzene concentration in monitoring well on 12/19-21/2016 (ppb)
- —1— 1 ppb contour line (dashed were approximated)
- —20— 20 ppb contour line (dashed were approximated)
- (270) — Benzene concentration (ppb) in temporary well : 8/25 & 26/08 or 2/18 &19/09: not used to develop contour lines.

Note: Groundwater Class IIA standards is 1 ppb
Groundwater screening level for vapor intrusion is 20 pppb.

Tree

0' 35'
Approximate scale in feet

N

ON-SITE ENVIRONMENTAL
119 Sutherland Way • Courtdale, PA 18320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # Bendec2016
Date 1/17/17

Figure 9 Benzene in Groundwater 12/19 - 21/16

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
F8
F7
Shoulder of Road
Grass
MW 6
(32)
F9
Rt 130
Traffic Light
Grass
TB7-1
N3-1
N3
N8
N9
MW 5
(23)
N11
N10-S
N10
N6
N12
N1
Asphalt
N2
N2-V
MW 1
(580)
N7
N7-V
600
N4
N5
North Brunswick Gulf Station
Pump Islands with Canopy
MW 2
(4)
TB-7V
TB7
RW 1
(<0.5)
N13
N13-V
N14
TB1
TB6
MW 16
(<0.5)
Grass
Concrete over Tanks
TB2
Asphalt
TB3
N15
MW 7
(810)
Diesel Fuel Dispenser
N13-1
N13-2
Stone
Guard Rail
Fence
Shed
TW16-2
TW16-1
MW 3
(<0.4)
MW 4
(<0.5)
MW 8
(<0.5)
F3
F1
MW 9
(<0.5)
Grass
Sewer
F16
F4
MW 10
(<0.5)
F2
Storm Drain
F11
F14
MW 13
(<0.5)
Property of Denice Luzack
368 Washington Place
House
F13
(<1)
F12
Driveway
Sewer Line
Water Line
Gas Line
Washington Place
Driveway
Grass
MW 15
(<0.5)
F6
Guard Rail
Fence
Approximate Location of Stores
Dry Cleaner
Convenience Store
Propane Tank Area
asphalt
Waste Oil AST
N7-1
N7-2
N7-3
F22
F20
F21
Fence
MW 14
(<0.5)
One Story Masonary Building
F23
F5
F17
F19
F24
F18
F15
Shed
Shed
Storm Drain
Fence
Property Boundary
MW 11
(<0.5)
359 Washington Place
House
MW 12
(<0.5)

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ — Soil Boring Installed by RedHawk in 2001 & 2002
- ⊕ — Soil Boring Installed by Whitman in 2004
- (810) Toluene concentration in monitoring well on 12/19-21/2016 (ppb)
- 600 — 600 ppb contour line (dashed were approximated)

Note: Groundwater Class IIA standard is 600 ppb
Groundwater screening level for vapor intrusion is 330,000 ppb.

Tree

0' 35'
Approximate scale in feet

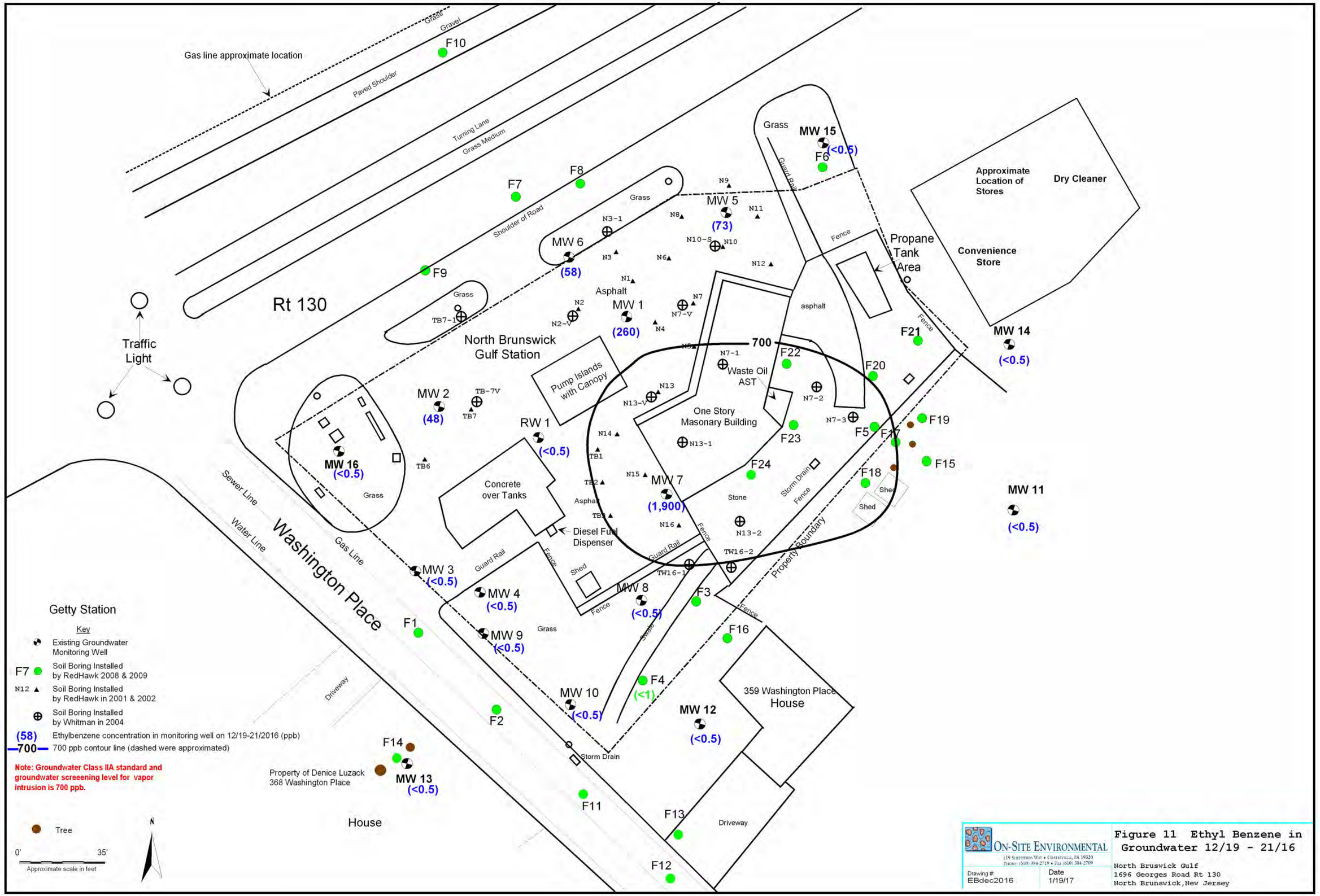
N

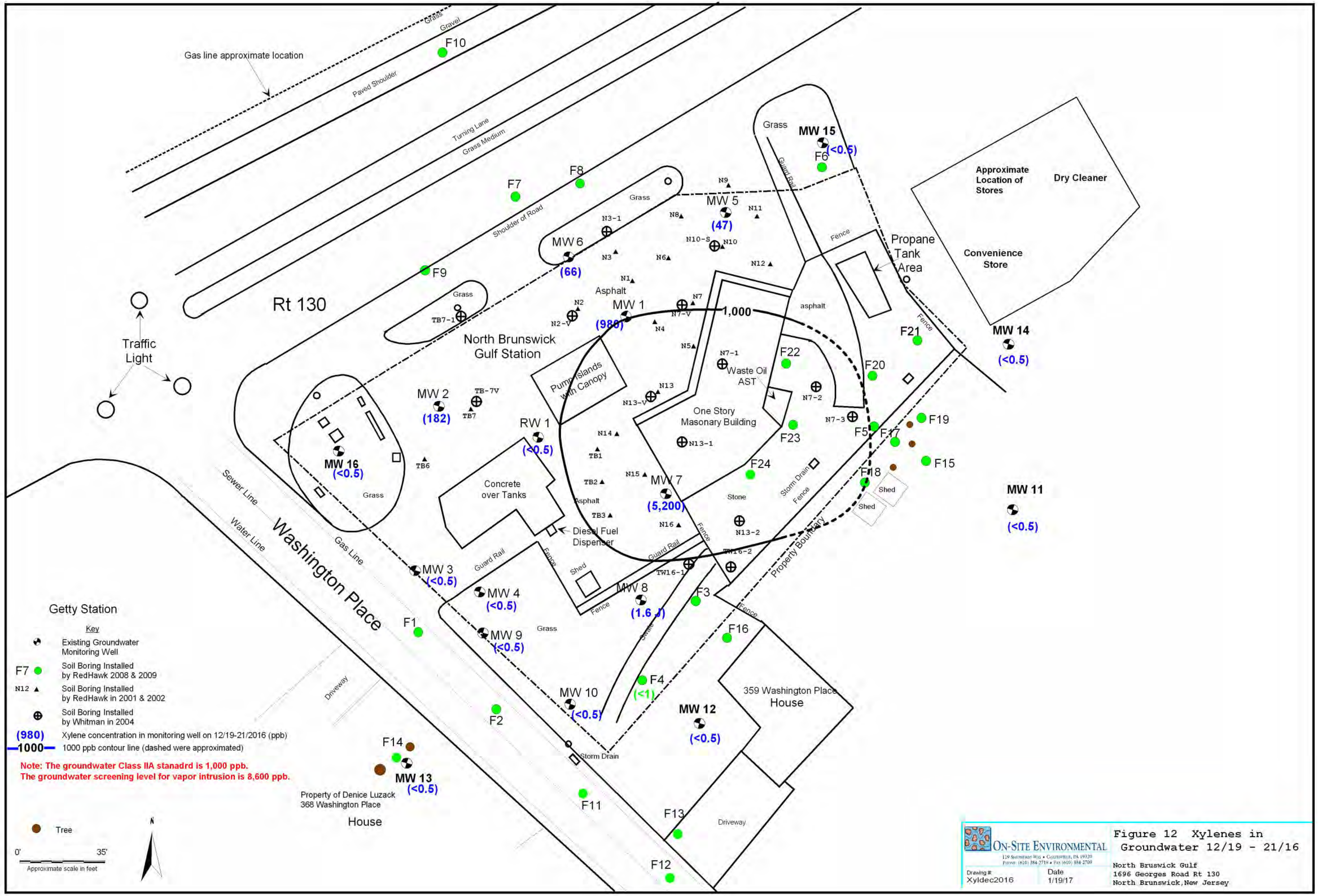
ON-SITE ENVIRONMENTAL
119 Sheffield Way • Collegeville, PA 19320
Phone: (610) 584-2799 • Fax (610) 584-2709

Drawing # Toluenedec2016
Date 1/17/17

Figure 10 Toluene in Groundwater 12/19 - 21/16

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey


Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
F8
F7
Shoulder of Road
Grass
MW 6
(58)
F9
Rt 130
Traffic Light
Grass
TB7-1
N3-1
N3
N8
N9
MW 5
(73)
N11
N10-S
N10
N6
N12
N1
Asphalt
N2
N2-V
MW 1
(260)
N7
N7-V
N4
N5
North Brunswick Gulf Station
Pump Islands with Canopy
700
N7-1
Waste Oil AST
N7-2
N7-3
F22
F20
F21
F19
F5
F17
F15
F23
F24
F18
Shed
Shed
Grass
MW 15
(<0.5)
F6
Guard Rail
Fence
Approximate Location of Stores
Dry Cleaner
Propane Tank Area
Convenience Store
Fence
asphalt
MW 14
(<0.5)
MW 11
(<0.5)
MW 2
(48)
TB-7V
TB7
RW 1
(<0.5)
N13
N13-V
N13-1
One Story Masonary Building
N14
TB1
MW 16
(<0.5)
TB6
Grass
Concrete over Tanks
Asphalt
TB2
TB3
N15
MW 7
(1,900)
Stone
Storm Drain
Fence
N16
N13-2
Diesel Fuel Dispenser
TW16-2
TW16-1
Guard Rail
Fence
Shed
Property Boundary
Sewer Line
Water Line
Gas Line
Washington Place
MW 3
(<0.5)
Guard Rail
Fence
MW 4
(<0.5)
MW 8
(<0.5)
F3
Fence
Fence
Shed
F16
F1
MW 9
(<0.5)
Grass
Driveway
F4
(<1)
MW 10
(<0.5)
359 Washington Place House
MW 12
(<0.5)
F2
Storm Drain
F14
Property of Denice Luzack
368 Washington Place
MW 13
(<0.5)
F11
F13
Driveway
F12
House
Getty Station
Key
Existing Groundwater Monitoring Well
F7 Soil Boring Installed by RedHawk 2008 & 2009
N12 Soil Boring Installed by RedHawk in 2001 & 2002
Soil Boring Installed by Whitman in 2004
(58) Ethylbenzene concentration in monitoring well on 12/19-21/2016 (ppb)
700 700 ppb contour line (dashed were approximated)
Note: Groundwater Class IIA standard and groundwater screeening level for vapor intrusion is 700 ppb.
Tree
0'
35'
Approximate scale in feet
N
ON-SITE ENVIRONMENTAL
119 Surrenden Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709
Drawing #: EBdec2016
Date 1/19/17
Figure 11 Ethyl Benzene in Groundwater 12/19 - 21/16
North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey


Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
F7
F8
F9
Shoulder of Road
Rt 130
Traffic Light
Grass
MW 6
(66)
MW 5
(47)
N9
N11
N8
N3-1
N10-S
N10
N3
N6
N12
N1
Asphalt
N2
N2-V
MW 1
(980)
N7
N7-V
N4
1,000
N5
TB7-1
North Brunswick Gulf Station
Pump Islands with Canopy
N7-1
Waste Oil AST
N7-2
N7-3
F22
F20
F21
F19
F5
F17
F15
F18
F23
F24
N13
N13-V
One Story Masonary Building
N13-1
N14
TB1
N15
TB2
MW 7
(5,200)
Stone
Storm Drain
Fence
Shed
Shed
Grass
MW 15
(<0.5)
Guard Rail
Fence
Approximate Location of Stores
Dry Cleaner
Convenience Store
Propane Tank Area
Fence
asphalt
Fence
MW 14
(<0.5)
MW 11
(<0.5)
Property Boundary
MW 2
(182)
TB-7V
TB7
RW 1
(<0.5)
MW 16
(<0.5)
TB6
Grass
Concrete over Tanks
Asphalt
TB3
Diesel Fuel Dispenser
N16
N13-2
TW16-2
TW16-1
Guard Rail
Fence
Shed
Fence
Sewer Line
Water Line
Gas Line
Washington Place
MW 3
(<0.5)
Guard Rail
Fence
MW 4
(<0.5)
MW 8
(1.6 J)
F3
Fence
Shed
F1
MW 9
(<0.5)
Grass
F16
F4
(<1)
MW 10
(<0.5)
359 Washington Place House
MW 12
(<0.5)
F2
Storm Drain
F14
MW 13
(<0.5)
Property of Denice Luzack
368 Washington Place
House
F11
F13
Driveway
F12
Driveway
Getty Station
Key
Existing Groundwater Monitoring Well
F7 Soil Boring Installed by RedHawk 2008 & 2009
N12 Soil Boring Installed by RedHawk in 2001 & 2002
Soil Boring Installed by Whitman in 2004
(980) Xylene concentration in monitoring well on 12/19-21/2016 (ppb)
1000 1000 ppb contour line (dashed were approximated)
Note: The groundwater Class IIA stanadrd is 1,000 ppb.
The groundwater screening level for vapor intrusion is 8,600 ppb.
Tree
0'
35'
Approximate scale in feet
N
ON-SITE ENVIRONMENTAL
119 Sacramento Way • Clementon, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709
Drawing #: Xyldec2016
Date 1/19/17
Figure 12 Xylenes in Groundwater 12/19 - 21/16
North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Gas line approximate location
Grass
Gravel
Paved Shoulder
F10 (<1)
70
Turning Lane
Grass Medium
F7 (210)
F8
Shoulder of Road
Grass
N9
MW 5 (2)
N11
N8
N3-1
MW 6 (20)
N10-S
N10
N3
N6
N12
F9
N1
Asphalt
Rt 130
Grass
TB7-1
N2
N2-V
MW 1 (9)
N7-V
N7
N4
Traffic Light
North Brunswick Gulf Station
N5
70
N7-1
Waste Oil AST
F22
F20 (<10)
Storm Drain
F21
MW 14 (3)
Pump Islands with Canopy
MW 2 (1)
TB-7V
TB7
N13-V
N13
N7-2
One Story Masonary Building
F5
F17 (9.2)
F19
F15 (23)
RW 1 (1)
N14
N13-1
F23
TB1
MW 16 (9)
TB6
Grass
Concrete over Tanks
Asphalt
TB2
N15
MW 7 (190)
F24
Stone
Storm Drain
Fence
F18 (19)
Shed
Shed
TB3
N16
N13-2
Diesel Fuel Dispenser
Fence
Guard Rail
Fence
TW16-2
TW16-1
Shed
MW 3 (200)
MW 8 (1)
F3 (70)
Fence
Sewer Line
Water Line
Gas Line
Washington Place
MW 4 (16)
Fence
Shed
F16 (<1)
F1 (300)
MW 9 (2)
Grass
Driveway
F4 (<1)
F2 (49)
MW 10 (<0.5)
359 Washington Place House
MW 12 (<0.5)
F14 (3.4)
Property of Denice Luzack
368 Washington Place
MW 13 (0.9 J)
Storm Drain
F11
F13 (<1)
Driveway
House
F12
Property Boundary
MW 11 (<0.5)
Grass
MW 15 (<0.5)
F6 (<1)
Guard Rail
Approximate Location of Stores
Dry Cleaner
Fence
Propane Tank Area
Convenience Store
asphalt
Fence

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ — Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- Temporary well installed & sampled 10/4/17
- Temporary well installed & sampled 2/21/18
- (190) MTBE concentration in monitoring well on 12/19-21/2016 (ppb)
- —70— 70 ppb contour line (dashed were approximated)
- (300) MTBE concentration (ppb) in temporary boring 8/25 & 26/08 or 2/18 &19/09: not used to develop contour.
- Tree

Note: Groundwater Class IIA standards is 70 ppb
Groundwater screening level for vapor intrusion is 580 pppb.

N

0' 35'
Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Sanatoga Way • Coverdell, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2799

Drawing #: MTBEdec2016
Date 4/8/18

Figure 13 MTBE in Groundwater 12/19-21/2016

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
(<50)
Rt 130
Shoulder of Road
F7
(460)
F8
F9
Grass
Asphalt
MW 6
(70)
MW 1
(63)
MW 5
(7 J)
MW 15
(<5)
F6
(<50)
Guard Rail
Fence
Propane Tank Area
asphalt
F21
MW 14
(13 J)
F22
F20
(<5,000)
Storm Drain
100
Waste Oil AST
One Story Masonary Building
F23
F5
F17
(300)
F19
F15
(210)
F18
(210)
Shed
F24
Stone
Storm Drain
MW 7
(430)
Concrete over Tanks
Diesel Fuel Dispenser
Guard Rail
Fence
TW16-2
Property Boundary
MW 11
(<5)
Traffic Light
North Brunswick Gulf Station
Pump Islands with Canopy
MW 2
(9 J)
TB-7V
TB7
RW 1
(10 J)
MW 16
(<5)
TB6
TB7-1
N2-V
N7-V
N13-V
N13-1
N13-2
N16-V
TB1
TB2
TB6
N1
N2
N3
N3-1
N4
N5
N6
N7
N7-1
N7-2
N7-3
N8
N9
N10
N10-S
N11
N12
N13
N14
N15
N16
Sewer Line
Water Line
Gas Line
Washington Place
MW 3
(2,100)
MW 4
(47)
MW 8
(<5)
F3
(420)
F1
(2,500)
MW 9
(<5)
Grass
Swale
F16
(<50)
F4
(<50)
MW 10
(<5)
F2
(740)
MW 12
(<5)
359 Washington Place House
Storm Drain
F14
(<50)
MW 13
(<5)
Property of Denice Luzack
368 Washington Place
F11
F13
(<50)
Driveway
F12
House
Shed
Shed

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 — Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- Temporary well installed & sampled 10/4/17
- Temporary well installed & sampled 2/21/18
- (430) TBA concentration in monitoring well on 12/19-21/2016 (ppb)
- 100 — 100 ppb contour line (dashed were approximated)
- (740) TBA concentration (ppb) in temporary boring 8/25 & 26/08 or 2/18 &19/09; not used to develop contour.
- Tree

Note: Groundwater Class IIA standards is 100 ppb

0' 35'
Approximate scale in feet

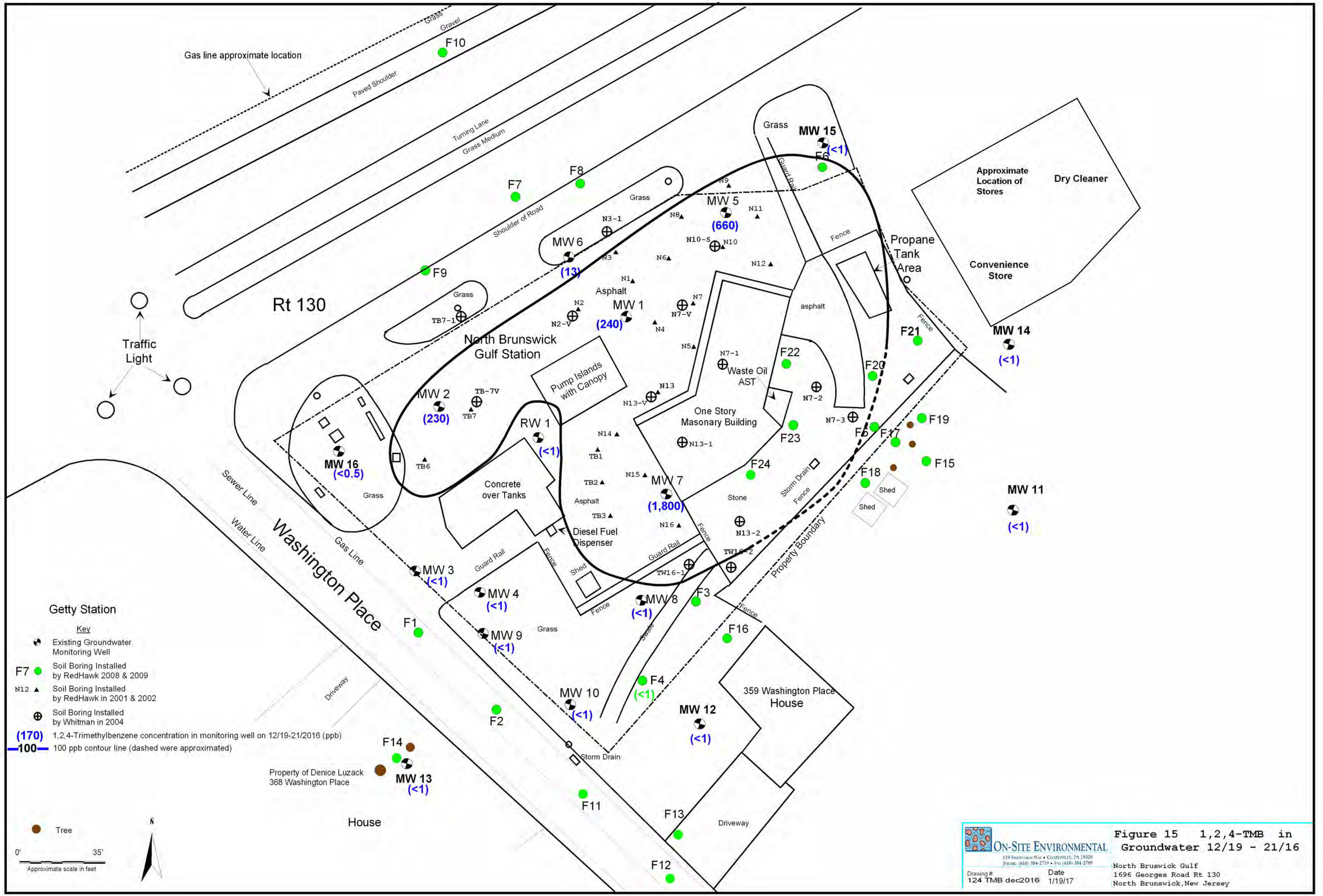
N

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Collegeville, PA 19320
Phone: (610) 584-2719 • Fax (610) 584-2709

Drawing #: TBAdec2016
Date 4/8/18

Figure 14 TBA in Groundwater 12/19-21/2016

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey



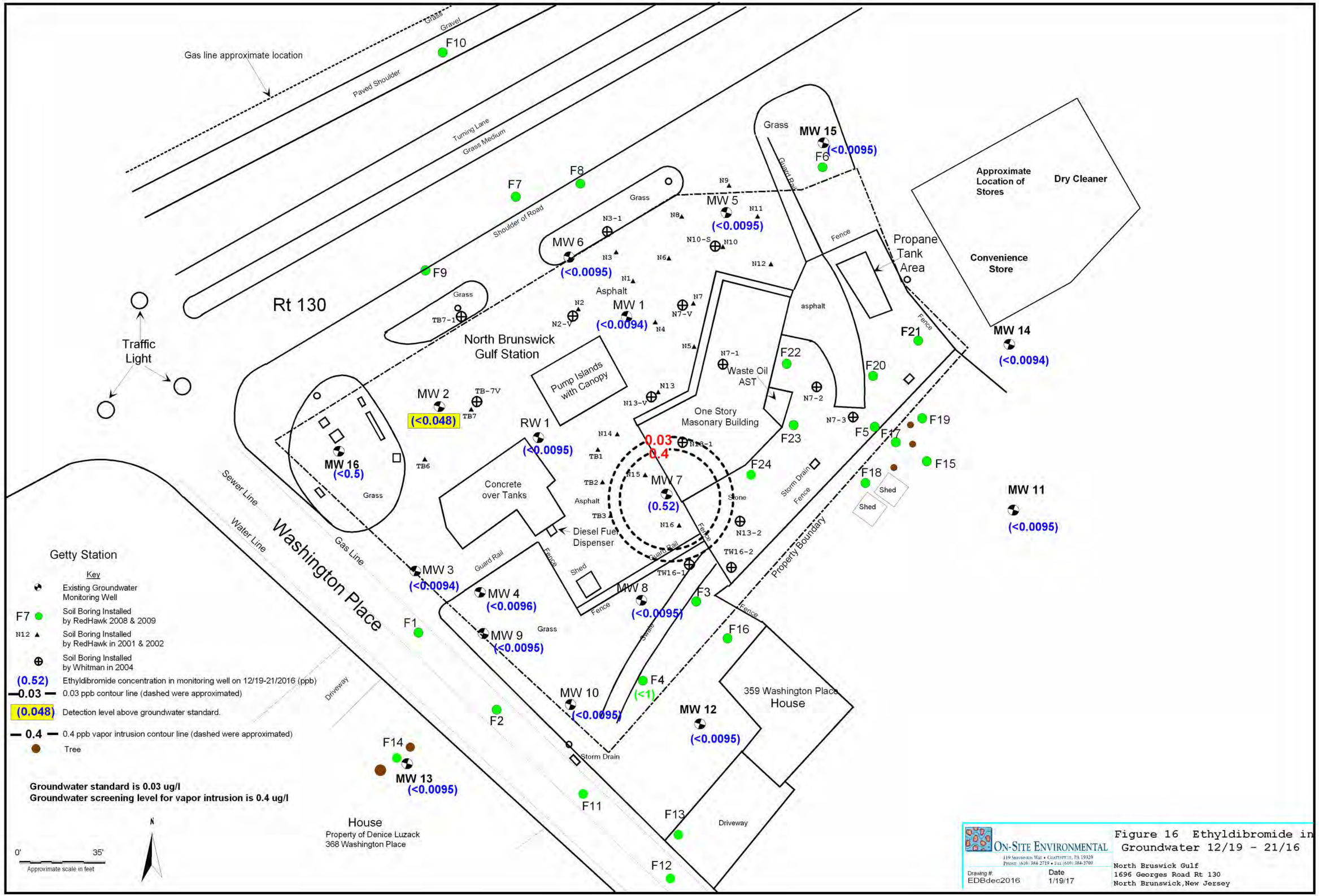
ON-SITE ENVIRONMENTAL
119 Shipyard Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # 124 TMB dec2016

Date 1/19/17

Figure 15 1,2,4-TMB in Groundwater 12/19 - 21/16

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey



ON-SITE ENVIRONMENTAL
119 Shoemaker Way • Coatsville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: EDBdec2016
Date 1/19/17

Figure 16 Ethyldibromide in Groundwater 12/19 - 21/16

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Gas line approximate location

Grass

Gravel

Paved Shoulder

Turning Lane

Grass Medium

F10

5

Rt 130

Shoulder of Road

F7

F8

F9

Grass

MW 6

(9)

N3-1

N3

N8

N9

MW 5

(100)

N11

N10-S

N10

N6

N12

N1

Asphalt

N2

N2-V

MW 1

(21)

N7-V

N7

N4

N5

TB7-1

North Brunswick
Gulf Station

Pump Islands
with Canopy

MW 2

(8)

TB-7V

TB7

RW 1

(1)

N13-V

N13

N14

TB1

TB6

MW 16

(<0.1)

Grass

Concrete
over Tanks

TB2

Asphalt

TB3

N15

MW 7

(58)

N16

Diesel Fuel
Dispenser

Guard Rail

Fence

Shed

MW 3

(<0.1)

MW 4

(<0.1)

MW 9

(<0.1)

Grass

F1

Driveway

F2

MW 10

(<0.1)

Storm Drain

F11

F14

Property of Denice Luzack
368 Washington Place

MW 13

(<0.1)

House

Sewer Line

Water Line

Washington Place

Gas Line

Grass

MW 15

(<0.1)

F6

Guard Rail

Fence

Approximate
Location of
Stores

Dry Cleaner

Convenience
Store

Propane
Tank
Area

asphalt

Fence

F21

MW 14

(<0.1)

F22

N7-1

Waste Oil
AST

N7-2

F20

Storm Drain

One Story
Masonary Building

N13-1

F23

R5

F17

F19

F15

F24

Stone

Storm Drain

Fence

F18

Shed

Shed

MW 11

(n.a.)

Property Boundary

N13-2

TW16-2

TW16-1

F3

MW 8

(<0.1)

Fence

Shed

F16

F4

359 Washington Place
House

MW 12

(<0.1)

F13

Driveway

F12

Traffic
Light

Getty Station

Key

Existing Groundwater Monitoring Well

F7 Soil Boring Installed by RedHawk 2008 & 2009

N12 Soil Boring Installed by RedHawk in 2001 & 2002

Soil Boring Installed by Whitman in 2004

(100) 1-methylnaphthalene concentration in monitoring well on 12/19-21/2016 (ppb)

5 5 ppb contour line (dashed were approximated)

Tree

Interim generic groundwter standard is 5 ug/l

N

0' 35'

Approximate scale in feet

ON-SITE ENVIRONMENTAL

119 Shepherds Way • Coatesville, PA 19320

Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: 1Mnapdec2016

Date 1/19/17

Figure 17 1-Methylnaphthalene in Groundwater 12/19-21/2016

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
F7
F8
F9
Shoulder of Road
Rt 130
Traffic Light
Grass
Asphalt
MW 6
(4)
MW 1
(18)
TB7-1
N1
N2
N2-V
N3
N3-1
N4
N5
N6
N7
N7-V
N7-1
N7-2
N8
N9
N10
N10-S
N11
N12
N13
N13-V
N13-1
N14
N15
N16
TB1
TB2
TB3
TB6
TB7
TB-7V
TW16-1
TW16-2
MW 15
(<0.1)
F6
30
Guard Rail
MW 5
(120)
Fence
Approximate Location of Stores
Dry Cleaner
Propane Tank Area
Convenience Store
asphalt
F21
MW 14
(<0.1)
F22
F20
Storm Drain
Waste Oil AST
One Story Masonary Building
F5
F17
F19
F15
F28
F24
F18
Shed
Shed
MW 11
(n.a.)
Stone
Storm Drain
Fence
Property Boundary
N13-2
Pump Islands with Canopy
North Brunswick Gulf Station
MW 2
(9)
RW 1
(1)
MW 16
(<0.1)
Concrete over Tanks
Diesel Fuel Dispenser
MW 7
(97)
Sewer Line
Water Line
Gas Line
Washington Place
MW 3
(<0.1)
MW 4
(<0.1)
MW 9
(<0.1)
MW 8
(<0.1)
F3
F16
F4
F1
F2
MW 10
(<0.01)
MW 12
(<0.1)
359 Washington Place House
Driveway
F14
MW 13
(<0.1)
Property of Denice Luzack
368 Washington Place
House
F11
F13
F12
Driveway
Shrubs

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 Soil Boring Installed by RedHawk 2008 & 2009
- N12 Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- (120) 2-methylnaphthalene concentration in monitoring well on 12/19-21/2016 (ppb)
- 30 ppb contour line (dashed were approximated)
- Tree

Groundwater standard is 30 ug/l

0' 35'
Approximate scale in feet

N

ON-SITE ENVIRONMENTAL
119 Shoemaker Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: 2Mnapdec2016
Date 1/18/17

Figure 18 2-Methylnaphthalene in Groundwater 12/19-21/2016

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
F7
F8
Shoulder of Road
Grass
N9
MW 5
(39)
N11
N8
N3-1
MW 6
(11)
N3
N10-S
N10
N6
N12
F9
N1
Asphalt
Rt 130
Grass
TB7-1
N2
N2-V
MW 1
(47)
N7-V
N7
N4
N5
Traffic Light
North Brunswick Gulf Station
Pump Islands with Canopy
N7-1
Waste Oil AST
N13-V
N13
MW 2
(11)
TB-7V
TB7
RW 1
(1)
N14
TB5
300
Concrete over Tanks
TB6
MW 16
(0.053 J)
Grass
Sewer Line
Water Line
Gas Line
Washington Place
N15
MW 7
(420)
TB2
Asphalt
TB3
N16
Stone
N13-1
N13-2
F23
F24
Diesel Fuel Dispenser
Guard Rail
Fence
Shed
TW16-2
TW16-1
MW 3
(<0.03)
MW 4
(0.039 J)
MW 8
(<0.03)
F3
Fence
Storm Drain
Fence
Property Boundary
Grass
MW 9
(0.049 J)
F1
F16
F4
Driveway
F2
MW 10
(<0.03)
359 Washington Place House
MW 12
(<0.03)
Storm Drain
F11
F13
Driveway
F12
House
Property of Denice Luzack
368 Washington Place
F14
MW 13
(0.037 J)
Grass
MW 15
(0.045 J)
F6
Guard Rail
Approximate Location of Stores
Dry Cleaner
Fence
Propane Tank Area
Convenience Store
asphalt
F21
MW 14
(0.033 J)
F22
F20
Storm Drain
N7-2
F5
F17
F19
F15
F18
Shed
Shed
MW 11
(n.a.)
Property Boundary

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ — Soil Boring Installed by RedHawk in 2001 & 2002
- ⊕ — Soil Boring Installed by Whitman in 2004
- (420) — Naphthalene concentration in monitoring well on 12/19-21/2016 (ppb)
- 300 — 300 ppb contour line (dashed were approximated)
- Tree

Groundwater standard is 300 ug/l

N

0' 35'
Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2710 • Fax (610) 384-2799

Drawing #: Napdec2016
Date: 1/18/17

Figure 19 Naphthalene in Groundwater 12/19-21/2016

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Rt 130

Rt 130

Grass

Gravel

MW 17

(106.78)

Grass Medium

MW 15

(107.52)

107'

106.5'

106'

105.5'

105'

104.5'

MW 5

(106.89)

Grass

Guard Rail

Fence

Quick Out
Convience Store

Water line

MW 6

(106.63)

MW 1

(106.58)

Office

asphalt

Gate

Stone

HL

HL

FD

Stone

MW 14

(103.71)

Grass

Property Boundary

Dispenser

Kiosk

MW 2

(105.94)

MW 19

(106.91)

RW 1

(106.12)

HL

FD

MW 16

(106.58)

Grass

Concrete
Over New
Tanks

Electric

MW 7

(106.68)

Storm Drain

Fence

Shed

Shed

Shed

Stone

Sewer line

Guard Rail

Fence

Guard Rail

Fence

MW 11

(104.80)

Washington Place

MW 3

(104.49)

MW 4

(105.90)

Shed

Fence

MW 8

(104.91)

Fence

Gas Line

MW 9

(104.82) Grass

Swale

MW 10

(104.25)

MW 12

(104.50)

R

104'

103.5'

103'

Water line

MW 13

(104.18)

Storm Drain

Driveway

Water Line

MW 18

(98.76)

Sewer line

MW 20

(97.36)

(97.36)

KEY

MW 6 Monitoring Well & #

Electric line

Natural gas line

Sewer line

Water line

Storm drain line

Sewer manhole 24 inch

Storm drain

DOT Box

DOT Box

Utility Pole

R Residential house

Tree

FD Floor Drain: sealed

HL Hydraulic Lift: removed

Pump Island with dispenser

(97.36) Elevation of water table (ft)

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: WTG 5-21-19

Date: 5/23/19

Figure 20 Water Table Gradient
5/21/19

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

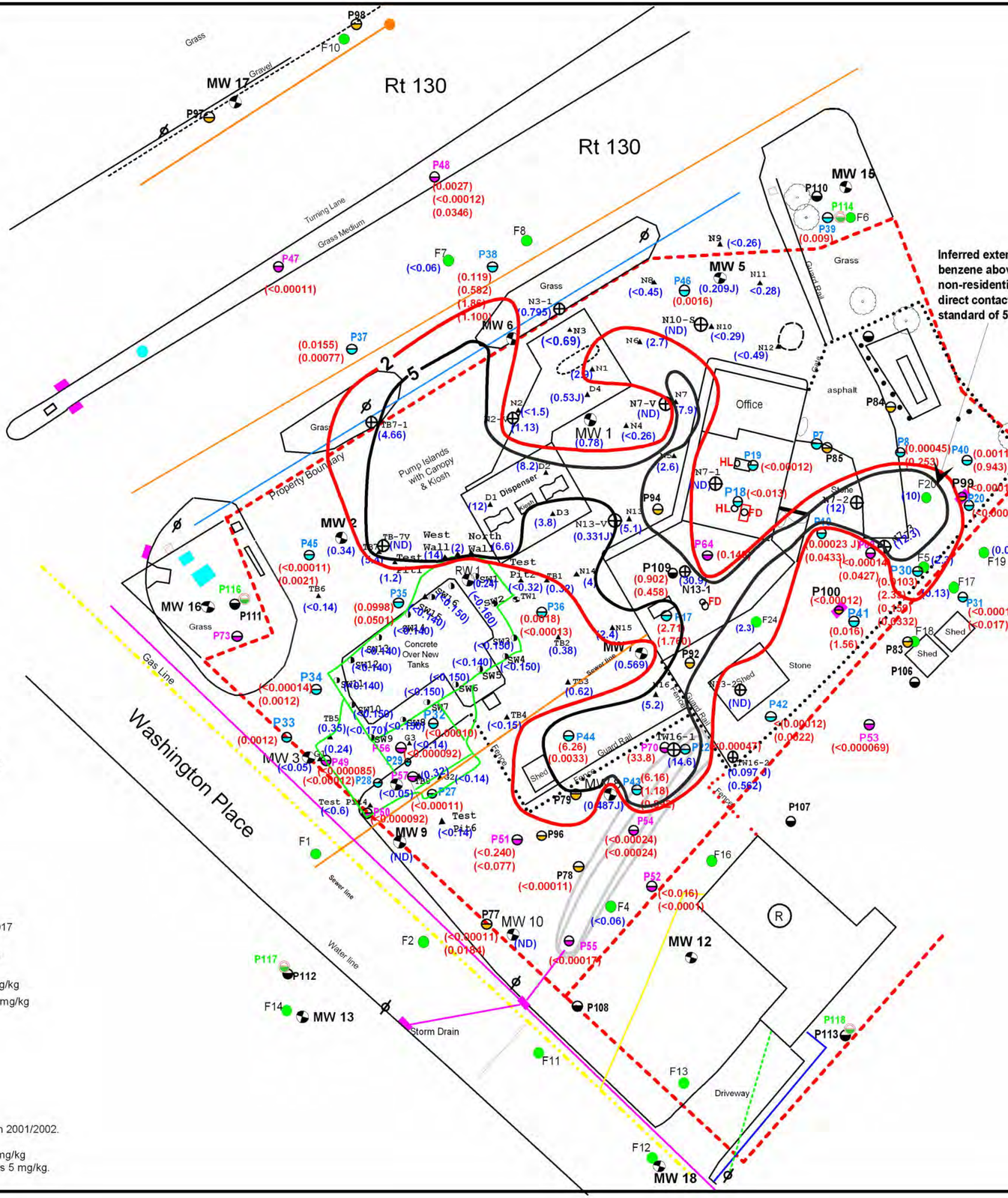
2017 SOIL SAMPLES

Sample ID	Benzene (mg/kg)	Depth (ft)
P 8	0.00045	6'
P 8	0.253	12'
P10	0.00023 J	0-1'
P 10	0.0433	3'
P 17	2.71	4'
P 17	1.760	9'
P 18	<0.013	4-4.5'
P 19	<0.00012	5'
P 20	<0.00012	5'
P 22	<0.00047	0-6"
P 28	<0.00012	3.5'
p 30	0.0103	6.5-7'
p 30	2.33	8'
P 30	0.159	17-18'
P 30	0.0332	21'
P 31	<0.00011	6.5'
P 31	<0.017	9'
P 32	<0.000095	4.5'
P 32	<0.00010	15'
P 33	<0.00014	4.5'
P 33	0.0012	15'
P 34	0.0022	16'
P 35	0.0998	5.5-6'
P 35	0.0501	7-7.5'
P 36	0.0018	6'
P 36	<0.00013	12'
P 37	0.0155	3'
P 37	0.00077	7'
P 38	0.119	3'
P 38	0.582	8'
P 38	1.860	13
P 38	1.100	18
P 39	0.009	15'
P 40	0.0011	6'
P 40	0.943	15'
P 41	0.016	5'
P 41	1.56	10'
P 42	<0.00012	6'
P 42	0.0022	8'
P 43	6.160	1'
P 43	1.180	2'
P 43	0.892	6'
P 44	6.26	3'
P 44	0.0033	7-7.5'
P 45	<0.00011	5.5-6'
P 45	0.0021	12-12.5'
P 46	0.0016	6-6.5'

Key

- Existing Groundwater Monitoring Well
- F7 ● Soil Boring Installed by RedHawk 2008 & 2009
- N12▲ Soil Boring Installed by RedHawk in 2001 & 2002
- ⊕ Soil Boring Installed by Whitman in 2004
- ◑ UST Closure Sample 2002
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- (530) Benzene concentration in 2001/2009 samples: mg/kg
- (6.16) Benzene concentration in 2017 & 2018 samples: mg/kg
- 2 2 ppm contour line
- 5 5 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Note: 1) Contamination detected at TB8, SW 1, SW 15 and SW 16 was removed by excavation in 2001/2002.
2) Pea gravel sample collectd between D 1 and D 2.
3) Benzene residential direct contact standard is 2 mg/kg
4) Benzene non-residential direct contact standard is 5 mg/kg.

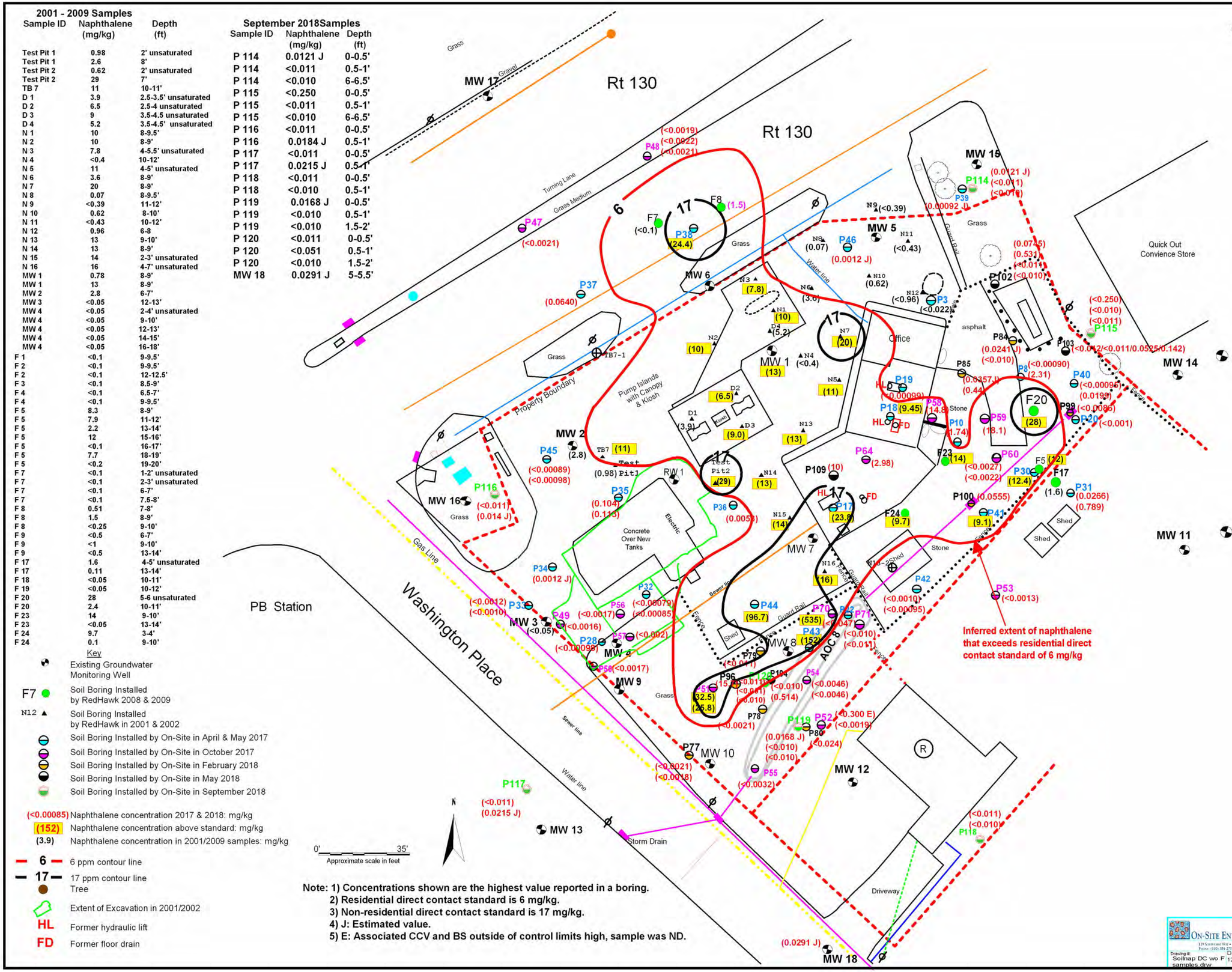

Rt 130
Rt 130
MW 17
MW 15
MW 5
MW 6
MW 1
MW 2
MW 16
MW 3
MW 9
MW 10
MW 7
MW 12
MW 13
MW 18
MW 11
MW 14
Inferred extent of benzene above non-residential direct contact soil standard of 5 mg/kg
Office
asphalt
Grass
Gravel
Turning Lane
Grass Medium
Property Boundary
Pump Islands with Canopy & Kiosk
D1 Dispenser
Kiosk
Concrete Over New Tanks
Stone
Shed
Driveway
Guard Rail
Fence
Sewer line
Water line
Storm Drain
Gas Line
Washington Place
West Wall
North Wall
Test Pit 1
Test Pit 2
Test Pit 4
Test Pit 6
RW 1
TB1
TB2
TB3
TB4
TB5
TB6
TB7-1
TB7-V
TW16-1
TW16-2
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
SW9
SW10
SW12
SW13
SW14
SW15
SW16
N1
N2
N3
N4
N6
N7
N9
N10
N11
N12
N13
N14
N15
D1
D2
D3
D4
F1
F2
F4
F5
F6
F7
F8
F10
F11
F12
F13
F14
F16
F17
F18
F19
F20
F24
P7
P8
P10
P17
P18
P19
P20
P30
P31
P33
P34
P35
P36
P37
P38
P39
P40
P41
P42
P43
P44
P45
P46
P47
P48
P49
P51
P52
P53
P54
P55
P56
P57
P64
P70
P73
P75
P77
P78
P79
P83
P84
P85
P92
P94
P96
P99
P100
P106
P107
P108
P109
P110
P111
P112
P113
P114
P116
P117
P118
Pea Gravel
NW Corner
Concrete
Stone
Shed
Grass
asphalt
Gravel
Guard Rail
Fence
Sewer line
Water line
Gas Line
Storm Drain
Driveway
Property Boundary
Pump Islands with Canopy & Kiosk
D1 Dispenser
Kiosk
Concrete Over New Tanks
Office
Shed
Stone
Grass
Gravel
Turning Lane
Grass Medium

2001 - 2009 Samples

Sample ID	Naphthalene (mg/kg)	Depth (ft)
Test Pit 1	0.98	2' unsaturated
Test Pit 1	2.6	8'
Test Pit 2	0.62	2' unsaturated
Test Pit 2	29	7'
TB 7	11	10-11'
D 1	3.9	2.5-3.5' unsaturated
D 2	6.5	2.5-4 unsaturated
D 3	9	3.5-4.5 unsaturated
D 4	5.2	3.5-4.5' unsaturated
N 1	10	8-9.5'
N 2	10	8-9'
N 3	7.8	4-5.5' unsaturated
N 4	<0.4	10-12'
N 5	11	4-5' unsaturated
N 6	3.6	8-9'
N 7	20	8-9'
N 8	0.07	8-9.5'
N 9	<0.39	11-12'
N 10	0.62	8-10'
N 11	<0.43	10-12'
N 12	0.96	6-8
N 13	13	9-10'
N 14	13	8-9'
N 15	14	2-3' unsaturated
N 16	16	4-7' unsaturated
MW 1	0.78	8-9'
MW 1	13	8-9'
MW 2	2.8	6-7'
MW 3	<0.05	12-13'
MW 4	<0.05	2-4' unsaturated
MW 4	<0.05	9-10'
MW 4	<0.05	12-13'
MW 4	<0.05	14-15'
MW 4	<0.05	16-18'
F 1	<0.1	9-9.5'
F 2	<0.1	9-9.5'
F 2	<0.1	12-12.5'
F 3	<0.1	8.5-9'
F 4	<0.1	6.5-7'
F 4	<0.1	9-9.5'
F 5	8.3	8-9'
F 5	7.9	11-12'
F 5	2.2	13-14'
F 5	12	15-16'
F 5	<0.1	16-17'
F 5	7.7	18-19'
F 5	<0.2	19-20'
F 7	<0.1	1-2' unsaturated
F 7	<0.1	2-3' unsaturated
F 7	<0.1	6-7'
F 7	<0.1	7.5-8'
F 8	0.51	7-8'
F 8	1.5	8-9'
F 8	<0.25	9-10'
F 9	<0.5	6-7'
F 9	<1	9-10'
F 9	<0.5	13-14'
F 17	1.6	4-5' unsaturated
F 17	0.11	13-14'
F 18	<0.05	10-11'
F 19	<0.05	10-12'
F 20	28	5-6 unsaturated
F 20	2.4	10-11'
F 23	14	9-10'
F 23	<0.05	13-14'
F 24	9.7	3-4'
F 24	0.1	9-10'

September 2018Samples

Sample ID	Naphthalene (mg/kg)	Depth (ft)
P 114	0.0121 J	0-0.5'
P 114	<0.011	0.5-1'
P 114	<0.010	6-6.5'
P 115	<0.250	0-0.5'
P 115	<0.011	0.5-1'
P 115	<0.010	6-6.5'
P 116	<0.011	0-0.5'
P 116	0.0184 J	0.5-1'
P 117	<0.011	0-0.5'
P 117	0.0215 J	0.5-1'
P 118	<0.011	0-0.5'
P 118	<0.010	0.5-1'
P 119	0.0168 J	0-0.5'
P 119	<0.010	0.5-1'
P 119	<0.010	1.5-2'
P 120	<0.011	0-0.5'
P 120	<0.051	0.5-1'
P 120	<0.010	1.5-2'
MW 18	0.0291 J	5-5.5'



Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 — Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by On-Site in April & May 2017
- Soil Boring Installed by On-Site in October 2017
- Soil Boring Installed by On-Site in February 2018
- Soil Boring Installed by On-Site in May 2018
- Soil Boring Installed by On-Site in September 2018
- (<0.00085) Naphthalene concentration 2017 & 2018: mg/kg
- (152) Naphthalene concentration above standard: mg/kg
- (3.9) Naphthalene concentration in 2001/2009 samples: mg/kg
- 6 — 6 ppm contour line
- 17 — 17 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL — Former hydraulic lift
- FD — Former floor drain

Note: 1) Concentrations shown are the highest value reported in a boring.
2) Residential direct contact standard is 6 mg/kg.
3) Non-residential direct contact standard is 17 mg/kg.
4) J: Estimated value.
5) E: Associated CCV and BS outside of control limits high, sample was ND.

2017 & 2018 SOIL Samples Analyzed for Naphthalene

Sample ID	Naphthalene (mg/kg)	Depth (ft)
P 3	<0.022	4.5-5'
P 8	<0.00090	6'
P 8	2.31	12'
P 10	0.245	0-1'
P 10	1.740	3'
P 17	23.8	4'
P 17	3.530	9'
P 18	9.45	4-4.5'
P 19	<0.00099	5'
P 20	<0.001	5'
P 22	<0.047	0-6"
P 28	<0.00098	3.5'
P 30	0.0083	6.5-7'
P 30	12.4	8'
P 30	<0.0012	17-18'
P 30	<0.0011	21'
P 31	0.0266	6.5'
P 31	0.789	9'
P 32	<0.00079	4.5'
P 32	<0.00085	15'
P 33	<0.0012	4.5'
P 33	<0.0010	15'
P 34	0.0012 J	16'
P 35	0.104	5.5-6'
P 35	0.113	7-7.5'
P 36	0.0053	6'
P 36	<0.0011	12'
P 37	0.0640	3'
P 37	<0.00085	7'
P 38	1.050	3'
P 38	3.430	8'
P 38	24.4	13
P 38	0.0243	18
P 39	0.00092 J	15'
P 40	<0.00095	6'
P 40	0.0199	15'
P 41	0.0144	5'
P 41	9.1	10'
P 42	<0.0010	6'
P 42	<0.00095	8'
P 43	152	1'
P 43	4.04	2'
P 43	2.69	6'
P 44	96.7	3'
P 44	0.0483	7-7.5'
P 45	<0.00089	5.5-6'
P 45	<0.00098	12-12.5'
P 46	0.0012 J	6-6.5'
P 47	<0.0021	6-6.5'
P 48	<0.0019	1-1.5'
P 48	<0.0022	7.5-8'
P 48	<0.0021	20'
P 49	<0.0016	4.5-5'
P 50	<0.0017	4-4.5'
P 51	32.5	2.5-3'
P 51	25.8	3.5-4'
P 52	<0.300 E	0-0.5'
P 52	<0.0019	7-8'
P 53	<0.0013	4-4.5'
P 54	<0.0046	0-0.5'
P 54	<0.0046	0.5-1'
P 55	<0.0032	0-4"
P 56	<0.0017	3-3.5'
P 57	<0.002	3.5-4'
P 58	14.8	0-0.5'
P 59	18.1	4.5-5'
P 60	<0.0027	0-0.5'
P 60	<0.0022	1.5-2'
P 64	2.98	6-6.5'
P 70	535	3.5-4'
P 71	<0.010	6-6.5'
P 71	<0.011	9-9.5'
P 77	<0.0021	2-2.5'
P 77	<0.0018	10.5-11'
P 78	<0.0021	2.5'
P 79	<0.011	2-2.5'
P 80	<0.024	0-0.5'
P 84	0.0241 J	0-0.5'
P 84	<0.010	0.5-1'
P 85	0.0357 J	0-0.5'
P 85	0.44	1.5-2'
P 96	15.7	4.5-5'
P 99	<0.011	Storm Drain
P 100	0.124	Storm Drain
P 102	0.0745	0-0.5'
P 102	0.531	1-2'
P 102	<0.011	5-6'
P 102	<0.010	10-11'
P 103	<0.012	0-0.5'
P 103	<0.011	1-2'
P 103	0.0525	3-4'
P 103	0.142	13.5-14'
P 104	<0.010	1-2'
P 104	0.514	6.5-7.5'
P 109	10	10-10.5'

ON-SITE ENVIRONMENTAL
119 Spencer Way • Glassboro, PA 08028
Phone: (856) 384-2774 • Fax: (856) 384-2799

Drawing #: Solinap DC wo F samples.drw
Date: 12/2/18

Figure 22 Naphthalene in Soil Above Residential & Non-Residential Direct Contact Standard
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

2001 - 2009 Samples

Sample ID	Concentration (mg/kg)	Depth (ft)
Test pit 1	72	2'
	5	8'
Test pit 2	34	2'
	8	7'
TB 1	21.2	8-9'
TB 2	7.4	6-7'
TB 3	66	3-4'
TB 4	12.9	13-14'
TB 5	15.7	2-2½' dug out
TB 6	6.3	10-11'
TB 7	13	4-5'
TB 7	7	10-11'
TB 8	675	3-4' dug to 3'
N 1	13	8-9½'
N 2	14	8-9'
N 3	29	4-5'
N 4	7	10-12'
N 5	6	4-5'
N 6	9	8-9'
N 7	2	8-9'
N 8	9	8-9½'
N 9	3	11-12'
N 10	2	8-10'
N 11	<1	10-12'
N 12	3	6-8'
N 13	8	9-10'
N 14	19	8-9'
N 15	7	2-3'
N 16	10	4-7'
F 17	6.97	4-5'
F 17	7.19	13-14'
F 18	2.87	10-11'
F 19	1.34	10-12'
F 20	11.1	5-6'
F 20	3.97	10-11'
F 23	5.83	9-10'
F 23	16.8	13-14'
F 24	1,490	3-4'
	5.42	9-10'

2018 Samples Analyzed for Lead

Sample ID	Concentration (mg/kg)	Depth (ft)
P 77	19.2	0-0.5'
P 77	9.7	1.5-2'
P 82	40.4	0-0.5'
P 82	22	1.5-2'
P 82	16.9	5.5-6'
P 85	24.7	0-0.5'
P 85	18.6	1.5-2'
P 85	<7	3.4-4'
P 86	25.7	0-0.5'
P 86	3.7	1.5-2'
P 87	147	6-6.5'
P 89	8.2	3.5-4'
P 90	15.4	3.5-4'
P 90	10.7	5.5-6'
P 90	5.3	10-10.5'
P 92	16.7	0-0.5'
P 92	5.5	1.5-2'
P 92	15.4	6-6.5'
P 93	85.8	1'
P 93	209	2.5-3'
P 95	<6.5	0.5-1'
P 95	9.8	5.5-6'
P 99	17.5	Storm Drain
P 100	20.1	Storm Drain
P 102	108	0-0.5'
P 102	69.2	1-2'
P 102	9	5-6'
P 103	37.4	0-0.5'
P 103	28.4	1-2'
P 106	57.3	0-0.5'
P 106	6.3	1.5-2'
P 108	61.9	0-0.5'
P 110	233	0-0.5'
P 110	94	0.5-1'
P 111	193	0-0.5'
P 111	152	0.5-1'
P 112	84.4	0-0.5'
P 112	11	0.5-1'
P 113	57.2	0-0.5'
P 113	18.5	0.5-1'

2017 Samples Analyzed for Lead

Sample ID	Concentration (mg/kg)	Depth (ft)
P 8	6.8	6'
P 8	10.5	12'
P 10	241	0-1'
P 10	190	3'
P 12	50.9	0-6"
P 12	25.5	5'
P 12	9.5	6.5'
P 13	14.6	0-6"
P 13	529	4'
P 13	49.9	6'
P 14	7.8	0-6"
P 14	55	5'
P 15	112	0-6"
P 15	11.2	5'
P 16	6.2	0-6"
P 16	14.9	4'
P 17	27	4'
P 17	11.7	9'
P 20	16.2	5'
P 22	54.4	0-6"
P 25	13.6	5-5.5'
P 26	220	3.5'
P 27	7.7	3.5'
P 28	39.3	3.5'
P 29	46.3	3.5'
P 30	11.5	6.5-7'
P 30	8	8'
P 30	36.8	17-18'
P 30	18.9	21'
P 31	20.3	6.5'
P 31	10.7	9'
P 32	5.7	4.5'
P 32	2.5	15'
P 33	10.8	4.5'
P 33	32	15'
P 34	15.1	16'
P 35	8.1	5.5-6'
P 35	5.8	7-7.5'
P 36	9.6	6'
P 36	8.9	12'
P 37	8.6	3'
P 37	3	7'
P 38	11.3	3'
P 38	14.2	8'
P 38	13.7	13'
P 38	19.8	18'
P 39	2.3	15'
P 40	8.9	6'
p 40	5.5	15
P 41	15.7	5'
P 41	9.3	10'
P 42	10.7	6'
P 42	5.2	8'
P 43	37.7	1'
P 43	19.6	2'
P 43	8.8	6'
P 44	78.6	3'
P 44	6.6	7-7.5'
P 45	23.3	5.5-6'
P 45	12.3	12-12.5'
P 46	12.9	6-6.5'
P 54	45.4	0-0.5'
P 54	68.6	0.5-1'
P 55	56.8	0-4"
P 58	343	0-0.5'
P 58	9	6-6.5'
P 59	44.1	0-0.5'
P 59	337	1.5-2'
P 59	469	4.5-5'
P 61	79.9	0-0.5'
P 61	88.7	1.5-2'
P 62	13.7	0-0.5'
P 65	165	1'
P 65	13.9	3.5'
P 65	20.6	6.5'
P 66	33.8	0-0.5'
P 66	226	1.5-2'
P 66	9	6-6.5'
P 67	35.6	0-0.5'
P 67	19.2	1.5-2'
P 68	15.7	0-0.5'
P 69	63.9	0.5-1'
P 69	99.4	1-1.5'
P 72	555	3.5-4'
P 73	13.2	3'
P 74	9.2	6-6.5'
P 76	31	0-1'
P 76	39.8	4-4.5'

2018 Samples Analyzed for Lead

Sample ID	Concentration (mg/kg)	Depth (ft)
P 114	104	0-0.5'
P 114	113	0.5-1'
P 114	8.8	6-6.5'
P 115	6.6	0-0.5'
P 115	37.2	0.5-1'
P 115	8.4	6-6.5'
P 116	34.1	0-0.5'
P 116	115	0.5-1'
P 117	52.1	0-0.5'
P 117	151	0.5-1'
P 118	15.7	0-0.5'
P 118	17.5	0.5-1'
P 119	40	0-0.5'
P 119	88.4	0.5-1'
P 119	64.2	1.5-2'
P 120	63.6	0-0.5'
P 120	51.4	0.5-1'
P 120	86.6	1.5-2'
MW 18	2.5	5-5.5'

Key

- Existing Groundwater Monitoring Well
- F24 ● Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ Soil Boring Installed by RedHawk in 2001 & 2002
- UST Closure Sample 2002
- Soil Boring Installed by On-Site in April & May 2017
- Soil Boring Installed by On-Site in October 2017
- Soil Boring Installed by On-Site in February 2018
- Soil Boring Installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (37.7) Lead concentration in 2017 & 2018 samples: mg/kg
- (66) Lead concentration in 2001/2009 samples: mg/kg/
- 400 400 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Note: 1) Sample depths at TB 5, TB8, Test pit 4, and NW Corner were removed by excations in 2001/2002.
2) Concentrations shown are the highest value reported in a boring.
3) Lead residential direct contact stanadrd is 400 mg/kg.
4) Lead non-residential direct contact standard is 800 mg/kg.

Inferred extent of lead that exceeds residential direct contact standard of 400 mg/kg

Inferred extent of lead that exceeds non-residential direct contact standard of 800 mg/kg @ F24

On-Site Environmental
119 Sherman Way • Coatesville, PA 19320
Phone: (610) 384-2715 • Fax (610) 384-2799

Drawing #: File : Soillead2.drw
Date 12/2/18

Figure 23 LEAD in Soil
Above Residential &
Non-Residential DirectContact
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Benzo (a)pryene (mg/kg)	Depth (ft)
P 102	1.98	0-0.5'
P 102	0.261	1-2'
P 102	<0.017	5-6'
P 102	<0.016	10-11'
P 103	0.648	0-0.5'
P 103	0.0382	1-2'
P 103	0.729	3-4'
P 103	<0.017	13.5-14'
P 104	0.198	1-2'
P 104	<0.018	6.5-7.5'
P 114	0.543	0-0.5'
P 114	0.341	0.5-1'
P 114	<0.017	6-6.5'
P 115	<0.400	0-0.5'
P 115	0.165	0.5-1'
P 115	<0.017	6-6.5'
P 116	0.0256 J	0-0.5'
P 116	0.523	0.5-1'
P 117	0.276	0-0.5'
P 117	0.71	0.5-1'
P 118	0.0260 J	0-0.5'
P 118	<0.017	0.5-1'
P 119	0.145	0-0.5'
P 119	0.254	0.5-1'
P 119	0.574	1.5-2'
P 120	0.136	0-0.5'
P 120	<0.083	0.5-1'
P 120	0.378	1.5-2'
MW 18	0.0585	5-5.5'

Inferred extent of benzo(a)pryene above ecological soil screening level of 1.52 mg/kg in exposed soil above 1 foot that could migrate to swale

Rt 130

Rt 130

Grass

Gravel

Turning Lane

Grass Medium

MW 17

MW 16 (0.0256 J) (0.523)

MW 15 (0.543) (0.341) (<0.017)

MW 5

MW 6

MW 1

MW 2

RW 1

MW 3

MW 4

MW 7

MW 8

MW 9

MW 10

MW 12

MW 13 (0.276) (0.71)

MW 11

MW 14

MW 18 (0.0585)

Property Boundary

Guard Rail

Fence

Sewer line

Water line

Gas Line

Storm Drain

Concrete Over New Tanks

Dispenser

Kiosk

Office

asphalt

Quick Out Convience Store

Shed

Driveway

Grass

PB Station

Washington Place

Property of Denice Luzack
368 Washington Place

359 Washington Place House

AOC 8

P102 (1.98) (0.261) (<0.017a) (<0.016a)

P115 (<0.400) (0.165) (<0.017)

P85 (2.6) (1.78)

P103 (0.648) (0.0382) (0.729) (<0.017a)

P18 (<0.040)

P58 (<0.017)

P59 (62.4) (0.195) (0.0276 J) (<0.035)

P99 (0.51)

P20 (<0.018)

P72 (0.747) (<0.043)

P10 (9.340) (0.453)

P61 (9.43) (0.221) (0.045) (<0.016)

P100 (3.69)

P68 (0.0260 J) (<0.016) (<0.016) (<0.015)

P17 (0.0525) (<0.017)

P70 (0.073) (<0.017)

P71 (0.924) (0.241)

P69 (<0.015) (<0.018)

P72 (<0.016) (<0.018)

P120 (0.136) (<0.083) (0.378)

P104 (0.198) (1.70) (<0.018)

P54 (0.0494)

P119 (0.145) (0.254) (0.574)

P80 (0.133)

P55 (0.436)

P118 (0.0260 J) (<0.017)

HL

FD

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (9.340) Benzo(a)pryene concentration in sample: mg/kg
- 0.2 — 0.2 ppm default impact to groundwater contour line
- 0.5
- 2.0 — 2 ppm non-residential direct contour line
- 1.5 — 1.5 ppm ecological soil screening contour lines
- Background concentration
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 0.5 mg/kg
Non-residential direct contact standard is 2 mg/kg
Default impact to ground water level is 0.2 mg/kg
Ecological soil screening level is 1.52 mg/kg in exposed soil from 0 to 1 ft

N

0' 35'

Approximate scale in feet

SOIL SAMPLES

Sample ID	Benzo (a)pryene (mg/kg)	Depth (ft)
P 10	9.340	0-1'
P 10	0.453	3'
P 17	0.0525	4'
P 17	<0.017	9'
P 18	<0.040	4-4.5'
P 20	<0.018	5'
P 22	0.924	0-6"
P 54	1.70	0.5-1'
P 55	0.436	0-4"
P 58	236	0-0.5'
P 58	0.705	1.5-2'
P 58	<0.017	6-6.5'
P 58	<0.017	18-18.5'
P 59	62.4	0-0.5'
P 59	0.195	1.5-2'
P 59	0.0276 J	4.5-5'
P 59	<0.035	9.5-10'
P 61	9.43	0-0.5'
P 61	0.221	1.5-2'
P 61	0.045	4-4.5'
P 61	<0.016	12.5-13'
P 66	<0.015	6-6.5'
P 66	<0.018	13.5-14'
P 68	0.0260 J	0-0.5'
P 68	<0.016	1.5-2'
P 68	<0.016	6-6.5'
P 68	<0.015	7.5-8'
P 69	2.1	1-1.5'
P 70	0.073	3.5-4'
P 70	<0.017	6.5-7'
P 71	<0.016	6-6.5'
P 71	<0.018)	9-9.5'
P 72	0.747	3.5-4'
P 72	<0.043	6.5-7'
P 80	0.133	0-0.5'
P 84	1.61	0-0.5'
P 84	0.0494	0.5-1'
P 85	2.6	0-0.5'
P 85	1.78	1.5-2'
P 99	0.51	Storm drain
P 100	3.69	Storm drain

Benzo(a)pryene above background level of 0.71 mg/kg that could impact ground water. Also above residential direct contact level. Also above level in P 100 storm drain.

Inferred extent of benzo(a)pryene above non-residential direct contact standard of 2 mg/kg.

Note: 1) Area to north of P 102 is covered with grass and is not an area where soil erosion to the swale will occur.
2) Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening levels are not applicable at those properties.
3. Highest concentration related to background was 0.71 mg/kg in P 117, which is above the residential standard of 0.5 mg/kg and the default soil to ground water screening level of 0.2 mg/kg.

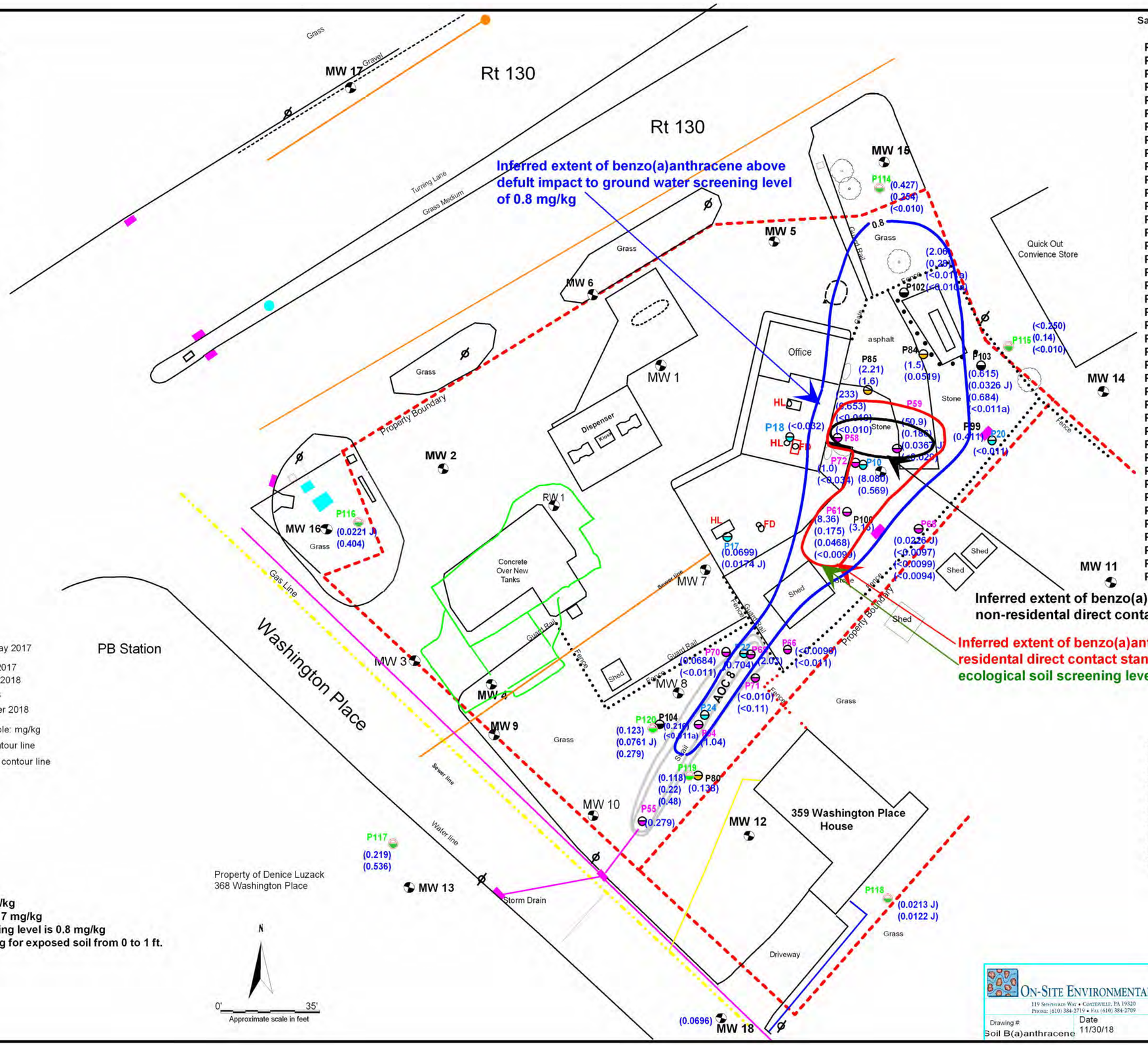
ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # Soil B(a)pryene

Date 11/30/18

Figure 24 Benzo(a)pryene in Soil Above Residential & Non-Residential Direct Contact, Ecological Soil Screening Levels & Concentrations Higher than Background Level that Could Impact Ground Water

Sample ID	Benzo (a)anthracene (mg/kg)	Depth (ft)
P 114	0.427	0-0.5'
P 114	0.254	0.5-1'
P 114	<0.010	6-6.5'
P 115	<0.250	0-0.5'
P 115	0.14	0.5-1'
P 115	<0.010	6-6.5'
P 116	0.0221 J	0-0.5'
P 116	0.404	0.5-1'
P 117	0.219	0-0.5'
P 117	0.536	0.5-1'
P 118	0.0213 J	0-0.5'
P 118	0.0122 J	0.5-1'
P 119	0.118	0-0.5'
P 119	0.22	0.5-1'
P 119	0.48	1.5-2'
P 120	0.123	0-0.5'
P 120	0.0761 J	0.5-1'
P 120	0.279	1.5-2'
MW 18	0.0696	5-5.5'



Sample ID	Benzo (a)anthracene (mg/kg)	Depth (ft)
P 10	8.080	0-1'
P 10	0.569	3'
P 17	0.0699	4'
P 17	0.0174 J	9'
P 18	<0.032	4-4.5'
P 20	<0.011	5'
P 22	0.704	0-6"
P 54	1.04	0.5-1'
P 55	0.279	0-4"
P 58	233	0-0.5'
P 58	0.653	1.5-2'
P 58	<0.010	6-6.5'
P 58	<0.010	18-18.5'
P 59	50.9	0-0.5'
P 59	0.186	1.5-2'
P 59	0.0367 J	4.5-5'
P 59	<0.029	9.5-10'
P 61	8.36	0-0.5'
P 61	0.175	1.5-2'
P 61	0.0468	4-4.5'
P 61	<0.0099	12.5-13'
P 66	<0.0096	6-6.5'
P 66	<0.011	13.5-14'
P 68	0.0226 J	0-0.5'
P 68	<0.0097	1.5-2'
P 68	<0.0099	6-6.5'
P 68	<0.0094	7.5-8'
P 69	2.03	1-1.5'
P 70	0.0684	3.5-4'
P 70	<0.011	6.5-7'
P 71	<0.010	6-6.5'
P 71	<0.011	9-9.5'
P 72	1.0	3.5-4'
P 72	<0.034	6.5-7'
P 80	0.138	0-0.5'
P 84	1.5	0-0.5'
P 84	0.0519	0.5-1'
P 85	2.21	0-0.5'
P 85	1.6	1.5-2'
P 99	0.411	Storm Drain
P 100	3.16	Storm Drain

P 102	2.06	0-0.5'
P 102	0.28	1-2'
P 102	<0.011 a	5-6'
P 102	<0.010 a	10-11'
P 103	0.615	0-0.5'
P 103	0.0326 J	1-2'
P 103	0.684	3-4'
P 103	<0.011 a	13.5-14'
P 104	0.216	1-2'
P 104	<0.011a	6.5-7.5'

ON-SITE ENVIRONMENTAL
119 Shoemaker Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

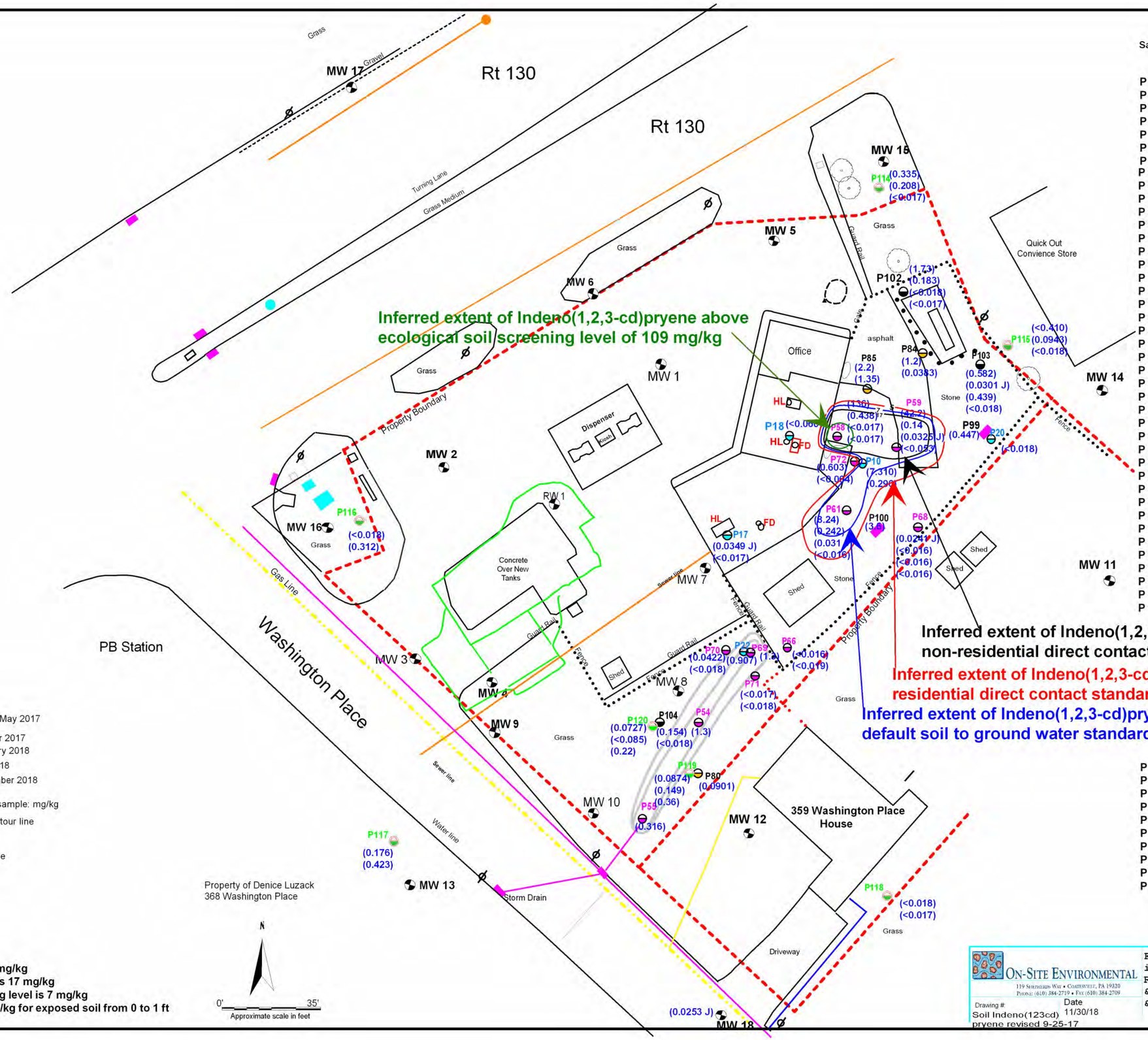
Drawing # Soil B(a)anthracene

Date 11/30/18

Figure 25 Benzo(a)anthracene in Soil Above Residential & Non-Residential Direct Contact, Default Impact to Groundwater & Ecological Soil Screening Levels

SOIL SAMPLES

Sample ID	Indeno(1,2,3-cd)pryene (mg/kg)	Depth (ft)
P 114	0.335	0-0.5'
P 114	0.208	0.5-1'
P 114	<0.017	6-6.5'
P 115	<0.410	0-0.5'
P 115	0.0943	0.5-1'
P 115	<0.017	6-6.5'
P 116	<0.018	0-0.5'
P 116	0.312	0.5-1'
P 117	0.176	0-0.5'
P 117	0.423	0.5-1'
P 118	<0.018	0-0.5'
P 118	<0.017	0.5-1'
P 119	0.0874	0-0.5'
P 119	0.149	0.5-1'
P 119	0.36	1.5-2'
P 120	0.0727	0-0.5'
P 120	<0.085	0.5-1'
P 120	0.22	1.5-2'
MW 18	0.0253 J	5-5.5'



SOIL SAMPLES

Sample ID	Indeno(1,2,3-cd)pryene (mg/kg)	Depth (ft)
P 10	7.310	0-1'
P 10	0.296	3'
P 17	0.0349 J	4'
P 17	<0.017	9'
P 18	<0.060	4-4.5'
P 20	<0.018	5'
P 22	0.907	0-6"
P 54	1.3	0.5-1'
P 55	0.316	0-4"
P 58	136	0-0.5'
P 58	0.438	1.5-2'
P 58	<0.017	6-6.5'
P 58	<0.017	18-18.5'
P 59	42.2	0-0.5'
P 59	0.14	1.5-2'
P 59	0.0325 J	4.5-5'
P 59	<0.053	9.5-10'
P 61	8.24	0-0.5'
P 61	0.242	1.5-2'
P 61	0.0310 J	4-4.5'
P 61	<0.016	12.5-13'
P 66	<0.016	6-6.5'
P 66	<0.019	13.5-14'
P 68	0.0241 J	0-0.5'
P 68	<0.016	1.5-2'
P 68	<0.016	6-6.5'
P 68	<0.016	7.5-8'
P 69	1.3	1-1.5'
P 70	0.0422	3.5-4'
P 70	<0.018	6.5-7'
P 71	<0.017	6-6.5'
P 71	<0.018	9-9.5'
P 72	0.603	3.5-4'
P 72	<0.064	6.5-7
P 80	0.0901	0-0.5'
P 84	1.2	0-0.5'
P 84	0.0383	0.5-1'
P 85	2.2	0-0.5'
P 85	1.35	1.5-2'
P 99	0.47	Storm Drain
P 100	3.6	Storm Drain

Inferred extent of Indeno(1,2,3-cd)pryene above non-residential direct contact standard of 17 mg/kg

Inferred extent of Indeno(1,2,3-cd)pryene above residential direct contact standard of 5 mg/kg

Inferred extent of Indeno(1,2,3-cd)pryene above default soil to ground water standard of 7 mg/kg

P 102	1.73	0-0.5'
P 102	0.183	1-2'
P 102	<0.018	5-6'
P 102	<0.017	10-11'
P 103	0.582	0-0.5'
P 103	0.0301 J	1-2'
P 103	0.439	3-4'
P 103	<0.018	13.5-14'
P 104	0.154	1-2'
P 104	<0.018	6.5-7.5'

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (7.310) Indeno(1,2,3-cd)pryene concentration in sample: mg/kg
- 7 — 7 ppm default impact to groundwater contour line
- 5 — 5 ppm residential direct contour line
- 17 — 17 ppm non-residential direct contour line
- — ecological screening level contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 5 mg/kg
Non-residential direct contact standard is 17 mg/kg
Default impact to ground water screening level is 7 mg/kg
Ecological soil screening level is 109 mg/kg for exposed soil from 0 to 1 ft

N

0' 35'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shoemaker Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

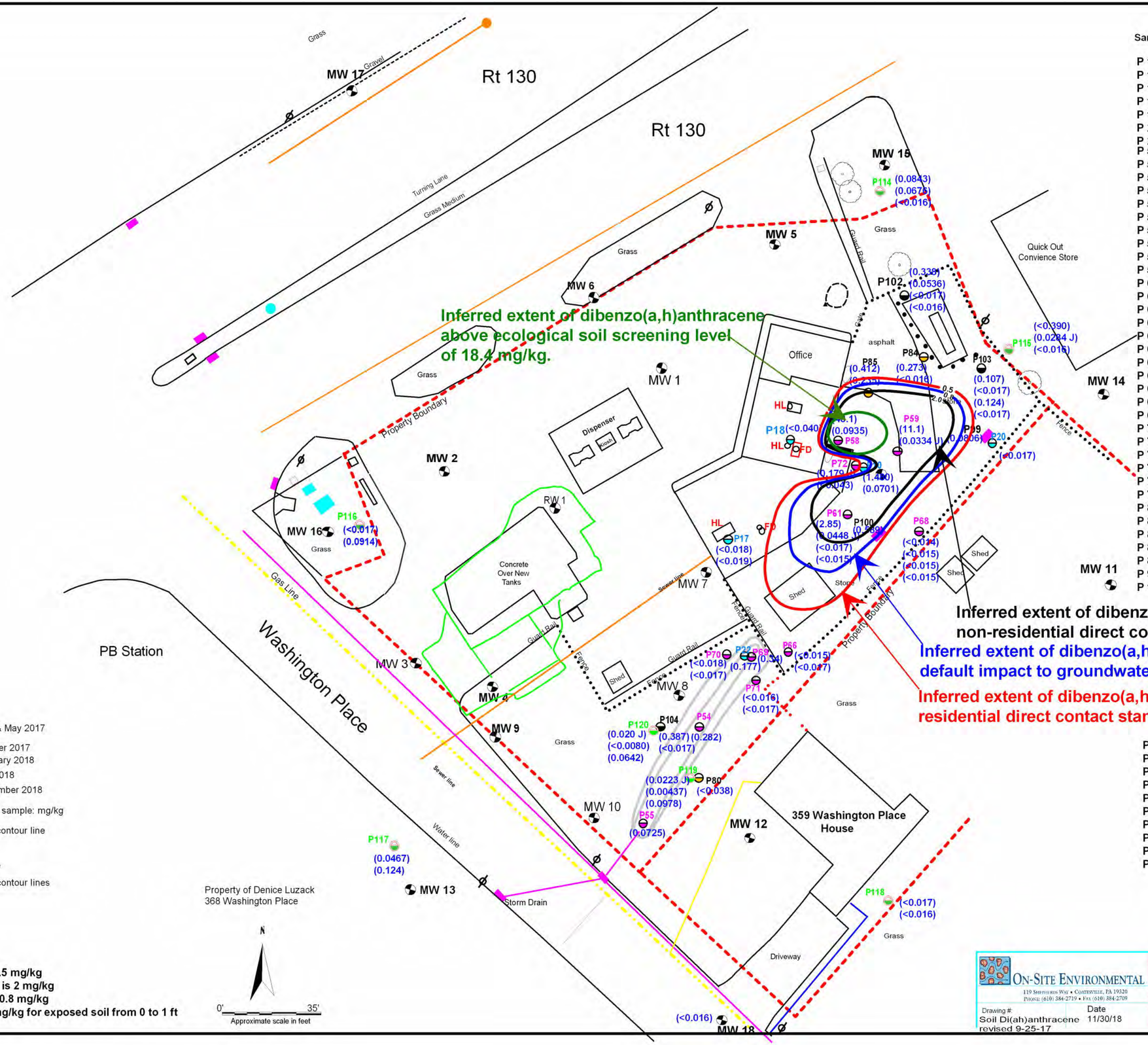
Drawing # Soil Indeno(123cd) pryene revised 9-25-17

Date 11/30/18

Figure 26 Indeno(1,2,3-cd)Pryene in Soil Above Residential & Non-Residential Direct Contact Standard & Default Impact to Groundwater & Ecological Soil Screening Levels

SOIL SAMPLES

Sample ID	Dibenzo(a,h)anthracene (mg/kg)	Depth (ft)
P 114	0.0843	0-0.5'
P 114	0.0676	0.5-1'
P 114	<0.016	6-6.5'
P 115	<0.390	0-0.5'
P 115	0.0284 J	0.5-1'
P 115	<0.016	6-6.5'
P 116	<0.017	0-0.5'
P 116	0.0914	0.5-1'
P 117	0.0467	0-0.5'
P 117	0.124	0.5-1'
P 118	<0.017	0-0.5'
P 118	<0.016	0.5-1'
P 119	0.0223 J	0-0.5'
P 119	0.0437	0.5-1'
P 119	0.0978	0-0.5'
P 120	0.020 J	0.5-1'
P 120	<0.080	0.5-1'
P 120	0.0642	1.5-2'
MW 18	<0.016	5-5.5'



SOIL SAMPLES

Sample ID	Dibenzo(a,h)anthracene (mg/kg)	Depth (ft)
P 10	1.480	0-1'
P 10	0.0701	3'
P 17	<0.018	4'
P 17	<0.019	9'
P 18	<0.040	4-4.5'
P 20	<0.017	5'
P 22	0.177	0-6"
P 54	0.282	0.5-1'
P 55	0.0725	0-4"
P 58	48.1	0-0.5'
P 58	0.0935	1.5-2'
P 58	<0.016	6-6.5'
P 58	<0.016	18-18.5'
P 59	11.1	0-0.5'
P 59	0.0334 J	1.5-2'
P 59	<0.017	4.5-5'
P 59	<0.035	9.5-10'
P 61	2.85	0-0.5'
P 61	0.0448 J	1.5-2'
P 61	<0.017	4-4.5'
P 61	<0.015	12.5-13'
P 66	<0.015	6-6.5'
P 66	<0.017	13.5-14'
P 68	<0.014	0-0.5'
P 68	<0.015	1.5-2'
P 68	<0.015	6-6.5'
P 68	<0.015	7.5-8'
P 69	0.34	1-1.5'
P 70	<0.018	3.5-4'
P 70	<0.017	6.5-7'
P 71	<0.016	6-6.5'
P 71	<0.017	9-9.5'
P 72	0.179 J	3.5-4'
P 72	<0.043	6.5-7
P 80	<0.038	0-0.5'
P 84	0.273	0-0.5'
P 84	<0.016	0.5-1'
P 85	0.412	0-0.5'
P 85	0.235	1.5-2'
P 99	0.0806	Storm Drain
P 100	0.589	Storm Drain

Inferred extent of dibenzo(a,h)anthracene above non-residential direct contact standard of 2 mg/kg

Inferred extent of dibenzo(a,h)anthracene above default impact to groundwater screening level of 0.8 mg/kg

Inferred extent of dibenzo(a,h)anthracene above residential direct contact standard of 0.5 mg/kg

P 102	0.338	0-0.5'
P 102	0.0536	1-2'
P 102	<0.017	5-6'
P 102	<0.016	10-11'
P 103	0.107	0-0.5'
P 103	<0.017	1-2'
P 103	0.124	3-4'
P 103	<0.017	13.5-14'
P 104	0.0387	1-2'
P 104	<0.017	6.5-7.5'

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (1.480) Dibenzo(ah)anthracene concentration in sample: mg/kg
- 0.8 — 0.2 ppm default impact to groundwater contour line
- 0.5 — 0.5 ppm residential direct contour line
- 2.0 — 2 ppm non-residential direct contour line
- ecological soil and sediment screening contour lines
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 0.5 mg/kg
Non-residential direct contact standard is 2 mg/kg
Default impact to ground water level is 0.8 mg/kg
Ecological soil screening level is 18.4 mg/kg for exposed soil from 0 to 1 ft

ON-SITE ENVIRONMENTAL
119 Shreveport Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax: (610) 384-2709

Drawing # Soil Di(ah)anthracene revised 9-25-17
Date 11/30/18

Figure 27 Dibenzo(a,h)anthracene in Soil Above Residential & Non-Residential Direct Contact Standard, Default Impact to Groundwater & Ecological Soil Screening Levels

SOIL SAMPLES

Sample ID	Benzo(b)fluorthene (mg/kg)	Depth (ft)
P 114	0.686	0-0.5'
P 114	0.424	0.5-1'
P 114	<0.016	6-6.5'
P 115	<0.390	0-0.5'
P 115	0.203	0.5-1'
P 115	<0.016	6-6.5'
P 116	0.0338 J	0-0.5'
P 116	0.638	0.5-1'
P 117	0.371	0-0.5'
P 117	0.941	0.5-1'
P 118	0.0275 J	0-0.5'
P 118	<0.016	0.5-1'
P 119	0.185	0-0.5'
P 119	0.328	0.5-1'
P 119	0.725	1.5-2'
P 120	0.166	0-0.5'
P 120	0.0.0820 J	0.5-1'
P 120	0.459	1.5-2'
MW 18	0.0536	5-5.5'

Benzo(b)fluroanthene above default impact to groundwater soil screening level of 2 mg/kg

Inferred extent of benzo(b)fluroanthene above non-residential direct contact standard of 17 mg/kg

Inferred extent of benzo(b)fluroanthene above ecological soil screening level of 59.8 mg/kg

Inferred extent of benzo(b)fluroanthene above residential direct contact standard of 5 mg/kg

Rt 130

Rt 130

Grass

Gravel

Turning Lane

Grass Medium

MW 17

MW 16

MW 15

MW 14

MW 11

MW 5

MW 6

MW 1

MW 2

MW 3

MW 4

MW 7

MW 8

MW 9

MW 10

MW 12

MW 13

MW 18

RW 1

Property Boundary

Guard Rail

Fence

Asphalt

Office

Quick Out Convience Store

Dispenser

Kiosk

Stone

Concrete Over New Tanks

Shed

Gas Line

Sewer line

Water line

Swale

AOC 8

PB Station

Washington Place

359 Washington Place House

Driveway

Grass

Property of Denice Luzack
368 Washington Place

Storm Drain

P114 (0.686) (0.424) (<0.016)

P102 (2.64) (0.314) (<0.017) (<0.016)

P115 (<0.390) (0.203) (<0.016)

P85 (3.1) (1.89)

P84 (2.15) (0.07)

P103 (0.914) (0.0426) (0.811) (<0.017)

P59 (76.1) (0.221) (0.0301 J) (<0.044)

P58 (281) (0.689)

P18 (<0.049)

P99 (0.611)

P20 (<0.017)

P72 (1.0) (<0.052)

P10 (11.3) (0.600)

P61 (12.1) (0.367) (0.0628) (<0.015)

P100 (4.56)

P63 (0.0349) (<0.015) (<0.015) (<0.015)

P17 (0.0697) (0.0169 J)

P66 (<0.015) (<0.017)

P70 (0.0732) (<0.017)

P22 (1.32)

P69 (2.44)

P71 (<0.016) (<0.017)

P120 (0.166) (0.0820 J) (0.459)

P104

P54 (0.307) (1.870) (<0.017)

P119 (0.185) (0.328) (0.725)

P80 (0.185)

P55 (0.488)

P117 (0.371) (0.941)

P116 (0.0338 J) (0.638)

P118 (0.0275 J) (<0.016)

(0.0536)

HL

FD

N

0' 35'

Approximate scale in feet

SOIL SAMPLES

Sample ID	Benzo(b)fluorthene (mg/kg)	Depth (ft)
P 10	11.300	0-1'
P 10	0.600	3'
P 17	0.0697	4'
P 17	0.0169 J	9'
P 18	<0.049	4-4.5'
P 20	<0.017	5'
P 22	1.32	0-6"
P 54	1.870	0.5-1'
P 55	0.488	0-4"
P 58	281	0-0.5'
P 58	0.689	1.5-2'
P 58	<0.016	6-6.5'
P 58	<0.016	18-18.5'
P 59	76.1	0-0.5'
P 59	0.221	1.5-2'
P 59	0.0301 J	4.5-5'
P 59	<0.044	9.5-10'
P 61	12.1	0-0.5'
P 61	0.367	1.5-2'
P 61	0.0628	4-4.5'
P 61	<0.015	12.5-13'
P 66	<0.015	6-6.5'
P 66	<0.017	13.5-14'
P 68	0.0349	0-0.5'
P 68	<0.015	1.5-2'
P 68	<0.015	6-6.5'
P 68	<0.015	7.5-8'
P 69	2.44	1-1.5'
P 70	0.0732	3.5-4'
P 70	<0.017	6.5-7'
P 71	<0.016	6-6.5'
P 71	<0.017	9-9.5'
P 72	1.0	3.5-4'
P 72	<0.052	6.5-7
P 80	0.185	0-0.5'
P 84	2.15	0-0.5'
P 84	0.07	0.5-1'
P 85	3.1	0-0.5'
P 85	1.89	1.5-2'
P 99	0.611	Storm Drain
P 100	4.56	Storm Drain

P 102	2.64	0-0.5'
P 102	0.314	1-2'
P 102	<0.017	5-6'
P 102	<0.016	10-11'
P 103	0.914	0-0.5'
P 103	0.0426	1-2'
P 103	0.811	3-4'
P 103	<0.017	13.5-14'
P 104	0.307	1-2'
P 104	<0.017	6.5-7.5'

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (1.32) Benzo(b)fluoranthene concentration in sample: mg/kg
- 2 — 2 ppm default impact to groundwater contour line
- 5 — 5 ppm residential direct contour line
- 17 — 17 ppm non-residential direct contour line
- 60 — 60 ppm ecological soil screening contour lines
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 5 mg/kg
Non-residential direct contact standard is 17 mg/kg
Default impact to ground water level is 2 mg/kg
Ecological soil screening level is 59.8 mg/kg for exposed soil from 0 to 1 ft.

ON-SITE ENVIRONMENTAL
119 Shoemaker Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # Soil B(b)fluoranthene

Date 11/30/18

Figure 28 Benzo(b)fluoranthene in Soil Above Residential & Non-residential Direct Contact Standards,Default Impact to Groundwater & Ecological Soil Screening Levels

SOIL SAMPLES

Sample ID	Benzo(k)fluoranthene (mg/kg)	Depth (ft)
P 114	0.369	0-0.5'
P 114	0.22	0.5-1'
P 114	<0.017	6-6.5'
P 115	<0.410	0-0.5'
P 115	0.0843	0.5-1'
P 115	<0.017	6-6.5'
P 116	<0.018	0-0.5'
P 116	0.323	0.5-1'
P 117	0.158	0-0.5'
P 117	0.402	0.5-1'
P 118	0.0188 J	0-0.5'
P 118	<0.017	0.5-1'
P 119	0.0771	0-0.5'
P 119	0.138	0.5-1'
P 119	0.359	1.5-2'
P 120	0.873	0-0.5'
P 120	<0.085	0.5-1'
P 120	0.226	1.5-2'
MW 18	0.0345	5-5.5'

Gas line approximate location

Grass

Gravel

Paved Shoulder

Turning Lane from Gross Median

MW 17

Rt 130

Traffic Light

Shoulder of Road

MW 6

Grass

P101

MW 5

Grass

MW 15

P110

P114

(0.369)
(0.22)
(<0.017)

Guard Rail

Benzo(k)fluroanthene above default impact to groundwater soil screening level of 25 mg/kg

Propane Tank Area

P102

(1.09)
(0.13)
(<0.018)
(<0.017)

asphalt

P115

(<0.410)
(0.0843)
(<0.017)

MW 14

MW 1

Grass

North Brunswick Gulf Station

P84

(0.586)
(0.0203 J)

P103

(0.316)
(<0.018)
(0.329)
(<0.018)

(1.11)
(0.599)

HL

P85

P59
(28.1)
(0.0967)
(<0.018)
(<0.044)

25
45

P58
(65.3)
(0.269)
(<0.017)

P99
(0.222)

P20
(<0.018)

Pump Islands with Canopy

P94

(<0.049)

P18

HL FD

One Story Masonary Building

P19
(0378)
(<0.052)

P48
(3.222)
(0.11)

MW 19

MW 2

RW 1

(<0.018)
(0.323)

P116

MW 16

P111

P109

HL

FD

P17
(0.0204)
(<0.017)

P61
(4.5)
(0.111)
(0.0222)
(<0.016)

P100
(1.46)

Storm Drain

P68
(<0.015)
(<0.016)
(<0.016)
(<0.016)

Shed

Shed

Stone

Fence

MW 7

Concrete over New Tanks

Diesel Fuel Dispenser

shed

Fence

Guard Rail

P106

Sewer Line

Water Line

Gas Line

Washington Place

PB Station

Grass

Fence

Shed

P66
(<0.016)
(<0.018)

P70
(0.0333)
(<0.018)

P22
(0.449)

P69
(0.742)

P71
(<0.017)
(<0.018)

Property Boundary

MW 3

MW 4

MW 8

Fence

P107

Inferred extent of benzo(k)fluroanthene above residential direct contact standard of 45 mg/kg

(0.873)
(<0.085)
(0.226)

P120

P104

P54
(0.717)

(0.0976)
(<0.018)

P119
(0.0771)
(0.138)
(0.359)

P105

MW 9

Grass

P80
(0.0743)

MW 10

P55
(0.198)

MW 12

359 Washington Place House

Driveway

(0.158)
(0.402)

P117

P112

Storm Drain

P108

(0.0188 J)
(<0.017)

P118

P113

Property of Denice Luzack
368 Washington Place

MW 13

House

Driveway

MW 18

(0.0345)

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (4.5) Benzo(k)fluoranthene concentration in sample: mg/kg
- 25 25 ppm default impact to groundwater contour line
- 45 45 ppm residential direct contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

N

0' 35'

Approximate scale in feet

Residential direct contact standard is 45 mg/kg
Non-residential direct contact standard is 170 mg/kg
Default impact to ground water level is 25 mg/kg
Ecological soil screening level is 148 mg/kg for exposed soil from 0 to 1 ft.

SOIL SAMPLES

Sample ID	Benzo(k)fluorthene (mg/kg)	Depth (ft)
P 10	3.222 e	0-1'
P 10	0.190 e	3'
P 17	0.0204 J	4'
P 17	<0.017	9'
P 18	<0.049	4-4.5'
P 20	<0.018 e	5'
P 22	0.449 F	0-6"
P 54	0.717	0.5-1'
P 55	0.198	0-4"
P 58	65.3	0-0.5'
P 58	0.269	1.5-2'
P 58	<0.017	6-6.5'
P 58	<0.017	18-18.5'
P 59	28.1	0-0.5'
P 59	0.0967	1.5-2'
P 59	<0.018	4.5-5'
P 59	<0.044	9.5-10'
P 61	4.5	0-0.5'
P 61	0.111	1.5-2'
P 61	0.0222 J	4-4.5'
P 61	<0.016	12.5-13'
P 66	<0.016	6-6.5'
P 66	<0.018	13.5-14'
P 68	<0.015	0-0.5'
P 68	<0.016	1.5-2'
P 68	<0.016	6-6.5'
P 68	<0.016	7.5-8'
P 69	0.742	1-1.5'
P 70	0.0333 J	3.5-4'
P 70	<0.018	6.5-7'
P 71	<0.017	6-6.5'
P 71	<0.018	9-9.5'
P 72	0.378	3.5-4'
P 72	<0.052	6.5-7
P 80	0.0743	0-0.5'
P 84	0.586	0-0.5'
P 84	0.0203 J	0.5-1'
P 85	1.11	0-0.5'
P 85	0.599	1.5-2'
P 99	0.222	Storm Drain
P 100	1.46	Srorm Drain
P 102	1.09	0-0.5'
P 102	0.13	1-2'
P 102	<0.018	5-6'
P 102	<0.017	10-11'
P 103	0.316	0-0.5'
P 103	<0.018	1-2'
P 103	0.329	3-4'
P 103	<0.018	13.5-14'
P 104	0.0976	1-2'
P 104	<0.018	6.5-7.5'

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil B(k)fluoranthene
Date: 10/16/18

Figure 29 Benzo(k)fluoranthene in Soil Above Residential Direct Contact Standard & Default Impact to Groundwater Soil Screening Level

Sample ID	SOIL SAMPLES Manganese (mg/kg)	Depth (ft)
P 114	114	0-0.5'
P 114	110	0.5-1'
P 114	51.4	6-6.5'
P 115	74.2	0-0.5'
P 115	38.8	0.5-1'
P 115	64.3	6-6.5'
P 116	32.6	0-0.5'
P 116	617 C	0.5-1'
P 117	30.9	0-0.5'
P 117	429 C	0.5-1'
P 118	29	0-0.5'
P 118	37.9	0.5-1'
P 119	32.8	0-0.5'
P 119	55.5	0.5-1'
P 119	61.4	1.5-2'
P 120	641	0-0.5'
P 120	232	0.5-1'
P 120	90.6	1.5-2'
MW 18	3.9	5-5.5'

Sample ID	SOIL SAMPLES Manganese (mg/kg)	Depth (ft)
P 10	393	0-1'
P 10	63.9	3'
P 17	72.7	4'
P 17	42.1	9'
P 20	27.3	5'
P 22	242	0-6"
P 51	256	2.5-3'
P 53	17	4-4.5'
P 54	90.1	0-0.5'
P 54	162	0.5-1'
P 55	168	0-4"
P 59	351	0-0.5'
P 59	372	1.5-2'
P 59	40.4	4.5-5'
P 61	277	0-0.5'
P 61	17.6	1.5-2'
P 63	395	3-3.5'
P 64	74.7	5.5-6'
P 66	381	0-0.5'
P 66	1,380	1.5-2'
P 68	415	0-0.5'
P 68	31.9	1.5-2'
P 68	6.6	6-6.5'
P 69	508	0.5-1'
P 69	650	1-1.5'
P 73	34.8	3'
P 74	36.4	6-6.5'
P 77	18.9	2-2.5'
P 80	29.8	0-0.5'
P 82	55.6	0-0.5'
P 82	16.6	1.5-2'
P 82	12.7	5.5-6'
P 85	2040	0-0.5'
P 85	56.9	1.5-2'
P 85	18.2	3.5-4'
P 92	12500	0-0.5'
P 92	<570	1.5-2'
P 92	1330	6-6.5'
P 94	38	4-4.5'
P 99	301	Storm Drain
P 100	260	Storm Drain
P 101	23.5	3-4'
P 102	319	0-0.5'
P 102	980	1-2'
P 102	38.4	5-6'
P 103	392	0-0.5'
P 103	438	1-2'
P 106	35	0-0.5'
P 106	18.4	1.5-2'
P 108	17.5	1-1.5'

Concentration above background level of 617 mg/kg in exposed soil above 1 foot that could migrate to swale

Concentration above residential & non-residential direct contact standard

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (393) Manganese concentration in 2017 samples: mg/kg
- 617 617 pm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain
- (32.6) (617) Concentration related to background

Residential direct contact standard is 11,000,mg/kg
Non-residential direct contact standard is 5,900 mg/kg
Default impact to ground water level is 65 mg/kg not a concern per NJDEP is not a concern per NJDEP since it is a secondary contaminant
Eological soil screening level is 220 mg/kg

Property of Denice Luzack
368 Washington Place

N

0' 35'
Approximate scale in feet

Note:
1) **Areas approximately greater than 10 feet to the east and west of the swale are areas where soil erosion to the swale will not occur due to ground cover and or topographic gradient.**
2) **Area to north of P 102 is covered with grass and is not an area where soil erosion to the swale will occur.**
3) **Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening levels are not applicable at those properties.**
4) **Highest background concentration of manganese was 617 mg/kg which is higher than ecological soil screening level of 220 mg/kg.**

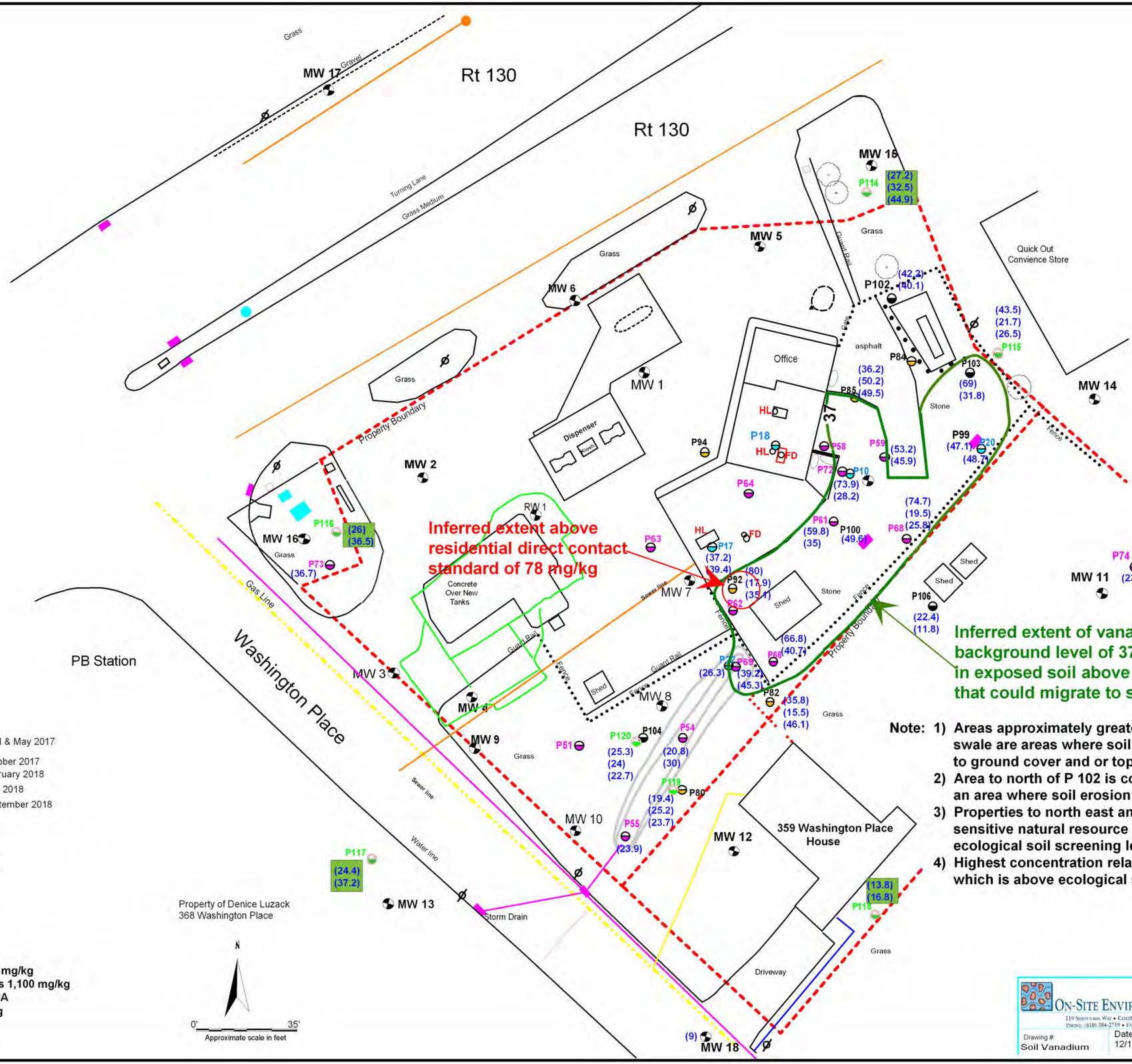
ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Manganese
Date 12/1/18

Figure 30 Manganese in Soil Above Residential & Non-Residential Direct Contact Standard,and Background ESC Level of 617 mg/kg Which Can Migrate to Swale

SOIL SAMPLES

Sample ID	Vanadium (mg/kg)	Depth (ft)
P 114	27.2	0-0.5'
P 114	32.5	0.5-1'
P 114	44.9	6-6.5'
P 115	43.5	0-0.5'
P 115	21.7	0.5-1'
P 115	26.5	6-6.5'
P 116	26	0-0.5'
P 116	36.5	0.5-1'
P 117	24.4	0-0.5'
P 117	37.2	0.5-1'
P 118	13.8	0-0.5'
P 118	16.8	0.5-1'
P 119	19.4	0-0.5'
P 119	25.2	0.5-1'
P 119	23.7	1.5-2'
P 120	25.3	0-0.5'
P 120	24	0.5-1'
P 120	22.7	1.5-2'
MW 18	9	5-5.5'



Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (40.7) Vanadium concentration: mg/kg
- 36.7 2 ppm contour line
- (24.4) (37.2) Concentration related to background
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 78 mg/kg
Non-residential direct contact standard is 1,100 mg/kg
Default impact to ground water level is NA
Ecological soil screening level is 2 mg/kg

SOIL SAMPLES

Sample ID	Vanadium (mg/kg)	Depth (ft)
P 10	73.9	0-1'
P 10	28.2	3'
P 17	37.2	4'
P 17	39.4	9'
P 20	48.7	5'
P 22	26.3	0-6"
P 54	20.8	0-0.5'
P 54	30	0.5-1'
P 55	23.9	0-4"
P 59	53.2	0-0.5'
P 59	45.9	1.5-2'
P 61	59.8	0-0.5'
P 61	35	1.5-2'
P 66	66.8	0-0.5'
P 66	40.7	1.5-2'
P 68	74.7	0-0.5'
P 68	19.5	1.5-2'
P 68	25.8	6-6.5'
P 69	39.2	0.5-1'
P 69	45.3	1-1.5'
P 73	36.7	3'
P 74	23.5	6-6.5'
P 82	35.8	0-0.5'
P 82	15.5	1.5-2'
P 82	46.1	5.5-6'
P 85	36.2	0-0.5'
P 85	50.2	1.5-2'
P 85	49.5	3.5-4'
P 92	80	0-0.5'
P 92	17.9	1.5-2'
P 92	35.1	6-6.5'
P 99	47.1	Storm Drain
P 100	49.6	Storm Drain
P 102	42.2	0-0.5'
P 102	40.1	1-2'
P 103	69	0-0.5'
P 103	31.8	1-2'
P 106	22.4	0-0.5'
P 106	11.8	1.5-2'

Inferred extent of vanadium above background level of 37.2 mg/kg in exposed soil above 1 foot that could migrate to swale

Note:
1) **Areas approximately greater than 10 feet to the east and west of the swale are areas where soil erosion to the swale will not occur due to ground cover and or topographic gradient.**
2) **Area to north of P 102 is covered with grass and is not an area where soil erosion to the swale will occur.**
3) **Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening levels are not applicable at those properties.**
4) **Highest concentration related to background was 37.2 mg/kg in P 117 which is above ecological soil screening level of 2 mg/kg**

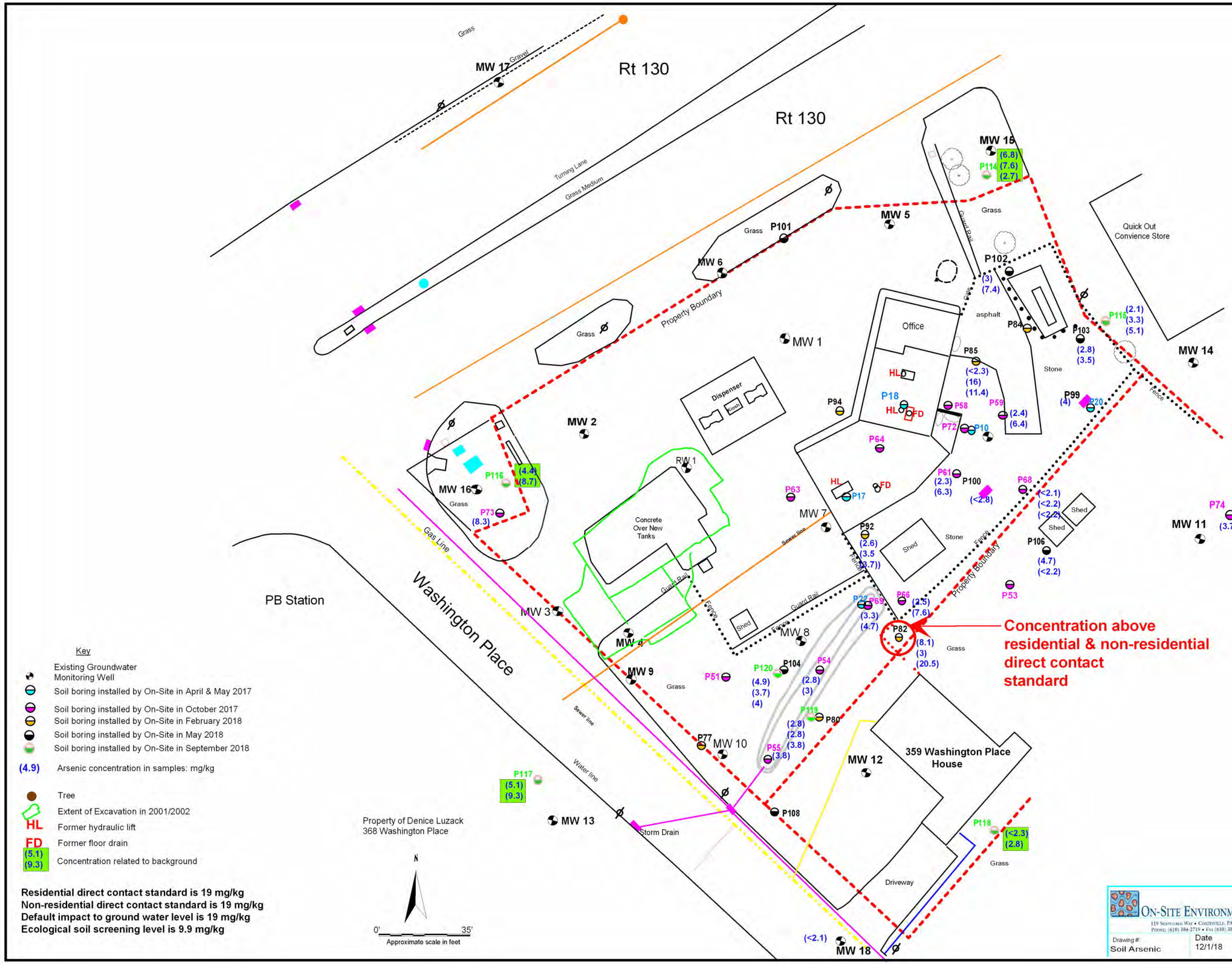
On-Site Environmental
119 Sheffield Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # Soil Vanadium

Date 12/1/18

Figure 31 Vanadium Above Residential Direct Contact& Concentrations in Background Samples that were Higher than the ESC That Can Migrate to Swale

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902



SOIL SAMPLES

Sample ID	Arsenic (mg/kg)	Depth (ft)
P 54	2.8	0-.5'
P 54	3	0.5-1'
P 55	3.8	0-4 inch
P 59	2.4	0-0.5'
P 59	6.4	1.5-2'
P 61	2.3	0-0.5'
P 61	6.3	1.5-2'
P 66	2.5	0-0.5'
P 66	7.6	1.5-2'
P 68	<2.1	0-0.5'
P 68	<2.2	1.5-2'
P 68	<2.2	6-6.5'
P 69	3.3	0.5-1'
P 69	4.7	1-1.5'
P 73	8.3	3'
P 74	3.7	6-6.5'
P 82	8.1	0-0.5'
P 82	3	1.5-2'
P 82	20.5	5.5-6'
P 85	<2.3	0-0.5'
P 85	16	1.5-2'
P 85	11.4	3.5-4'
P 92	2.6	0-0.5'
P 92	3.5	1.5-2'
P 92	3.7	6-6.5'
P 99	4	storm drain
P 100	<2.8	storm drain
P 102	3	0-0.5'
P 102	7.4	1-2'
P 103	2.8	0-0.5'
P 103	3.5	1-2'
P 106	4.7	0-0.5'
P 106	<2.2	1.5-2'
P 114	6.8	0-0.5'
P 114	7.6	0.5-1'
P 114	2.7	6-6.5'
P 115	2.1	0-0.5'
P 115	3.3	0.5-1'
P 115	5.1	6-6.5'
P 116	4.4	0-0.5'
P 116	8.7	0.5-1'
P 117	5.1	0-0.5'
P 117	9.3	0.5-1'
P 118	<2.3	0-0.5'
P 118	2.8	0.5-1'
P 119	2.8	0-0.5'
P 119	2.8	0.5-1'
P 119	3.8	1.5-2'
P 120	4.9	0-0.5'
P 120	3.7	0.5-1'
P 120	4	1.5-2'
MW 18	<2.1	5-5.5'

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Arsenic

Date 12/1/18

Figure 32 Arsenic in Soil
Above Resiential & Non-Residential
Direct Contact standard

October 2017
UNSATURATED SOIL SAMPLES

Sample ID	Benzene (mg/kg)	Depth (ft)
P 47	<0.00011	6-6.5'
P 48	0.0027	1-1.5'
P 49	<0.000085	4.5-5'
P 50	<0.000092	4-4.5'
P 52	<0.016	0-0.5'
P 53	<0.000069	4-4.5'
P 54	<0.00024	0-0.5'
P 54	<0.00024	0.5-1'
P 55	<0.00017	0-4"
P 56	<0.000092	3-3.5'
P 57	<0.00011	3.5-4'
P 60	<0.00014	0-0.5'
P 60	0.0427	1.5-2'
P 64	0.146	6-6.5'
P 70	33.8	3.5-4'

February 2018
UNSATURATED SOIL SAMPLES

Sample ID	Benzene (mg/kg)	Depth (ft)
P 77	<0.00011	2-2.5'
P 78	<0.00011	2.5'
P 99 Storm drain	<0.00010	
P 100 Storm drain	< 0.00012	

April & May 2017
UNSATURATED SOIL SAMPLES

Sample ID	Benzene (mg/kg)	Depth (ft)
P 8	0.00045	6'
P 10	0.00023 J	0-1'
P 10	0.0433	3'
P 17	2.710	4'
P 18	<0.013	4-4.5'
P 19	<0.00012	5'
P 20	<0.00012	5'
P 22	<0.00047	0-6"
P 28	<0.00012	3.5'
P 31	<0.00011	6.5'
P 32	<0.000095	4.5'
P 33	<0.00014	4.5'
P 35	0.0998	5.5-6'
P 36	0.0018	6'
P 37	0.0155	3'
P 38	0.119	3'
P 40	0.0011	6'
P 41	0.016	5'
P 42	<0.00012	6'
P 43	6.160	1'
P 43	1.180	2'
P 44	6.260	3'
P 45	<0.00011	5.5-6'
P 46	0.0016	6-6.5'

2001 - 2009
UNSATURATED SOIL SAMPLES

Sample ID	Benzene (mg/kg)	Depth (ft)
Test Pit 1	1.2	2'
Test Pit 2	<0.32	2'
Test Pit 4	<0.6	2.5' excavated to 3 ft
TB3	0.62	3-4'
TB5	0.35	2-2.5' excavated to 3 ft
TB7	1.5	4-5'
TB8	0.32	3-4' excavated to 3 ft
Pea Gravel	<0.13	3'
North Wall	6.6	4.5'
West Wall	14	4'
NW Corner	2	5' excavated
South Dispenser	0.46	3'
D1	12	2.5 - 3.5'
D 2	8.2	2.5 - 4
D 3	3.8	3.5 - 4.5'
D4	0.53J	3.5 - 4.5'
G1	0.24	2 excavted to 2 ft
G3	<0.14	3.5' excavated to 3 ft
N2-V	ND	5.5-6'
N3	<0.69	4 - 5.5'
N 5	2.6	4 - 5'
N10-S	ND	4.5-5'
N 15	2.3	2 - 3'
N 16	5.2	4 - 7'
N 13-1	30.9	3.5 - 4'
N13-2	ND	5-5.5'
F17	0.13	4-5'
F20	10	5-6'
F 24	2.3	3 - 4'

Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ — Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- Soil Boring Installed by On-Site in april & May 2017
- Soil Boring Installed by On-Site in October 2017
- Soil Boring Installed by On-Site in February 2018
- Soil Boring Installed by On-Site in May 2018
- (8.2) Benzene concentration in 2017 & 2018 unsaturated samples: mg/kg
- (2.3) Benzene concentration in 2001/2009 unsaturated samples: mg/kg
- 0.005 — 0.005 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL — Former hydraulic lift
- FD — Former floor drain

Note: 1) Sample depths at TB 5, TB8, Test pit 4, and NW Corner were removed by excavations in 2001/2002.
2) Concentrations shown are the highest value reported in a boring in unsaturated zone.
3) Pea gravel sample collectd between D 1 and D 2.
4) Benzene default impact to ground water soil screening level is 0.005 mg/kg.
5) Ecological soil screening level is 0.255 mg/kg & applies to soil from 0 to 1 ft and exposed.

Inferred extent of benzene above default impact to groundwater soil screening level of 0.005 mg/kg

Inferred extent of benzene above ecological soil screening level of 0.255 mg/kg in exposed soil from 0 to 1 foot

ON-SITE ENVIRONMENTAL
119 Shipwright Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # File:Soilben3unsat

Date 12/5/18

Figure 33 Benzene in Soil Above Default Impact to Groundwater & Ecological Soil Screening Levels

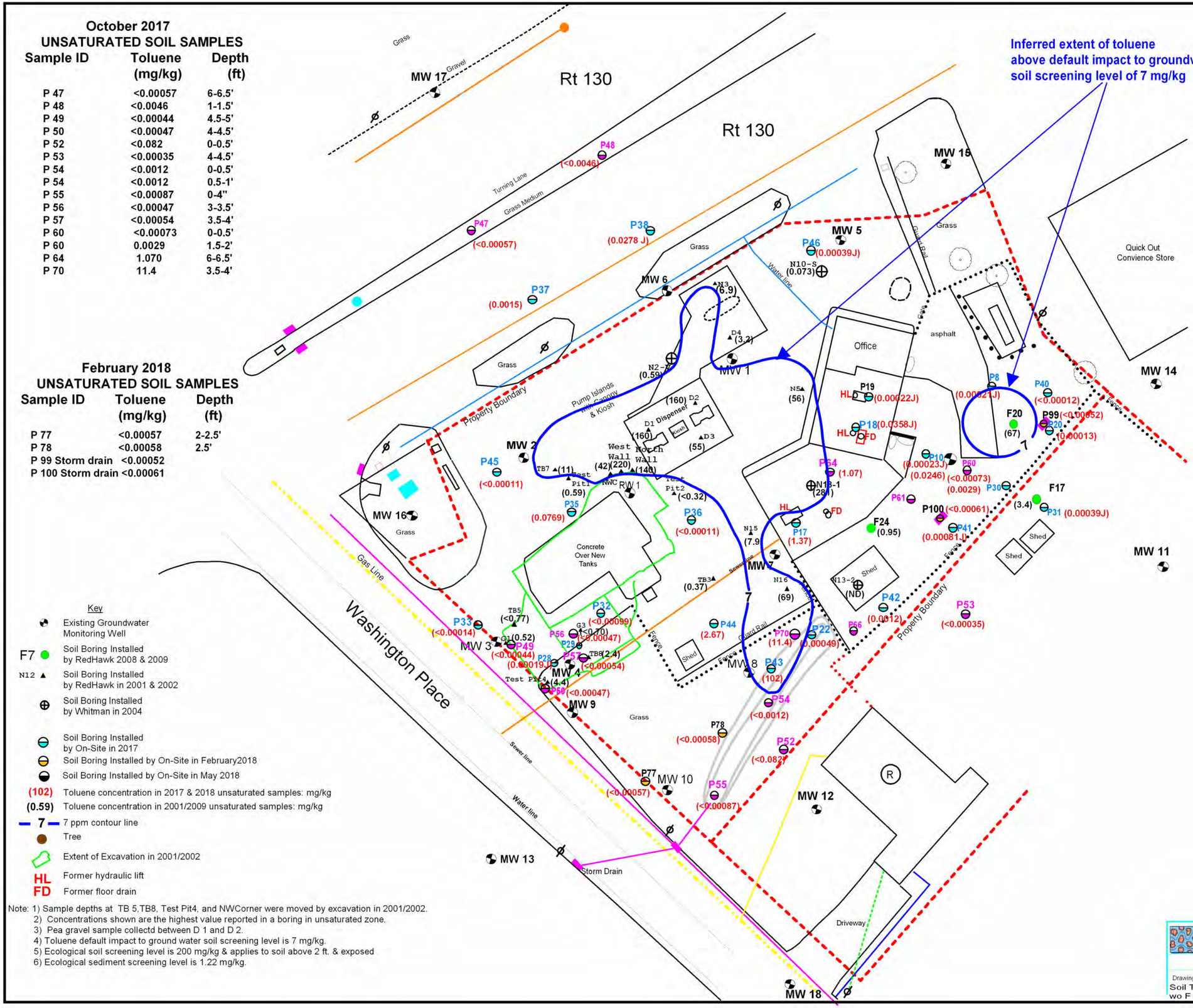
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

October 2017
UNSATURATED SOIL SAMPLES

Sample ID	Toluene (mg/kg)	Depth (ft)
P 47	<0.00057	6-6.5'
P 48	<0.0046	1-1.5'
P 49	<0.00044	4.5-5'
P 50	<0.00047	4-4.5'
P 52	<0.082	0-0.5'
P 53	<0.00035	4-4.5'
P 54	<0.0012	0-0.5'
P 54	<0.0012	0.5-1'
P 55	<0.00087	0-4"
P 56	<0.00047	3-3.5'
P 57	<0.00054	3.5-4'
P 60	<0.00073	0-0.5'
P 60	0.0029	1.5-2'
P 64	1.070	6-6.5'
P 70	11.4	3.5-4'

February 2018
UNSATURATED SOIL SAMPLES

Sample ID	Toluene (mg/kg)	Depth (ft)
P 77	<0.00057	2-2.5'
P 78	<0.00058	2.5'
P 99 Storm drain	<0.00052	
P 100 Storm drain	<0.00061	



Key

- Existing Groundwater Monitoring Well
- F7 ● Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ Soil Boring Installed by RedHawk in 2001 & 2002
- ⊕ Soil Boring Installed by Whitman in 2004
- Soil Boring Installed by On-Site in 2017
- Soil Boring Installed by On-Site in February2018
- Soil Boring Installed by On-Site in May 2018
- (102) Toluene concentration in 2017 & 2018 unsaturated samples: mg/kg
- (0.59) Toluene concentration in 2001/2009 unsaturated samples: mg/kg
- 7 7 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Note: 1) Sample depths at TB 5,TB8, Test Pit4, and NWCorner were moved by excavation in 2001/2002.
2) Concentrations shown are the highest value reported in a boring in unsaturated zone.
3) Pea gravel sample collectd between D 1 and D 2.
4) Toluene default impact to ground water soil screening level is 7 mg/kg.
5) Ecological soil screening level is 200 mg/kg & applies to soil above 2 ft. & exposed
6) Ecological sediment screening level is 1.22 mg/kg.

2017
UNSATURATED SOIL SAMPLES

Sample ID	Toluene (mg/kg)	Depth (ft)
P 8	0.00021 J	6'
P 10	0.00023 J	0-1'
P 10	0.0246	3'
P 17	1.370	4'
P 18	0.0358 J	4-4.5'
P 19	0.00022 J	5'
P 20	<0.00013	5'
P 22	<0.00049	0-6"
P 28	0.00019 J	3.5'
P 31	0.00039 J	6.5'
P 32	<0.00099	4.5'
P 33	<0.00014	4.5'
P 35	0.0769	5.5-6'
P 36	0.00011	6'
P 37	0.0015	3'
P 38	0.0278 J	3'
P 40	<0.00012	6'
P 41	0.00081 J	5'
P 42	0.0012	6'
P 43	102	1'
P 43	0.361	2'
P 44	2.670	3'
P 45	<0.00011	5.5-6'
P 46	0.00039 J	6-6.5'

2001 - 2009
UNSATURATED SOIL SAMPLES

Sample ID	Toluene (mg/kg)	Depth (ft)
Test Pit 1	0.59	2'
Test Pit 2	<0.32	2'
Test Pit 4	4.4	2.5' excavated to 3'
TB3	0.37	3-4'
TB5	<0.77	2-2.5' excavated to 3'
TB7	11	4-5'
TB8	2.4	3-4'excavated to 3'
Pea Gravel	<0.66	3'
North Wall	140	4.5'
West Wall	220	4'
NW Corner	42	5' excavated
South Dispenser	<0.66	3'
D1	160	2.5 - 3.5'
D 2	160	2.5 - 4
D 3	55	3.5 - 4.5'
D4	3.2	3.5 - 4.5'
G1	0.52	2 excavated to 2'
G3	<0.70	3.5' excavated to 3'
N2-V	0.59	5.5-6'
N3	6.9	4 - 5.5'
N 5	56	4 - 5'
N10-S	0.073	4.5-5'
N 15	7.9	2 - 3'
N 16	69	4 - 7'
N 13-1	281	3.5 - 4'
N13-2	ND	5-5.5'
F17	3.4	4-5'
F20	67	5-6'
F 24	0.95	3 - 4'

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Toluene2unsat wo F samples
Date 12/5/18

Figure 34 Toluene in Soil Above Default Impact to Groundwater Soil Screening Level

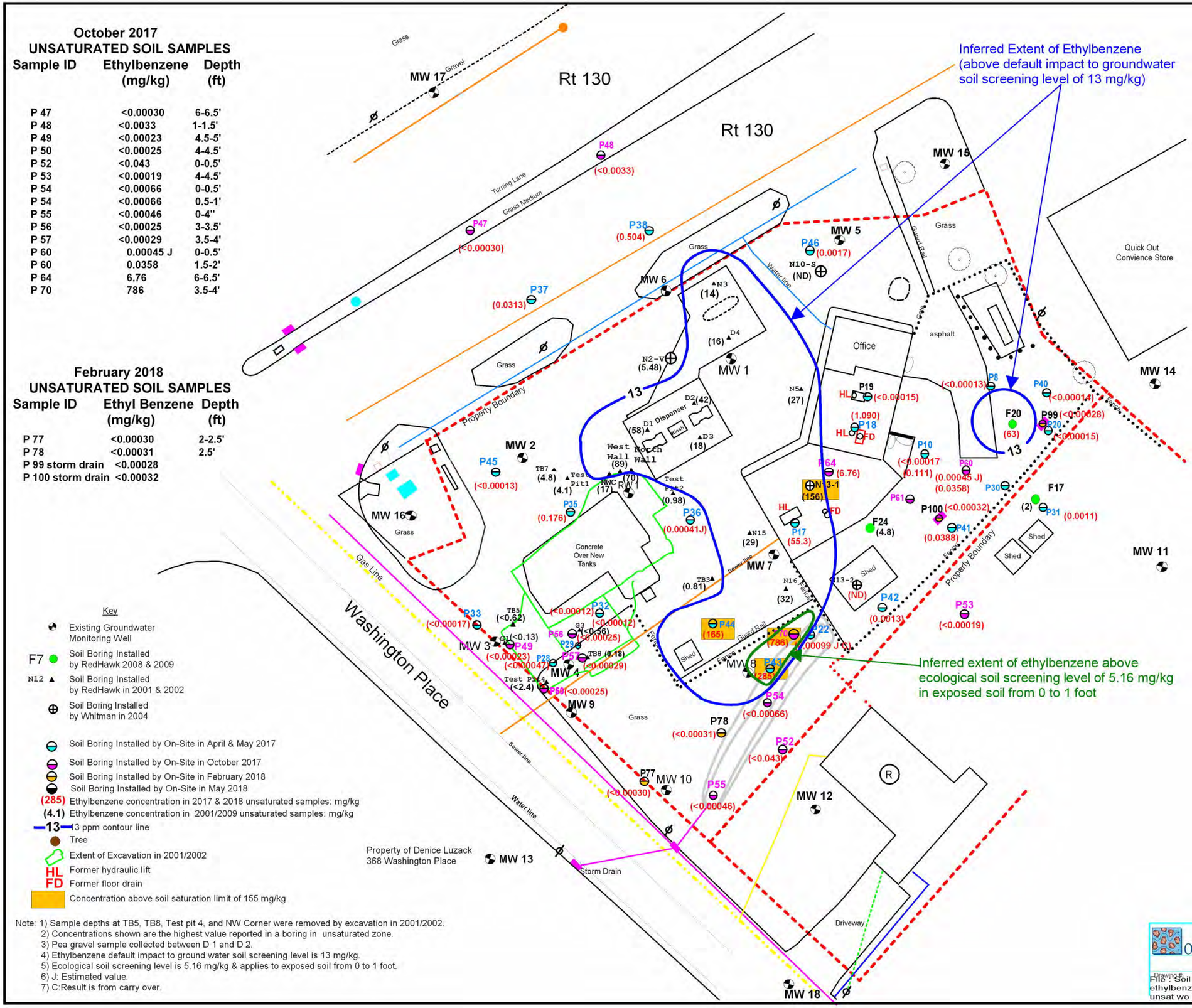
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

October 2017
UNSATURATED SOIL SAMPLES

Sample ID	Ethylbenzene (mg/kg)	Depth (ft)
P 47	<0.00030	6-6.5'
P 48	<0.0033	1-1.5'
P 49	<0.00023	4.5-5'
P 50	<0.00025	4-4.5'
P 52	<0.043	0-0.5'
P 53	<0.00019	4-4.5'
P 54	<0.00066	0-0.5'
P 54	<0.00066	0.5-1'
P 55	<0.00046	0-4"
P 56	<0.00025	3-3.5'
P 57	<0.00029	3.5-4'
P 60	0.00045 J	0-0.5'
P 60	0.0358	1.5-2'
P 64	6.76	6-6.5'
P 70	786	3.5-4'

February 2018
UNSATURATED SOIL SAMPLES

Sample ID	Ethyl Benzene (mg/kg)	Depth (ft)
P 77	<0.00030	2-2.5'
P 78	<0.00031	2.5'
P 99 storm drain	<0.00028	
P 100 storm drain	<0.00032	



Key

- Existing Groundwater Monitoring Well
- F7 Soil Boring Installed by RedHawk 2008 & 2009
- N12 Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- Soil Boring Installed by On-Site in April & May 2017
- Soil Boring Installed by On-Site in October 2017
- Soil Boring Installed by On-Site in February 2018
- Soil Boring Installed by On-Site in May 2018
- (285) Ethylbenzene concentration in 2017 & 2018 unsaturated samples: mg/kg
- (4.1) Ethylbenzene concentration in 2001/2009 unsaturated samples: mg/kg
- 13 13 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain
- Concentration above soil saturation limit of 155 mg/kg

Note: 1) Sample depths at TB5, TB8, Test pit 4, and NW Corner were removed by excavation in 2001/2002.
2) Concentrations shown are the highest value reported in a boring in unsaturated zone.
3) Pea gravel sample collected between D 1 and D 2.
4) Ethylbenzene default impact to ground water soil screening level is 13 mg/kg.
5) Ecological soil screening level is 5.16 mg/kg & applies to exposed soil from 0 to 1 foot.
6) J: Estimated value.
7) C:Result is from carry over.

2017
UNSATURATED SOIL SAMPLES

Sample ID	Ethylbenzene (mg/kg)	Depth (ft)
P 8	<0.00013	6'
P 10	<0.00017	0-1'
P 10	0.111	3'
P 17	55.3	4'
P 18	1.090	4-4.5'
P 19	<0.00015	5'
P 20	<0.00015	5'
P 22	0.00099 C	0-6"
P 28	<0.00047	3.5'
P 31	0.0011	6.5'
P 32	<0.00012	4.5'
P 33	<0.00017	4.5'
P 35	0.176	5.5-6'
P 36	0.00041 J	6'
P 37	0.0313	3'
P 38	0.504	3'
P 40	<0.00014	6'
P 41	0.0388	5'
P 42	0.0013	6'
P 43	285	1'
P 43	8	2'
P 44	165	3'
P 45	<0.00013	5.5-6'
P 46	0.0017	6-6.5'

2001 - 2009
UNSATURATED SOIL SAMPLES

Sample ID	Ethylbenzene (mg/kg)	Depth (ft)
Test Pit 1	4.1	2'
Test Pit 2	9.8	2'
Test Pit 4	<2.4	2.5' excavated to 3'
TB3	0.81	3-4'
TB5	<0.62	2-2.5' excavated to 3'
TB7	4.8	4-5'
TB8	0.18	3-4' excavated to 3'
Pea Gravel	<0.52	3'
North Wall	70	4.5'
West Wall	89	4'
NW Corner	17	5' excavated
South Dispenser	4.2	3'
D1	58	2.5 - 3.5'
D 2	42	2.5 - 4
D 3	18	3.5 - 4.5'
D4	16	3.5 - 4.5'
G1	<0.13	2 excavated to 2'
G3	<0.56	3.5' excavated to 3'
N2-V	5.48	5.5-6'
N3	15	4 - 5.5'
N 5	27	4 - 5'
N10-S	ND	4.5-5'
N 15	29	2 - 3'
N 16	32	4 - 7'
N 13-1	156	3.5 - 4'
N13-2	ND	5-5.5'
F17	2	4-5'
F20	63	5-6'
F 24	4.8	3 - 4'

On-Site Environmental
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: File: Soil ethylbenzene2 unsat wo F samples
Date: 12/5/18

Figure 35 Ethylbenzene in Soil Above Default Impact to Groundwater & Ecological Soil Screening Levels & Soil Saturation Limit
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

October 2017
UNSATURATED SOIL SAMPLES

Sample ID	Xylenes (mg/kg)	Depth (ft)
P 47	<0.00026	6-6.5'
P 48	0.0145	1-1.5'
P 49	<0.00020	4.5-5'
P 50	<0.00022	4-4.5'
P 52	<0.038	0-0.5'
P 53	<0.00016	4-4.5'
P 54	<0.00057	0-0.5'
P 54	<0.00057	0.5-1'
P 55	<0.00040	0-4"
P 56	<0.00022	3-3.5'
P 57	<0.00025	3.5-4'
P 60	0.0011 J	0-0.5'
P 60	0.157	1.5-2'
P 64	38	6-6.5'
P 70	3,140	3.5-4'

February 2018
UNSATURATED SOIL SAMPLES

Sample ID	Xylenes (mg/kg)	Depth (ft)
P 77	<0.00026	2-2.5'
P 78	<0.00027	2.5'
P 99 Storm drain	<0.00024	
P 100 Storm drain	< 0.00028	

Inferred extent of xylene above default impact to groundwater soil screening level of 19 mg/kg

Inferred extent of xylenes above ecological soil screening level of 10 mg/kg in exposed soil from 0 to 1 foot

Key

- Existing Groundwater Monitoring Well
- F7 Soil Boring Installed by RedHawk 2008 & 2009
- N12 Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- Soil Boring Installed by On-Site in 2017
- Soil Boring Installed by On-Site in February 2018
- Soil Boring Installed by On-Site in May 2018
- (2,790) Xylene concentration in 2017 & 2018 unsaturated samples: mg/kg
- (32) Xylene concentration in 2001/2009 unsaturated samples: mg/kg
- 19 19 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain
- Concentration above soil saturation limit of 168 mg/kg

Note: 1) Sample depths at TB5, TB8, Test pit4, and NW Corner were removed by excavation in 2001/2002.
2) Concentrations shown are the highest value reported in a boring in unsaturated zone.
3) Pea gravel sample collected between D 1 and D 2.
4) Xylene default impact to ground water soil screening level is 19 mg/kg.
5) Xylene ecological soil screening level is 10 mg/kg for exposed soil from 0 to 1 foot.
6) J: Estimated value

Property of Denice Luzack
368 Washington Place

2017
UNSATURATED SOIL SAMPLES

Sample ID	Xylenes (mg/kg)	Depth (ft)
P 8	0.0032	6'
P 10	0.0015	0-1'
P 10	0.415	3'
P 17	316	4'
P 18	3.170	4-4.5'
P 19	0.00049 J	5'
P 20	<0.0020	5'
P 22	0.0033 J	0-6"
P 28	<0.00020	3.5'
P 31	0.0453	6.5'
P 32	<0.00016	4.5'
P 33	0.00033 J	4.5'
P 35	1.260	5.5-6'
P 36	0.00071 J	6'
P 37	0.0148	3'
P 38	0.213	3'
P 40	0.00050 J	6'
P 41	0.0231	5'
P 42	0.0072	6'
P 43	2,790	1'
P 43	42.8	2'
P 44	948	3'
P 45	0.00021 J	5.5-6'
P 46	0.022	6-6.5'

2001 - 2009
UNSATURATED SOIL SAMPLES

Sample ID	Xylenes (mg/kg)	Depth (ft)
Test Pit 1	11.37	2'
Test Pit 2	18	2'
Test Pit 4	22	2.5' excavated to 3'
TB3	1.8	3-4'
TB5	0.15	2-2.5' excavated to 3'
TB7	32	4-5'
TB8	3.7	3-4' excavated to 3'
Pea Gravel	<0.66	3'
North Wall	480	4.5'
West Wall	590	4'
NW Corner	110	5' excavated
South Dispenser	0.97	3'
D1	380	2.5 - 3.5'
D 2	290	2.5 - 4
D 3	130	3.5 - 4.5'
D4	96	3.5 - 4.5'
G1	0.53	2 excavated to 2'
G3	<0.70	3.5' excavated to 3'
N2-V	35.3	5.5-6'
N3	69	4 - 5.5'
N 5	195	4 - 5'
N10-S	ND	4.5-5'
N 15	235	2 - 3'
N 16	193	4 - 7'
N 13-1	1,100	3.5 - 4'
N13-2	ND	5-5.5'
F17	16	4-5'
F20	430	5-6'
F 24	17.3	3 - 4'

ON-SITE ENVIRONMENTAL
119 Shoppers Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soilxyleneunsat3 wo F samples
Date 12/5/18

Figure 36 Xylenes in Soil Above Default Impact to Groundwater & Ecological Soil Screening Levels & Soil Saturation Limit
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

October 2017
UNSATURATED SOIL SAMPLES

Sample ID	MTBE (mg/kg)	Depth (ft)
P 47	<0.00044	6-6.5'
P 48	<0.00041	1-1.5'
P 49	0.00066 J	4.5-5'
P 50	<0.00037	4-4.5'
P 52	<0.064	0-0.5'
P 53	<0.00028	4-4.5'
P 54	<0.00097	0-0.5'
P 54	<0.00097	0.5-1'
P 55	<0.00068	0-4"
P 56	<0.00037	3-3.5'
P 57	<0.00042	3.5-4'
P 60	<0.00057	0-0.5'
P 60	0.00047	1.5-2'
P 64	<0.044	6-6.5'
P 70	<33	3.5-4'

February 2018
UNSATURATED SOIL SAMPLES

Sample ID	MTBE (mg/kg)	Depth (ft)
P 77	<0.00044	2-2.5'
P 78	<0.00045	2.5'
P 99 Storm drain	<0.00041	
P 100 Storm drain	<0.00048	

2017
UNSATURATED SOIL SAMPLES

Sample ID	MTBE (mg/kg)	Depth (ft)
P 8	<0.00024	6'
P 10	<0.00030	0-1'
P 10	0.0025	3'
P 17	<0.028	4'
P 18	<0.028	4-4.5'
P 19	<0.00026	5'
P 20	<0.00027	5'
P 22	<0.0010	0-6"
P 28	<0.00026	3.5'
P 31	<0.00023	6.5'
P 32	<0.00021	4.5'
P 33	0.00080 J	4.5'
P 35	0.0401	5.5-6'
P 36	0.0020	6'
P 37	0.0026	3'
P 38	<0.027	3'
P 40	<0.00025	6'
P 41	<0.00023	5'
P 42	<0.00027	6'
P 43	<0.032	1'
P 43	<0.019	2'
P 44	<0.033	3'
P 45	0.00023	5.5-6'
P 46	0.00090 J	6-6.5'

2001 - 2009
UNSATURATED SOIL SAMPLES

Sample ID	MTBE (mg/kg)	Depth (ft)
Test Pit 1	<0.31	2'
Test Pit 2	<0.32	2'
Test Pit 4	80	2.5' excavated to 3 ft
TB3	<0.83	3-4'
TB5	0.88	2-2.5' excavated to 3 ft
TB7	<0.71	4-5'
TB8	24	3-4' excavated to 3ft
Pea Gravel	<0.66	3'
North Wall	0.95	4.5'
West Wall	3.7	4'
NW Corner	5.5	5' excavated
MW 4	0.46	2-4' excavated
D1	<7.1	2.5 - 3.5'
D 2	0.76	2.5 - 4
D 3	7.3	3.5 - 4.5'
D4	0.43	3.5 - 4.5'
G1	1.9	2 excavated to 2'
G3	3.4	3.5' excavated to 3'
N2-V	ND	5.5-6'
N3	<0.69	4 - 5.5'
N 5	<1.4	4 - 5'
N10-S	ND	4.5-5'
N 15	<2.8	2 - 3'
N 16	0.13	4 - 7'
N 13-1	ND	3.5 - 4'
N13-2	ND	5-5.5'
F17	<0.05	4-5'
F20	<0.5	5-6'
F 24	<0.05	3 - 4'

Key

- Existing Groundwater Monitoring Well
- F7 ● Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ Soil Boring Installed by RedHawk in 2001 & 2002
- ⊕ Soil Boring Installed by Whitman in 2004
- Soil Boring Installed by On-Site in April & May 2017
- Soil Boring Installed by On-Site in October 2017
- Soil Boring Installed by On-Site in February 2018
- Soil Boring Installed by On-Site in May 2018
- (<0.032) MTBE concentration in 2017 & 2018 unsaturated samples: mg/kg
- (3.7J) MTBE concentration in 2001/2009 unsaturated samples: mg/kg
- 0.2 0.2 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Note: 1) Sample depths at TB 5, TB8, Test pit 4, MW 4 and NW Corner were removed by excavations in 2001/2002.
2) Concentrations shown are the highest value reported in a boring in unsaturated zone.
3) Pea gravel sample collectd between D 1 and D 2.
4) MTBE default impact to ground water soil screening level is 0.2 mg/kg.
5) No ecological soil screening level.

Inferred extent of MTBE above default impact to groundwater soil screening level of 0.2 mg/kg

Inferred extent of MTBE historically above default impact to groundwater soil screening level of 0.2 mg/kg. No longer above standard based on samples P 49, P 50, P 56 & P 57

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soilmtbeunsat 2wo F samples
Date 12/5/18

Figure 37 MTBE in Soil Above the Default Impact to Groundwater Soil Screening Level

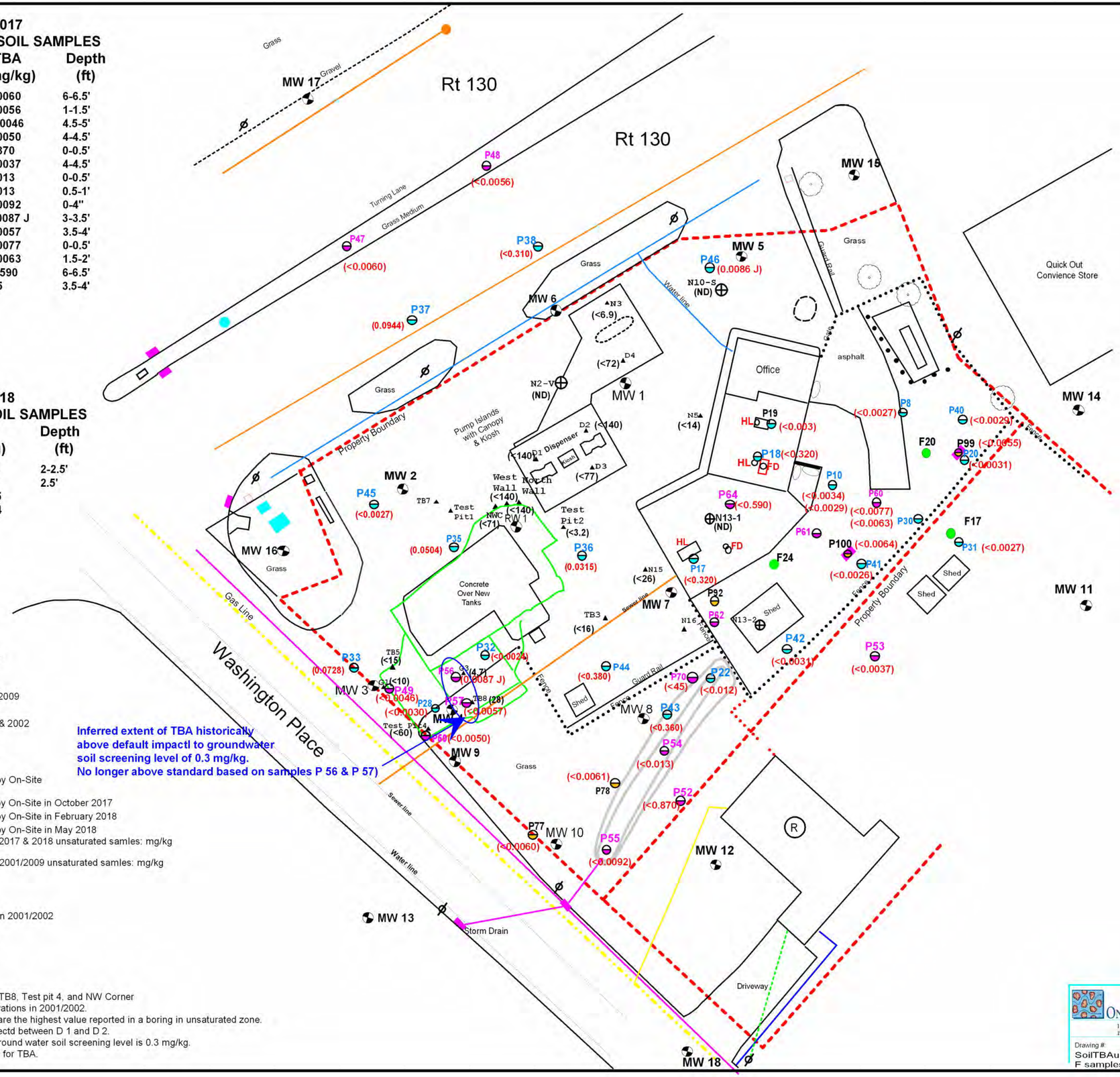
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

October 2017
UNSATURATED SOIL SAMPLES

Sample ID	TBA (mg/kg)	Depth (ft)
P 47	<0.0060	6-6.5'
P 48	<0.0056	1-1.5'
P 49	<0.0046	4.5-5'
P 50	<0.0050	4-4.5'
P 52	<0.870	0-0.5'
P 53	<0.0037	4-4.5'
P 54	<0.013	0-0.5'
P 54	<0.013	0.5-1'
P 55	<0.0092	0-4''
P 56	0.0087 J	3-3.5'
P 57	<0.0057	3.5-4'
P 60	<0.0077	0-0.5'
P 60	<0.0063	1.5-2'
P 64	<0.590	6-6.5'
P 70	<45	3.5-4'

February 2018
UNSATURATED SOIL SAMPLES

Sample ID	TBA (mg/kg)	Depth (ft)
P 77	<0.0060	2-2.5'
P 78	<0.0061	2.5'
P 99 Storm drain	<0.0055	
P 100 Storm drain	<0.0064	



Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ — Soil Boring Installed by RedHawk in 2001 & 2002
- ⊕ — Soil Boring Installed by Whitman in 2004
- Soil Boring Installed by On-Site in April & May 2017
- Soil Boring Installed by On-Site in October 2017
- Soil Boring Installed by On-Site in February 2018
- Soil Boring Installed by On-Site in May 2018
- (<0.360) — TBA concentration in 2017 & 2018 unsaturated samles: mg/kg
- (<14) — TBA concentration in 2001/2009 unsaturated samles: mg/kg
- 0.3 — 0.3 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL — Former hydraulic lift
- FD — Former floor drain

Note: 1) Sample depths at TB 5, TB8, Test pit 4, and NW Corner were removed by excavations in 2001/2002.
2) Concentrations shown are the highest value reported in a boring in unsaturated zone.
3) Pea gravel sample collectd between D 1 and D 2.
4) TBA default impact to ground water soil screening level is 0.3 mg/kg.
5) No ecological standards for TBA.

2017
UNSATURATED SOIL SAMPLES

Sample ID	TBA (mg/kg)	Depth (ft)
P 8	<0.0027	6'
P 10	<0.0034	0-1'
P 10	<0.0029	3'
P 17	<0.320	4'
P 18	<0.320	4-4.5'
P 19	<0.003	5'
P 20	<0.0031	5'
P 22	<0.012	0-6''
P 28	<0.0030	3.5'
P 31	<0.0027	6.5'
P 32	<0.0024	4.5'
P 33	0.0728	4.5'
P 35	0.0504	5.5-6'
P 36	0.0315	6'
P 37	0.0944	3'
P 38	<0.310	3'
P 40	<0.0029	6'
P 41	<0.0026	5'
P 42	<0.0031	6'
P 43	<0.360	1'
P 43	<0.220	2'
P 44	<0.380	3'
P 45	<0.0027	5.5-6'
P 46	0.0086 J	6-6.5'

2001 - 2009
UNSATURATED SOIL SAMPLES

Sample ID	TBA (mg/kg)	Depth (ft)
Test Pit 1	<3.1	2'
Test Pit 2	<3.2	2'
Test Pit 4	<60	2.5' excavated to 3'
TB3	<16	3-4'
TB5	<15	2-2.5' excavated to 3'
TB7	<14	4-5'
TB8	28	3-4' excavated to 3'
Pea Gravel	<13	3'
North Wall	<140	4.5'
West Wall	<140	4'
NW Corner	<71	5' excavated
South Dispenser	NA	3'
D1	<140	2.5 - 3.5'
D 2	<140	2.5 - 4
D 3	<77	3.5 - 4.5'
D4	<72	3.5 - 4.5'
G1	<10	2 excavated to 2'
G3	4.7	3.5' excavated to 3'
N2-V	ND	5.5-6'
N3	<6.9	4 - 5.5'
N 5	<14	4 - 5'
N10-S	ND	4.5-5'
N 15	<26	2 - 3'
N 16	<10	4 - 7'
N 13-1	ND	3.5 - 4'
N13-2	ND	5-5.5'
F17	<3	4-5'
F20	<30	5-6'
F 24	<3	3 - 4'

On-Site Environmental
119 Shippingport Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: SoilTBAunsat wo F samples
Date: 12/5/18

Figure 38 TBA in Soil Above Default Impact to Groundwater Soil Screening Level

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

Rt 130

Rt 130

Grass

Gravel

Turning Lane

Grass Median

MW 17

MW 15

MW 5

Grass

Guard Rail

Quick Out
Convience Store

Grass

P101
(<0.0093)

Water line

MW 6

P3
(<0.039)

Fence

asphalt

Office

MW 1

MW 14

Grass

Property Boundary

Pump Islands
with Canopy
& Kiosk

Dispenser

Kiosk

HL

FD

P99 (<0.0086)

P20
(<0.0089)

Fence

P94
(25.5)

MW 2

P10
(0.112)
(4.040)

P64
(12.3)

RW 1

P30

MW 16

Grass

HL

FD

P100 (0.0555)

P63
(0.371)

P17
(23.300)
(3.570)

Shed

Shed

Shed

Concrete
Over New
Tanks

Sewer line

MW 7

MW 11

Gas Line

Fence

P62
(<0.0085)

Fence

Property Boundary

Washington Place

Guard Rail

P70
(3.58)
(0.0189 J)

P22
(<0.038)

MW 3

MW 4

Shed

Fence

MW 8

Inferred extent of 2-methylnaphthalene
above default impact to groundwater soil screening level
of 8 mg/kg

MW 9

Grass

Sewer line

MW 10

R

MW 12

Water line

MW 13

Storm Drain

Driveway

MW 18

SOIL SAMPLES

Sample ID	2-Methylnaphthalene (mg/kg)	Depth (ft)
P 3	<0.039	4.5-5'
P 10	0.112	0-1'
P 10	4.040	3'
P 17	23.300	4'
P 17	3.570	9'
P 20	<0.0089	5'
P 22	<0.038	0-6"
P 62	<0.0085	5.5-6'
P 63	0.371	3-3.5'
P 64	12.3	1'
P 70	3.58	3.5-4'
P 70	0.0189 J	6.5-7'
P 94	25.5	4-4.5'
P 99 Storm drain	<0.0086	
P 100 Storm drain	0.0555	
P 101	<0.0093	3-4'

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- (23.30) 2-methylnaphthalene concentration: mg/kg
- 8 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Note: 1) 2- methylnaphthalene default impact to ground water soil screening level is 8 mg/kg.
2) Ecological soil screening level is 3.24 mg/kg in exposed soil from 0 to 2 feet.
3) Residential direct contact standard is 230 mg/kg
4) Non-residential direct contact standard is 2,400 mg/kg

ON-SITE ENVIRONMENTAL
119 Shipyard Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil 2-Methylnap
Date 12/5/18

Figure 39 2-Methylnaphthalene in Soil Above Default Impact to Groundwater Soil Screening Level

North Brunswick Gulf
1696 Georges Road Rt 130
North Brunswick, NJ

2017
UNSATURATED SOIL SAMPLES

Sample ID	Naphthalene (mg/kg)	Depth (ft)
P 3	<0.022	4.5-5'
P 8	<0.00090	6'
P 10	0.245	0-1'
P 10	1.740	3'
P 17	23.3	4'
P 18	9.45	4-4.5'
P 19	<0.00099	5'
P 20	<0.001	5'
P 22	0.0203 C	0-6''
P 28	<0.00098	3.5'
p 30	0.0083	6.5-7'
P 31	0.0266	6.5'
P 32	<0.00079	4.5'
P 33	<0.0012	4.5'
P 35	0.104	5.5-6'
P 36	0.0053	6'
P 37	0.0640	3'
P 38	1.050	3'
P 40	<0.00095	6'
P 41	0.0144	5'
P 42	<0.0010	6'
P 43	152	1'
P 43	4.04	2'
P 44	96.7	3'
P 45	<0.00089	5.5-6'
P 46	0.0012 J	6-6.5'

2018
UNSATURATED SOIL SAMPLES

Sample ID	Naphthalene (mg/kg)	Depth (ft)
P 77	<0.0021	2-2.5'
P 78	<0.0021	2.5'
P 79	<0.011	2-2.5'
P 80	<0.024	0-0.5'
P 84	0.0241 J	0-0.5'
P 84	<0.010	0.5-1'
P 85	0.0357 J	0-0.5'
P 85	0.44	1.5-2'
P 99 Storm drain	< 0.011	
P 100 Storm drain	0.124	
P 102	0.0745	0-0.5'
P 102	0.531	1-2'
P 102	<0.011	5-6'
P 103	<0.012	0-0.5'
P 103	<0.011	1-2'
P 103	0.0525	3-4'

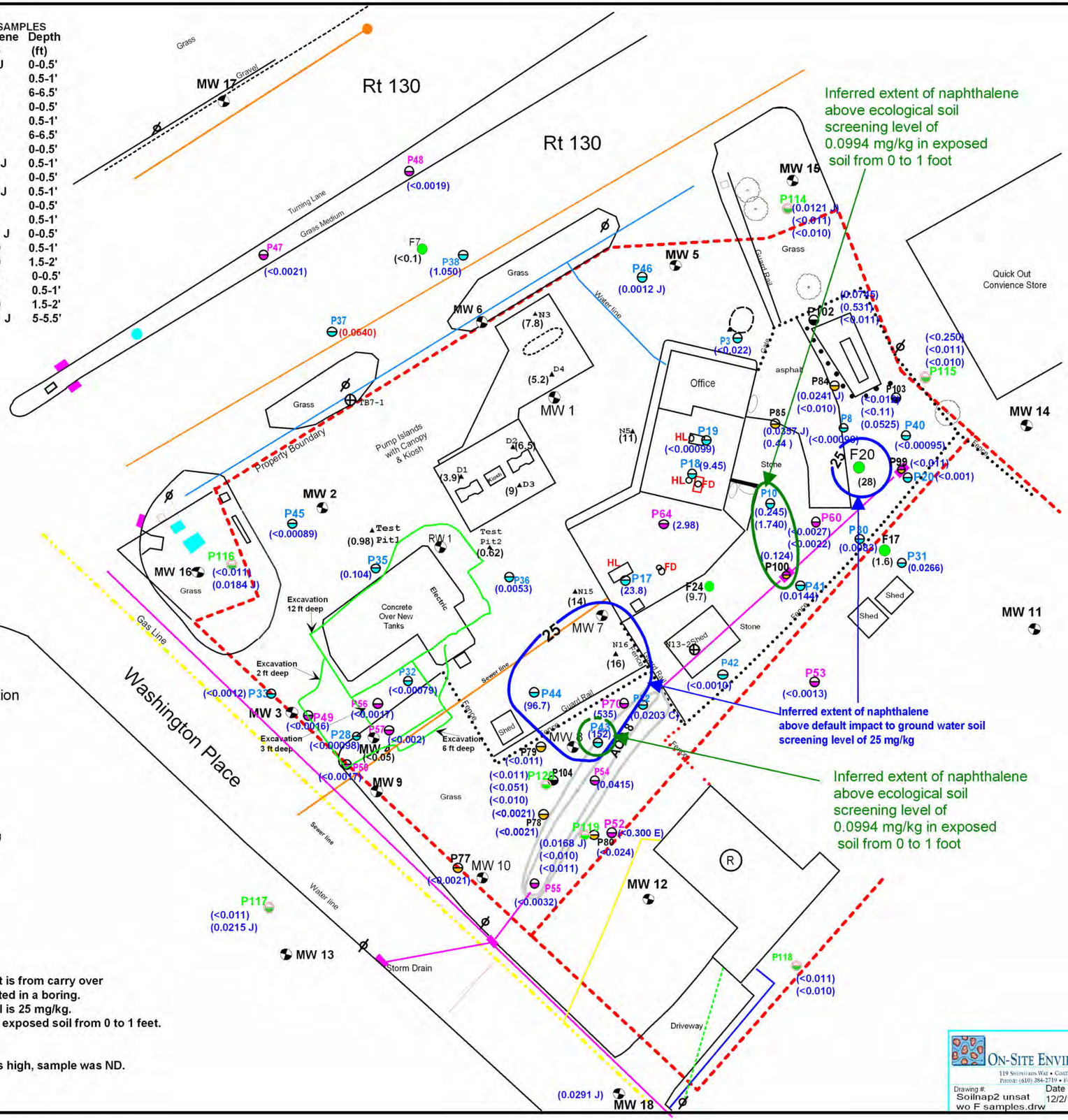
2018
UNSATURATED SOIL SAMPLES

Sample ID	Naphthalene (mg/kg)	Depth (ft)
P 114	0.0121 J	0-0.5'
P 114	<0.011	0.5-1'
P 114	<0.010	6-6.5'
P 115	<0.250	0-0.5'
P 115	<0.011	0.5-1'
P 115	<0.010	6-6.5'
P 116	<0.011	0-0.5'
P 116	0.0184 J	0.5-1'
P 117	<0.011	0-0.5'
P 117	0.0215 J	0.5-1'
P 118	<0.011	0-0.5'
P 118	<0.010	0.5-1'
P 119	0.0168 J	0-0.5'
P 119	<0.010	0.5-1'
P 119	<0.010	1.5-2'
P 120	<0.011	0-0.5'
P 120	<0.051	0.5-1'
P 120	<0.010	1.5-2'
MW 18	0.0291 J	5-5.5'

Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ — Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by On-Site in April & May 2017
- Soil Boring Installed by On-Site in October 2017
- Soil Boring Installed by On-Site in February 2018
- Soil Boring Installed by On-Site in May 2018
- Soil Boring Installed by On-Site in September 2018
- (152) Naphthalene concentration in 2017 & 2018 samples: mg/kg
- (14) Naphthalene concentration in 2001/2009 samples: mg/kg
- 25 — 25 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Note: 1) Data from P 22 not used to develop contour: result is from carry over
2) Concentrations shown are the highest value reported in a boring.
3) Default impact to ground water soil screening level is 25 mg/kg.
4) Ecological soil screening level is 0.0994 mg/kg for exposed soil from 0 to 1 feet.
5) J: Estimated value.
6) C: Result is from carry over.
7) E: Associated CCV and BS outside of control limits high, sample was ND.



2001 - 2009

Sample ID	Naphthalene (mg/kg)	Depth (ft)
Test Pit 1	0.98	2' unsaturated
Test Pit 1	2.6	8'
Test Pit 2	0.62	2' unsaturated
Test Pit 2	29	7'
TB 7	11	10-11'
D 1	3.9	2.5-3.5' unsaturated
D 2	6.5	2.5-4 unsaturated
D 3	9	3.5-4.5 unsaturated
D 4	5.2	3.5-4.5' unsaturated
N 1	10	8-9.5'
N 2	10	8-9'
N 3	7.8	4-5.5' unsaturated
N 4	<0.4	10-12'
N 5	11	4-5' unsaturated
N 6	3.6	8-9'
N 7	20	8-9'
N 8	0.07	8-9.5'
N 9	<0.39	11-12'
N 10	0.62	8-10'
N 11	<0.43	10-12'
N 12	0.96	6-8
N 13	13	9-10'
N 14	13	8-9'
N 15	14	2-3' unsaturated
N 16	16	4-7' unsaturated
MW 1	0.78	8-9'
MW 1	13	8-9'
MW 2	2.8	6-7'
MW 3	<0.05	12-13'
MW 4	<0.05	2-4' unsaturated
MW 4	<0.05	9-10'
MW 4	<0.05	12-13'
MW 4	<0.05	14-15'
MW 4	<0.05	16-18'
F 1	<0.1	9-9.5'
F 2	<0.1	9-9.5'
F 2	<0.1	12-12.5'
F 3	<0.1	8.5-9'
F 4	<0.1	6.5-7'
F 4	<0.1	9-9.5'
F 5	8.3	8-9'
F 5	7.9	11-12'
F 5	2.2	13-14'
F 5	12	15-16'
F 5	<0.1	16-17'
F 5	7.7	18-19'
F 5	<0.2	19-20'
F 7	<0.1	1-2' unsaturated
F 7	<0.1	2-3' unsaturated
F 7	<0.1	6-7'
F 7	<0.1	7.5-8'
F 8	0.51	7-8'
F 8	1.5	8-9'
F 8	<0.25	9-10'
F 9	<0.5	6-7'
F 9	<1	9-10'
F 9	<0.5	13-14'
F 17	1.6	4-5' unsaturated
F 17	0.11	13-14'
F 18	<0.05	10-11'
F 19	<0.05	10-12'
F 20	28	5-6 unsaturated
F 20	2.4	10-11'
F 23	14	9-10'
F 23	<0.05	13-14'
F 24	9.7	3-4'
F 24	0.1	9-10'

October 2017
UNSATURATED SOIL SAMPLES

Sample ID	Naphthalene (mg/kg)	Depth (ft)
P 47	<0.0021	6-6.5'
P 48	<0.0019	1-1.5'
P 49	<0.0016	4.5-5'
P 50	<0.0017	4-4.5'
P 52	<0.300 E	0-0.5'
P 53	<0.0013	4-4.5'
P 54	<0.0046	0-0.5'
P 54	0.0415	0.5-1'
P 55	<0.0032	0-4''
P 56	<0.0017	3-3.5'
P 57	<0.002	3.5-4'
P 60	<0.0027	0-0.5'
P 60	<0.0022	1.5-2'
P 64	2.98	6-6.5'
P 70	535	3.5-4'

ON-SITE ENVIRONMENTAL
119 Shoppers Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soilnap2 unsat wo F samples.drw
Date 12/2/18

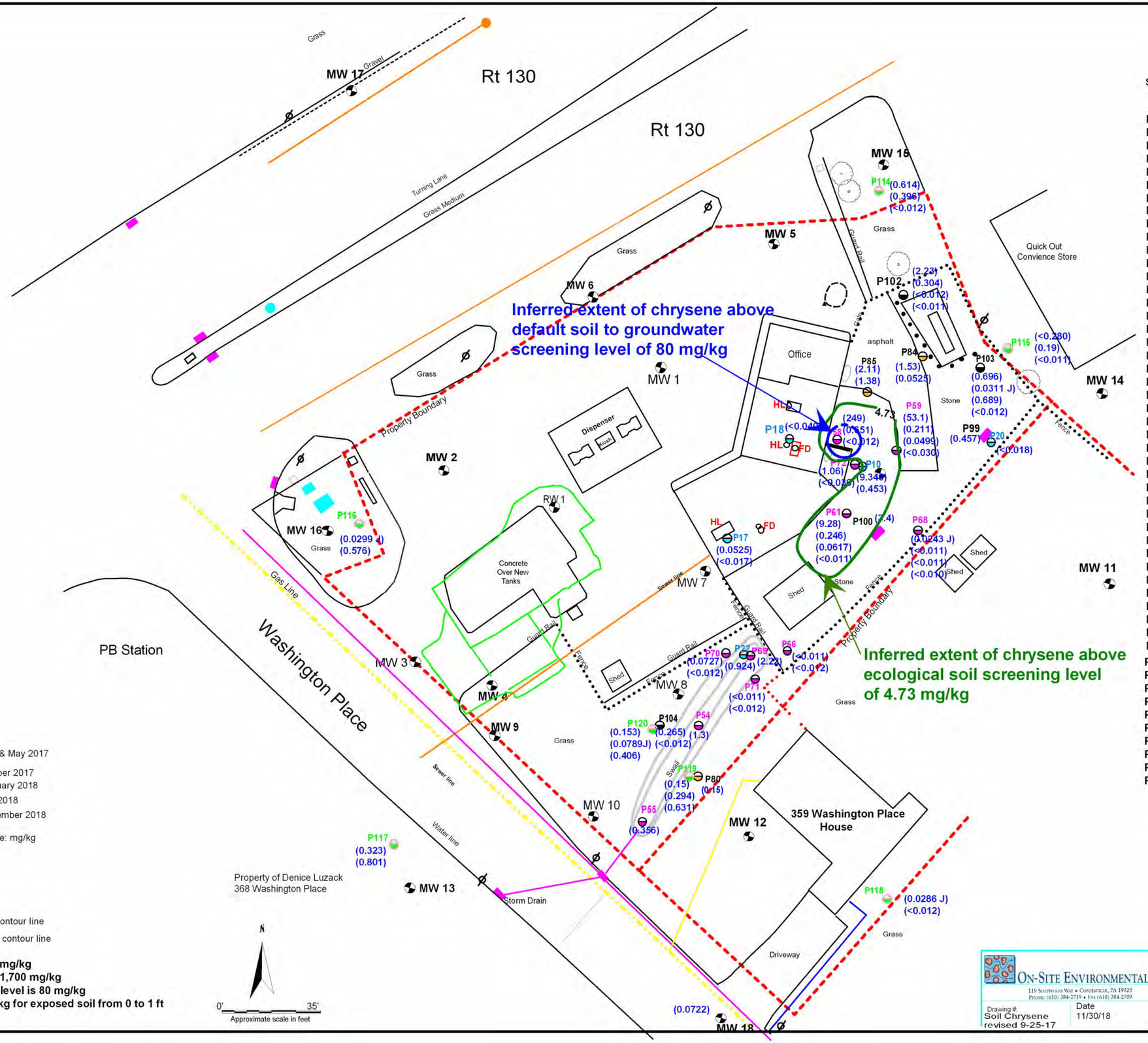
Figure 40 Naphthalene in Soil Above Default Impact to Ground Water & Ecological Soil Screening Levels
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Chrysene (mg/kg)	Depth (ft)
P 114	0.614	0-0.5'
P 114	0.396	0.5-1'
P 114	<0.012	6-6.5'
P 115	<0.280	0-0.5'
P 115	0.19	0.5-1'
P 115	<0.011	6-6.5'
P 116	0.0299 J	0-0.5'
P 116	0.576	0.5-1'
P 117	0.323	0-0.5'
P 117	0.801	0.5-1'
P 118	0.0286 J	0-0.5'
P 118	<0.012	0.5-1'
P 119	0.15	0-0.5'
P 119	0.294	0.5-1'
P 119	0.631	1.5-2'
P 120	0.153	0-0.5'
P 120	0.0789 J	0.5-1'
P 120	0.406	1.5-2'
MW 18	0.0722	5-5.5'

SOIL SAMPLES

Sample ID	Chrysene (mg/kg)	Depth (ft)
P 10	8.130	0-1'
P 10	0.598	3'
P 17	0.0643	4'
P 17	<0.012	9'
P 18	<0.034	4-4.5'
P 20	<0.012	5'
P 22	0.904	0-6"
P 54	1.3	0.5-1'
P 55	0.356	0-4"
P 58	249	0-0.5'
P 58	0.651	1.5-2'
P 58	<0.012	6-6.5'
P 58	<0.011	18-18.5'
P 59	53.1	0-0.5'
P 59	0.211	1.5-2'
P 59	0.0499	4.5-5'
P 59	<0.030	9.5-10'
P 61	9.28	0-0.5'
P 61	0.246	1.5-2'
P 61	0.0617	4-4.5'
P 61	<0.011	12.5-13'
P 66	<0.011	6-6.5'
P 66	<0.012	13.5-14'
P 68	0.0243 J	0-0.5'
P 68	<0.011	1.5-2'
P 68	<0.011	6-6.5'
P 68	<0.010	7.5-8'
P 69	2.22	1-1.5'
P 70	0.0727	3.5-4'
P 70	<0.012	6.5-7'
P 71	<0.011	6-6.5'
P 71	<0.012	9-9.5'
P 72	1.06 J	3.5-4'
P 72	<0.036	6.5-7
P 80	0.15	0-0.5'
P 84	1.53	0-0.5'
P 84	0.0525	0.5-1'
P 85	2.11	0-0.5'
P 85	1.38	1.5-2'
P 99	0.457	Storm Drain
P 100	3.4	Storm Drain
P 102	2.23	0-0.5'
P 102	0.304	1-2'
P 102	<0.012	5-6'
P 102	<0.011	10-11'
P 103	0.696	0-0.5'
P 103	0.0311 J	1-2'
P 103	0.689	3-4'
P 103	<0.012	13.5-14'
P 104	0.265	1-2'
P 104	<0.012	6.5-7.5'



Residential direct contact standard is 450 mg/kg
Non-residential direct contact standard is 1,700 mg/kg
Default impact to ground water screening level is 80 mg/kg
Ecological soil screening level is 4.73 mg/kg for exposed soil from 0 to 1 ft

On-Site Environmental
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

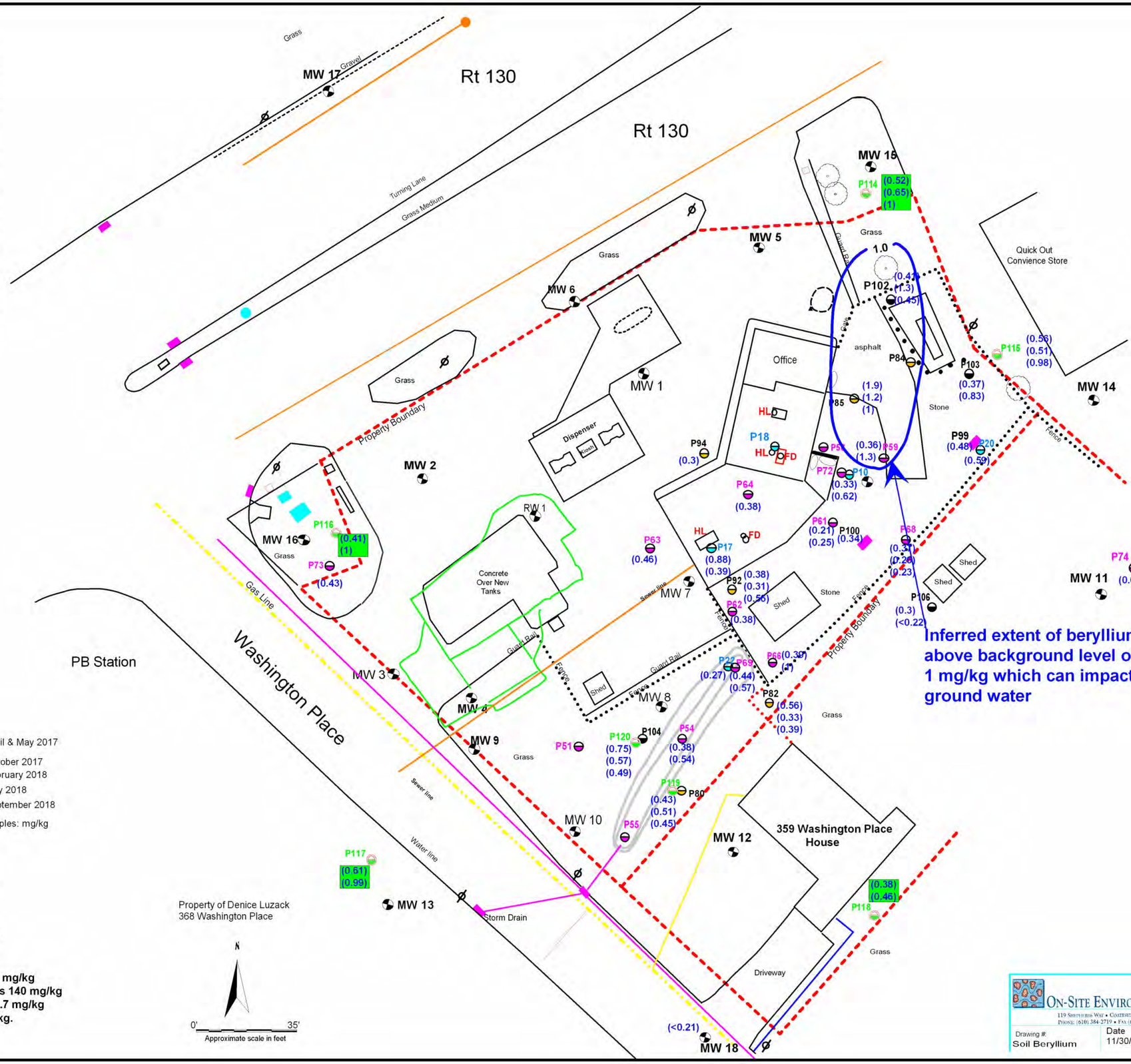
Drawing #: Soil Chrysene revised 9-25-17
Date: 11/30/18

Figure 41 Chrysene in Soil Above Default Impact to Groundwater & Ecological Soil Screening Levels

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Beryllium (mg/kg)	Depth (ft)
P 114	0.52	0-0.5'
P 114	0.65	0.5-1'
P 114	1	6-6.5'
P 115	0.56	0-0.5'
P 115	0.51	0.5-1'
P 115	0.98	6-6.5'
P 116	0.41	0-0.5'
P 116	1	0.5-1'
P 117	0.61	0-0.5'
P 117	0.99	0.5-1'
P 118	0.38	0-0.5'
P 118	0.46	0.5-1'
P 119	0.43	0-0.5'
P 119	0.51	0.5-1'
P 119	0.45	1.5-2'
P 120	0.75	0-0.5'
P 120	0.57	0.5-1'
P 120	0.49	1.5-2'
MW 18	<0.21	5-5.5'



Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (0.33) Beryllium concentration in 2017 samples: mg/kg
- 1 — 1 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain
- (0.41) (1) Concentration related to Background

Residential direct contact standard is 16 mg/kg
Non-residential direct contact standard is 140 mg/kg
Default impact to ground water level is 0.7 mg/kg
Ecological soil screening level is 10 mg/kg.

N

0' 35'

Approximate scale in feet

SOIL SAMPLES

Sample ID	Beryllium (mg/kg)	Depth (ft)
P 10	0.33	0-1'
P 10	0.62	3'
P 17	0.88	4'
P 17	0.39	9'
P 20	0.59	5'
P 22	0.27	0-6"
P 54	0.38	0-0.5'
P 54	0.54	0.5-1'
P 55	0.74	0-4"
P 59	0.36	0-0.5'
P 59	1.3	1.5-2'
P 61	0.21	0-0.5'
P 61	0.25	1.5-2'
P 62	0.35	5.5-6'
P 63	0.46	3-3.5'
P 64	0.38	5.5-6'
P 66	0.39	0-0.5'
P 66	1	1.5-2'
P 68	0.37	0-0.5'
P 68	0.26	1.5-2'
P 68	0.23	6-6.5'
P 69	0.44	0.5-1'
P 69	0.57	1-1.5'
P 73	0.43	3'
P 74	0.67	6-6.5'
P 82	0.56	0-0.5'
P 82	0.33	1.5-2'
P 82	0.39	5.5-6'
P 85	1.9	0-0.5'
P 85	1.2	1.5-2'
P 85	1	3.5-4'
P 92	0.38	0-0.5'
P 92	0.31	1.5-2'
P 92	0.56	6-6.5'
P 94	0.3	4-4.5'
P 99	0.48	Storm Drain
P 100	0.34	Storm Drain
P 102	0.41	0-0.5'
P 102	1.3	1-2'
P 102	0.45	5-6'
P 103	0.37	0-0.5'
P 103	0.83	1-2'
P 106	0.3	0-0.5'
P 106	<0.22	1.5-2'

ON-SITE ENVIRONMENTAL
119 Shetlands Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Beryllium

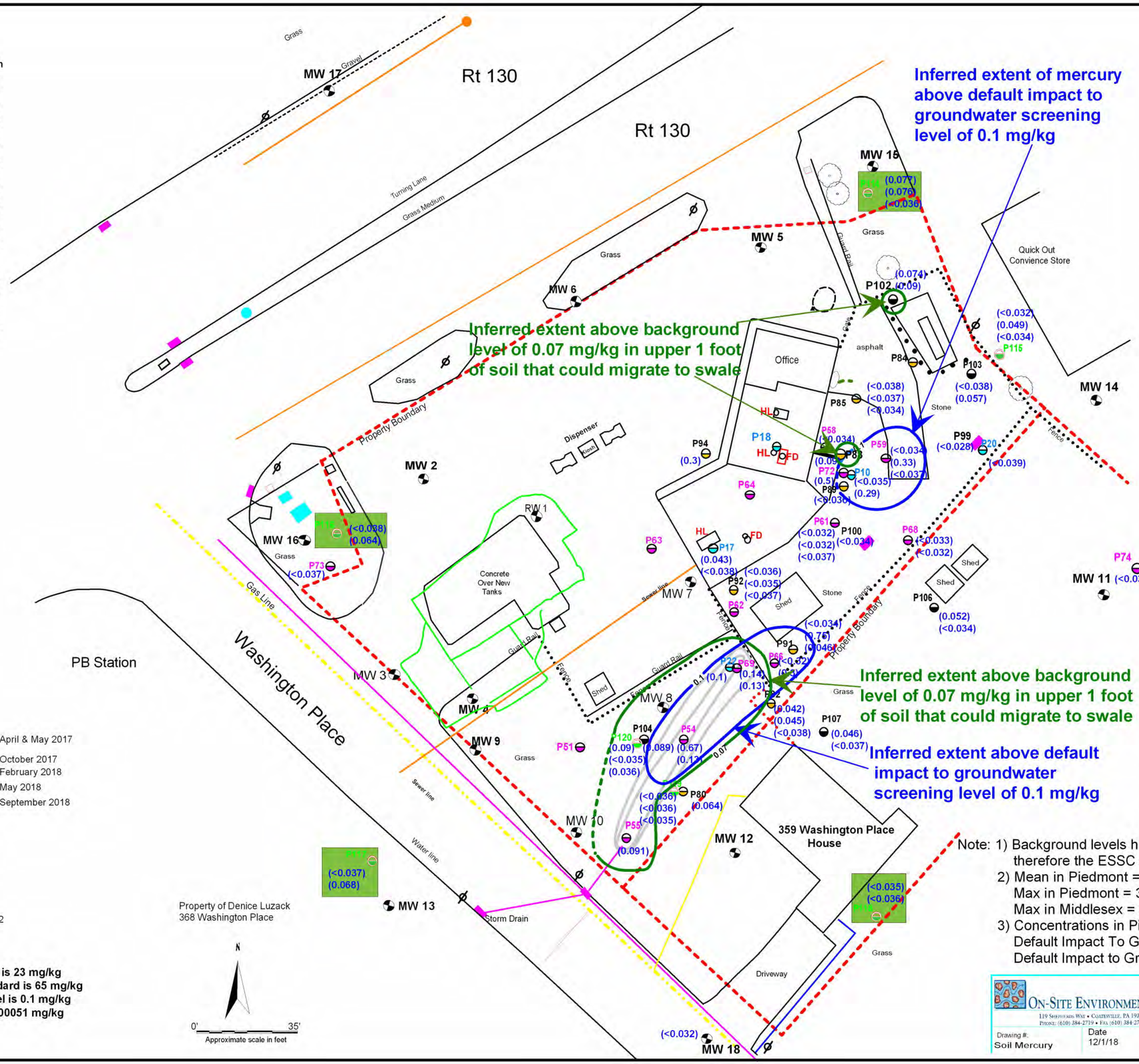
Date 11/30/18

Figure 42 Beryllium in Soil
Above Background Level of 1 mg/kg
Which Can Impact Ground Water

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Mercury (mg/kg)	Depth (ft)
P 114	0.077	0-0.5'
P 114	0.076	0.5-1'
P 114	<0.036	6-6.5'
P 115	<0.032	0-0.5'
P 115	0.049	0.5-1'
P 115	<0.034	6-6.5'
P 116	<0.038	0-0.5'
P 116	0.064	0.5-1'
P 117	<0.037	0-0.5'
P 117	0.068	0.5-1'
P 118	<0.035	0-0.5'
P 118	<0.036	0.5-1'
P 119	<0.036	0-0.5'
P 119	<0.035	0.5-1'
P 119	0.038	1.5-2'
P 120	0.09	0-0.5'
P 120	<0.035	0.5-1'
P 120	0.036	1.5-2'
MW 18	<0.032	5-5.5'



Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (0.29) Mercury concentration : mg/kg
- 0.1 — 0.1 ppm contour line
- 0.1 — 0.07 ppm contour line
- Background concentration
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 23 mg/kg
Non-residential direct contact standard is 65 mg/kg
Default impact to ground water level is 0.1 mg/kg
Ecological soil screening level is 0.00051 mg/kg

SOIL SAMPLES

Sample ID	Mercury (mg/kg)	Depth (ft)
P 10	<0.035	0-1'
P 10	0.29	3'
P 17	0.043	4'
P 17	<0.038	9'
P 20	<0.039	5'
P 22	0.1	0-6"
P 54	0.67	0-0.5'
P 54	0.13	0.5-1'
P 55	0.091	0-4"
P 58	<0.034	6-6.5'
P 59	<0.034	0-0.5'
P 59	0.33	1.5-2'
P 59	<0.037	4.5-5'
P 61	<0.032	0-0.5'
P 61	<0.032	1.5-2'
P 61	<0.037	4-4.5'
P 66	<0.032	0-0.5'
P 66	0.3	1.5-2'
P 68	<0.033	0-0.5'
P 68	<0.032	1.5-2'
P 68	<0.033	6-6.5'
P 69	0.14	0.5-1'
P 69	0.13	1-1.5'
P 72	0.5	1-2'
P 73	<0.037	3'
P 74	<0.036	6-6.5'
P 80	0.064	0-0.5'
P 82	0.042	0-0.5'
P 82	0.045	1.5-2'
P 82	<0.038	5.5-6'
P 85	<0.038	0-0.5'
P 85	<0.037	1.5-2'
P 85	<0.034	3.5-4'
P 88	0.093	0-0.5'
P 88	<0.030	1.5-2'
P 88	<0.034	3-3.5'
P 89	<0.036	3.5-4'
P 91	<0.034	0-0.5'
P 91	0.75	1.5-2'
P 91	0.046	5-5.5'
P 92	<0.036	0-0.5'
P 92	<0.035	1.5-2'
P 92	<0.037	6-6.5'
P 99	<0.028	Storm Drain
P 100	<0.034	Storm Drain
P 102	0.074	0-0.5'
P 102	0.09	1-2'
P 103	<0.038	0-0.5'
P 103	0.057	1-2'
P 104	0.089	0-0.5'
P 106	0.052	0-0.5'
P 106	<0.034	1.5-2'
P 107	0.046	0-0.5'
P 107	<0.037	1-1.5'

Note: 1) Background levels higher than ecological soil screening criteria therefore the ESSC should not be applicable.
2) Mean in Piedmont = 0.33
Max in Piedmont = 3.0
Max in Middlesex = 0.2
3) Concentrations in Piedmont & Middlesex County higher than Default Impact To Groundwater Screening Level therefore Default Impact to Groundwater should not apply

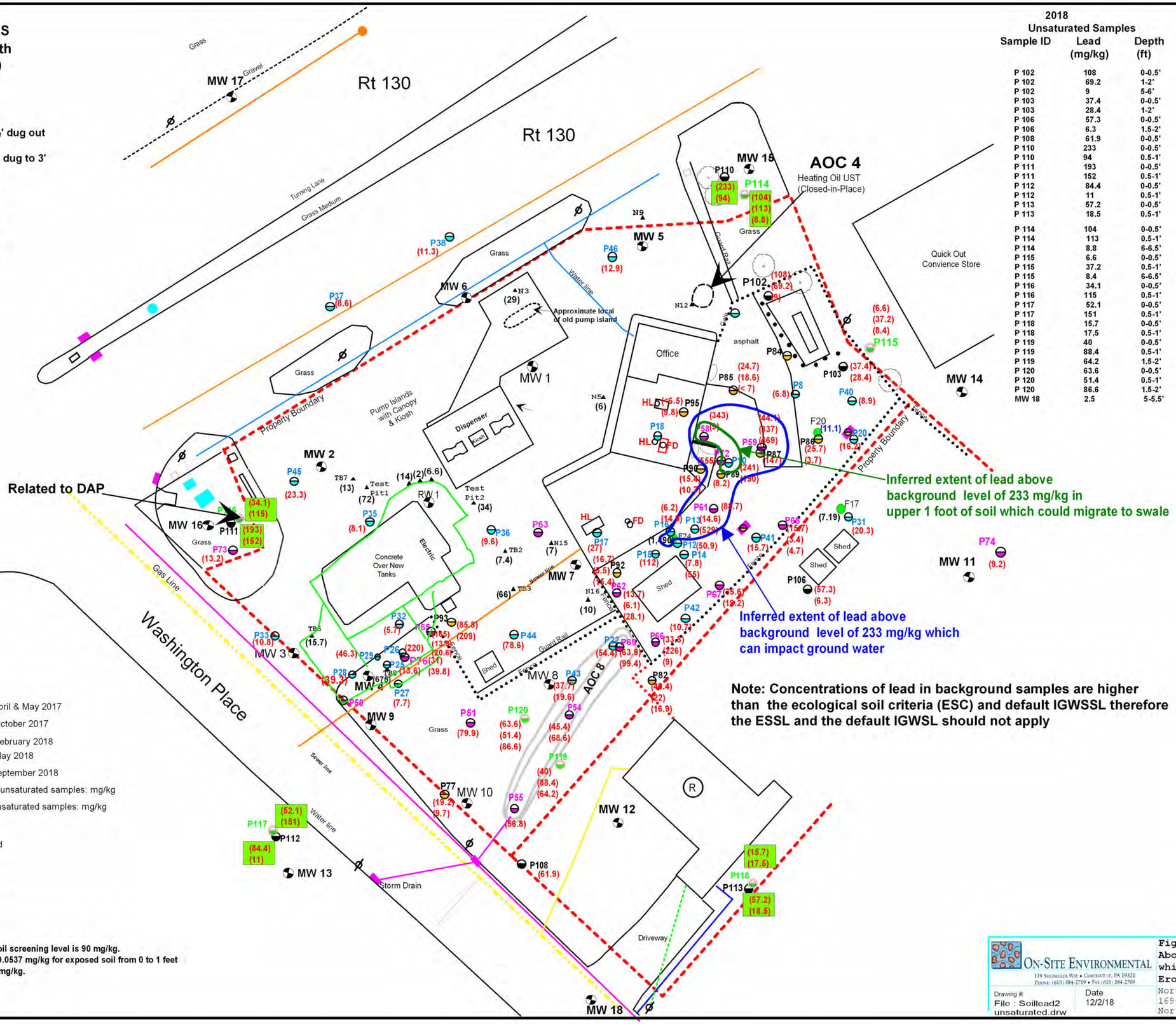
ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax: (610) 384-2709

Drawing #: Soil Mercury
Date 12/1/18

Figure 43 Mercury in Soil Above Default Impact to Groundwater Soil Screening Level & Concentrations Higher than the Background Level that could Migrate to Swale

2001 - 2009 UNSATURATED SOIL SAMPLES

Sample ID	Lead (mg/kg)	Depth (ft)
Test pit 1	72	2'
Test pit 2	34	2'
TB 2	7.4	6-7'
TB 3	66	3-4'
TB 5	15.7	2-2½' dug out
TB 7	13	4-5'
TB 8	675	3-4' dug to 3'
N 3	29	4-5'
N 5	6	4-5'
N 12	3	6-8'
N 15	7	2-3'
N 16	10	4-7'
F 17	6.97	4-5'
F 20	11.1	5-6'
F 24	1,490	3-4'



Key

- Existing Groundwater Monitoring Well
- F7 ● Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by On-Site in April & May 2017
- Soil Boring Installed by On-Site in October 2017
- Soil Boring Installed by On-Site in February 2018
- Soil Boring Installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (37.7) Lead concentration in 2017 & 2018 unsaturated samples: mg/kg
- (7.4) Lead concentration in 2001/2009 unsaturated samples: mg/kg
- 233 233 ppm contour line
- (233) (94) Concentration related to background
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Note: 1) Lead default impact soil to ground water soil screening level is 90 mg/kg.
2) Ecological soil screening level for lead is 0.0537 mg/kg for exposed soil from 0 to 1 feet
3) Ecological sediment screening level is 31 mg/kg.
4) C: Elevated detection level

Note: Concentrations of lead in background samples are higher than the ecological soil criteria (ESC) and default IGWSSL therefore the ESSL and the default IGWSL should not apply

2018 Unsaturated Samples

Sample ID	Lead (mg/kg)	Depth (ft)
P 102	108	0-0.5'
P 102	69.2	1-2'
P 102	9	5-6'
P 103	37.4	0-0.5'
P 103	28.4	1-2'
P 106	57.3	0-0.5'
P 106	6.3	1.5-2'
P 108	61.9	0-0.5'
P 110	233	0-0.5'
P 110	94	0.5-1'
P 111	193	0-0.5'
P 111	152	0.5-1'
P 112	84.4	0-0.5'
P 112	11	0.5-1'
P 113	57.2	0-0.5'
P 113	18.5	0.5-1'
P 114	104	0-0.5'
P 114	113	0.5-1'
P 114	8.8	6-6.5'
P 115	6.6	0-0.5'
P 115	37.2	0.5-1'
P 115	8.4	6-6.5'
P 116	34.1	0-0.5'
P 116	115	0.5-1'
P 117	52.1	0-0.5'
P 117	151	0.5-1'
P 118	15.7	0-0.5'
P 118	17.5	0.5-1'
P 119	40	0-0.5'
P 119	88.4	0.5-1'
P 119	64.2	1.5-2'
P 120	63.6	0-0.5'
P 120	51.4	0.5-1'
P 120	86.6	1.5-2'
MW 18	2.5	5-5.5'

2017 & 2018 Unsaturated Samples

Sample ID	Lead (mg/kg)	Depth (ft)
P 8	6.8	6'
P 10	241	0-1'
P 10	190	3'
P 12	50.9	0-6"
P 12	25.5	5'
P 13	14.6	0-6"
P 13	529	4'
P 13	49.9	6'
P 14	7.8	0-6"
P 14	55	5'
P 15	112	0-6"
P 15	11.2	5'
P 16	6.2	0-6"
P 16	14.9	4'
P 17	27	4'
P 20	16.2	5'
P 22	54.4	0-6"
P 25	13.6	3.5'
P 26	220	3.5'
P 27	7.7	3.5'
P 28	39.3	3.5'
P 29	46.3	3.5'
P 31	20.3	6.5'
P 32	5.7	4.5'
P 33	10.8	4.5'
P 35	8.1	5.5-6'
P 36	9.6	6'
P 37	8.6	3'
P 38	11.3	3'
P 40	8.9	6'
P 41	15.7	5'
P 42	10.7	6'
P 43	37.7	1'
P 43	19.6	2'
P 44	78.6	3'
P 45	23.3	5.5-6'
P 46	12.9	6-6.5'
P 51	79.9	0-0.5'
P 54	45.4	0-0.5'
P 54	68.6	0.5-1'
P 55	56.8	0-4"
P 58	343	0-0.5'
P 58	9	6-6.5'
P 59	44.1	0-0.5'
P 59	337	1.5-2'
P 59	469	4.5-5'
P 61	88.7	1.5-2'
P 62	13.7	0-0.5'
P 62	6.1	1.5-2'
P 62	28.1	6-6.5'
P 65	165	1'
P 65	13.9	3.5'
P 65	20.6	6.5'
P 66	33.8	0-0.5'
P 66	226	1.5-2'
P 66	9	6-6.5'
P 67	35.6	0-0.5'
P 67	19.2'	1.5-2''
P 68	15.7	0-0.5'
P 68	3.4	1.5-2'
P 68	4.7	6-6.5'
P 69	63.9	0.5-1'
P 69	99.4	1-1.5'
P 72	555	3.5-4'
P 73	13.2	3'
P 74	9.2	6-6.5'
P 76	31	0-1'
P 76	39.8	4-4.5'
P 77	19.2	0-0.5'
P 77	9.7	1.5-2'
P 82	40.4	0-0.5'
P 82	22	1.5-2'
P 82	16.9	5.5-6'
P 85	24.7	0-0.5'
P 85	18.6C	1.5-2'
P 85	<7 C	3.4-4'
P 86	25.7 C	0-0.5'
P 86	3.7	1.5-2'
P 87	147	6-6.5'
P 89	8.2	3.5-4'
P 90	15.4	3.5-4'
P 90	10.7	5.5-6'
P 92	16.7	0-0.5'
P 92	5.5	1.5-2'
P 92	15.4	6-6.5'
P 93	85.8	1'
P 93	209	2.5-3'
P 95	<6.5 C	0.5-1'
P 95	9.8	5.5-6'

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

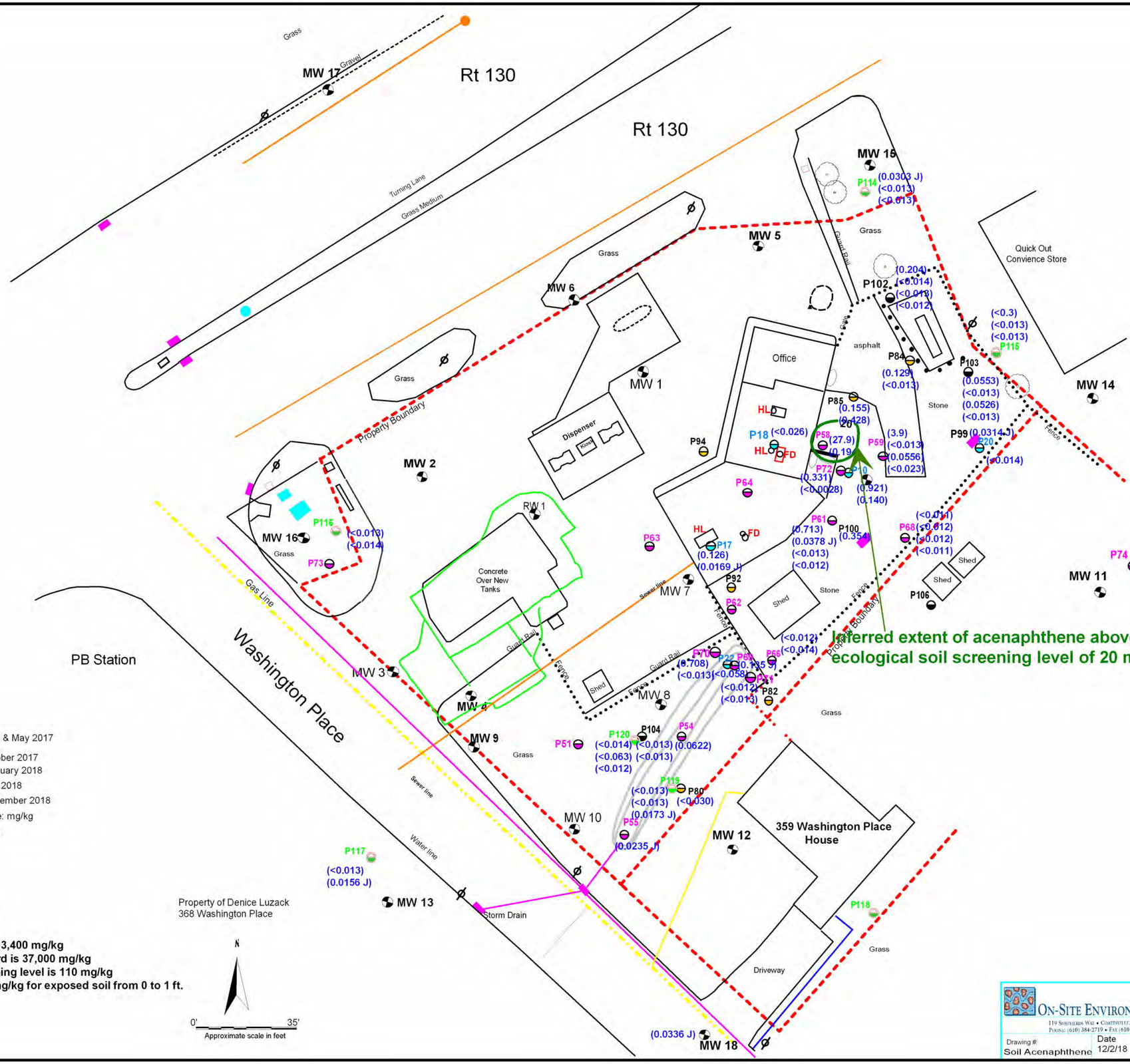
Drawing #: File : Soillead2 unsaturated.drw
Date: 12/2/18

Figure 44 LEAD in Soil Above Background Level of 233 mg/kg which Can Impact Ground water and Erode to Swale

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Acenaphthene (mg/kg)	Depth (ft)
P 114	0.0303 J	0-0.5'
P 114	<0.013	0.5-1'
P 114	<0.013	6-6.5'
P 115	<0.3	0-0.5'
P 115	<0.013	0.5-1'
P 115	<0.013	6-6.5'
P 116	<0.013	0-0.5'
P 116	<0.014	0.5-1'
P 117	<0.013	0-0.5'
P 117	0.0156 J	0.5-1'
P 118	<0.013	0-0.5'
P 118	<0.013	0.5-1'
P 119	<0.013	0-0.5'
P 119	<0.013	0.5-1'
P 119	0.0173 J	1.5-2'
P 120	<0.014	0-0.5'
P 120	<0.063	0.5-1'
P 120	<0.012	1.5-2'
MW 18	0.0336 J	5-5.5'



Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (27.9) Acenaphthene concentration in sample: mg/kg
- 20 Ecological screening level contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 3,400 mg/kg
Non-residential direct contact standard is 37,000 mg/kg
Default impact to groundwater screening level is 110 mg/kg
Ecological soil screening level is 20 mg/kg for exposed soil from 0 to 1 ft.

Property of Denice Luzack
368 Washington Place

N

0' 35'
Approximate scale in feet

SOIL SAMPLES

Sample ID	Acenaphthene (mg/kg)	Depth (ft)
P 10	0.921e	0-1'
P 10	0.140 e	3'
P 17	0.126	4'
P 17	0.0169J	9'
P 18	<0.026	4-4.5'
P 20	<0.014 e	5'
P 22	<0.058F	0-6"
P 54	0.0622	0.5-1'
P 55	0.0234 J	0-4"
P 58	27.9	0-0.5'
P 58	0.194	1.5-2'
P 58	<0.013	6-6.5'
P 58	<0.013	18-18.5'
P 59	3.9	0-0.5'
P 59	<0.013	1.5-2'
P 59	0.0556	4.5-5'
P 59	<0.023	9.5-10'
P 61	0.713	0-0.5'
P 61	0.0378 J	1.5-2'
P 61	<0.013	4-4.5'
P 61	<0.012	12.5-13'
P 66	<0.012	6-6.5'
P 66	<0.014	13.5-14'
P 68	<0.011	0-0.5'
P 68	<0.012	1.5-2'
P 68	<0.012	6-6.5'
P 68	<0.011	7.5-8'
P 69	0.135 J	1-1.5'
P 70	0.0708	3.5-4'
P 70	<0.013	6.5-7'
P 71	<0.012	6-6.5'
P 71	<0.013	9-9.5'
P 72	0.331	3.5-4'
P 72	<0.0028	6.5-7
P 80	<0.030	0-0.5'
P 84	0.129	0-0.5'
P 84	<0.013	0.5-1'
P 85	0.1555	0-0.5'
P 85	0.428	1.5-2'
P 99	0.0314 J	Storm Drain
P 100	0.354	Storm Drain
P 102	0.204	0-0.5'
P 102	<0.014	1-2'
P 102	<0.013	5-6'
P 102	<0.012	10-11'
P 103	0.0553	0-0.5'
P 103	<0.013	1-2'
P 103	0.0526	3-4'
P 103	<0.013	13.5-14'
P 104	<0.013	1-2'
P 104	<0.013	6.5-7.5'

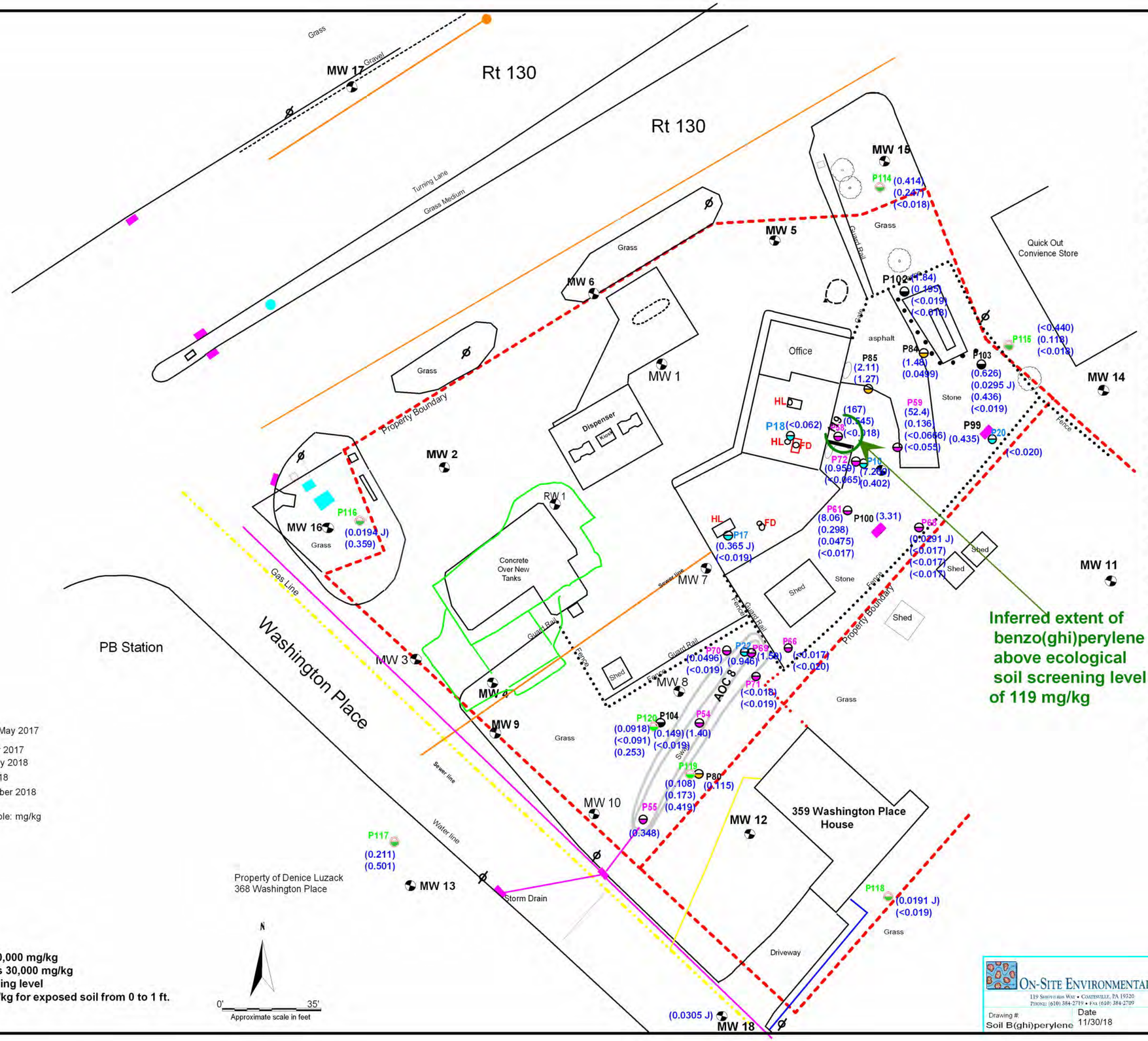
ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Acenaphthene
Date 12/2/18

Figure 45 Acenaphthene in Soil Above Ecological Soil Screening Level

SOIL SAMPLES

Sample ID	Benzo(ghi)perylene (mg/kg)	Depth (ft)
P 114	0.414	0-0.5'
P 114	0.247	0.5-1'
P 114	<0.018	6-6.5'
P 115	<0.440	0-0.5'
P 115	0.118	0.5-1'
P 115	<0.018	6-6.5'
P 116	0.0194 J	0-0.5'
P 116	0.359	0.5-1'
P 117	0.211	0-0.5'
P 117	0.501	0.5-1'
P 118	0.0191 J	0-0.5'
P 118	<0.019	0.5-1'
P 119	0.108	0-0.5'
P 119	0.173	0.5-1'
P 119	0.419	1.5-2'
P 120	0.0918	0-0.5'
P 120	<0.091	0.5-1'
P 120	0.253	1.5-2'
MW 18	0.0305 J	5-5.5'



Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (167) Benzo(ghi)perylene concentration in sample: mg/kg
- 119 119 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 380,000 mg/kg
Non-residential direct contact standard is 30,000 mg/kg
No default impact to groundwater screening level
Ecological soil screening level is 119 mg/kg for exposed soil from 0 to 1 ft.

SOIL SAMPLES

Sample ID	Benzo(ghi)perylene (mg/kg)	Depth (ft)
P 10	7.260 b e	0-1'
P 10	0.402 e	3'
P 17	0.365 J	4'
P 17	<0.019	9'
P 18	<0.062	4-4.5'
P 20	<0.020 e	5'
P 22	0.946 F	0-6"
P 54	1.400	0.5-1'
P 55	0.348	0-4"
P 58	167	0-0.5'
P 58	0.545	1.5-2'
P 58	<0.018	6-6.5'
P 58	<0.018	18-18.5'
P 59	52.4	0-0.5'
P 59	0.136	1.5-2'
P 59	<0.0666	4.5-5'
P 59	<0.055	9.5-10'
P 61	8.06	0-0.5'
P 61	0.298	1.5-2'
P 61	0.0475	4-4.5'
P 61	<0.017	12.5-13'
P 66	<0.017	6-6.5'
P 66	<0.020	13.5-14'
P 68	0.0291 J	0-0.5'
P 68	<0.017	1.5-2'
P 68	<0.017	6-6.5'
P 68	<0.017	7.5-8'
P 69	1.59	1-1.5'
P 70	0.0496	3.5-4'
P 70	<0.019	6.5-7'
P 71	<0.018	6-6.5'
P 71	<0.019	9-9.5'
P 72	0.959	3.5-4'
P 72	<0.065	6.5-7
P 80	0.115	0-0.5'
P 84	1.48	0-0.5'
P 84	0.0499	0.5-1'
P 85	2.11	0-0.5
P 85	1.27	1.5-2'
P 99	0.435	Storm Drain
P 100	3.31	Storm Drain
P 102	1.84	0-0.5'
P 102	0.195	1-2'
P 102	<0.019	5-6'
P 102	<0.018	10-11'
P 103	0.626	0-0.5'
P 103	0.0295 J	1-2'
P 103	0.436	3-4'
P 103	<0.019	13.5-14'
P 104	0.149	1-2'
P 104	<0.019	6.5-7.5'

Inferred extent of benzo(ghi)perylene above ecological soil screening level of 119 mg/kg

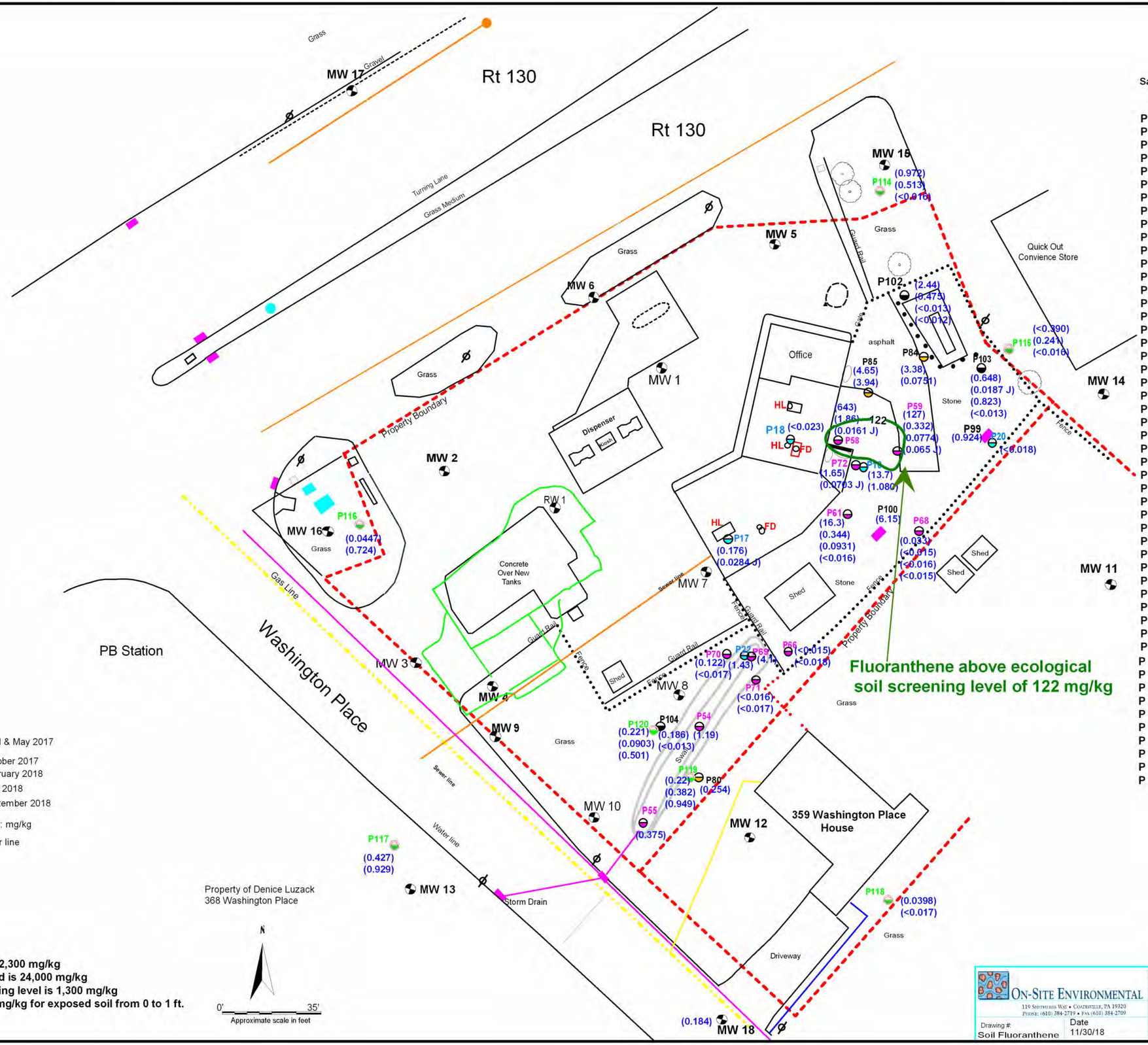
On-Site Environmental
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # Soil B(ghi)perylene
Date 11/30/18

Figure 46 Benzo(ghi)perylene in Soil Above Ecological Soil Screening Level

SOIL SAMPLES

Sample ID	Fluoranthene (mg/kg)	Depth (ft)
P 114	0.972	0-0.5'
P 114	0.513	0.5-1'
P 114	<0.016	6-6.5'
P 115	<0.390	0-0.5'
P 115	0.241	0.5-1'
P 115	<0.016	6-6.5'
P 116	0.0447	0-0.5'
P 116	0.724	0.5-1'
P 117	0.427	0-0.5'
P 117	0.929	0.5-1'
P 118	0.0398	0-0.5'
P 118	<0.017	0.5-1'
P 119	0.22	0-0.5'
P 119	0.382	0.5-1'
P 119	0.949	1.5-2'
P 120	0.221	0-0.5'
P 120	0.0903 J	0.5-1'
P 120	0.501	1.5-2'
MW 18	0.184	5-5.5'



SOIL SAMPLES

Sample ID	Fluoranthene (mg/kg)	Depth (ft)
P 10	13.7 b e	0-1'
P 10	1.080 e	3'
P 17	0.176	4'
P 17	0.0284 J	9'
P 18	<0.023	4-4.5'
P 20	<0.018 e	5'
P 22	1.43 F	0-6"
P 54	1.19	0.5-1'
P 55	0.375	0-4"
P 58	643	0-0.5'
P 58	1.86	1.5-2'
P 58	0.0161 J	6-6.5'
P 58	<0.016	18-18.5'
P 59	127	0-0.5'
P 59	0.332	1.5-2'
P 59	0.0774	4.5-5'
P 59	0.065 J	9.5-10'
P 61	16.3	0-0.5'
P 61	0.344	1.5-2'
P 61	0.0931	4-4.5'
P 61	<0.016	12.5-13'
P 66	<0.015	6-6.5'
P 66	<0.018	13.5-14'
P 68	0.033	0-0.5'
P 68	<0.015	1.5-2'
P 68	<0.016	6-6.5'
P 68	<0.015	7.5-8'
P 69	4.1	1-1.5'
P 70	0.122	3.5-4'
P 70	<0.017	6.5-7'
P 71	<0.016	6-6.5'
P 71	<0.017	9-9.5'
P 72	1.65	3.5-4'
P 72	0.0703 J	6.5-7
P 80	0.254	0-0.5'
P 84	3.38	0-0.5'
P 84	0.0751	0.5-1'
P 85	4.65	0-0.5'
P 85	3.94	1.5-2'
P 99	0.924	Storm Drain
P 100	6.15	Storm Drain
P 102	4.99	0-0.5'
P 102	0.517	1-2'
P 102	<0.017 a	5-6'
P 102	<0.016 a	10-11'
P 103	1.32	0-0.5'
P 103	0.0464	1-2'
P 103	1.09	3-4'
P 103	<0.017 a	13.5-14'
P 104	0.425	1-2'
P 104	<0.017 a	6.5-7.5'

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (127) Fluoranthene concentration in sample: mg/kg
- 122 Ecological soil screening level contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 2,300 mg/kg
Non-residential direct contact standard is 24,000 mg/kg
Default impact to groundwater screening level is 1,300 mg/kg
Ecological soil screening level is 122 mg/kg for exposed soil from 0 to 1 ft.

Property of Denice Luzack
368 Washington Place

N

0' 35'
Approximate scale in feet

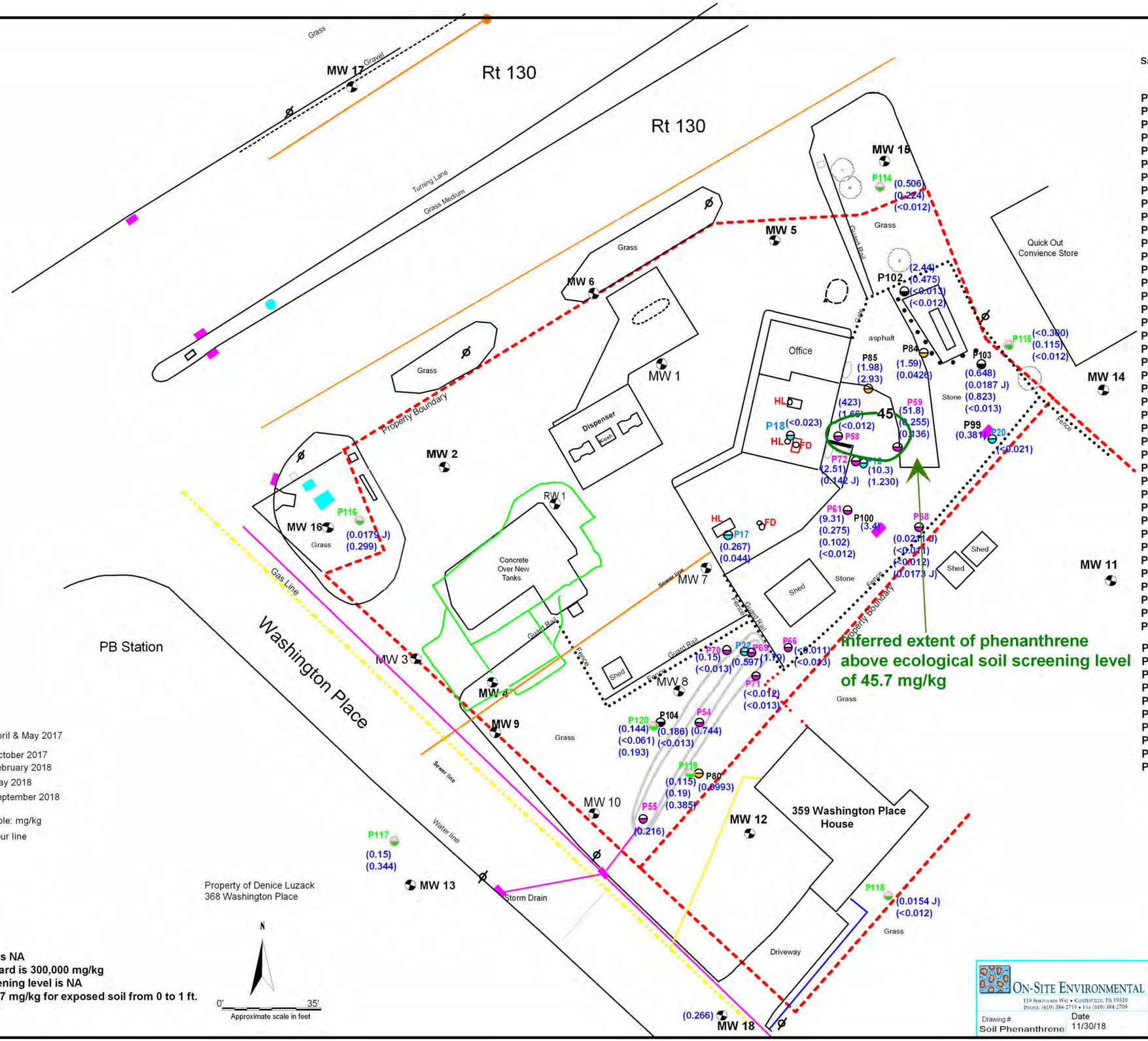
ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Fluoranthene
Date: 11/30/18

Figure 47 Fluoranthene in Soil Above Ecological Soil Screening Level

SOIL SAMPLES

Sample ID	Phenanthrene (mg/kg)	Depth (ft)
P 114	0.506	0-0.5'
P 114	0.224	0.5-1'
P 114	<0.012	6-6.5'
P 115	<0.300	0-0.5'
P 115	0.115	0.5-1'
P 115	<0.012	6-6.5'
P 116	0.0179 J	0-0.5'
P 116	0.299	0.5-1'
P 117	0.15	0-0.5'
P 117	0.344	0.5-1'
P 118	0.0154 J	0-0.5'
P 118	<0.012	0.5-1'
P 119	0.115	0-0.5'
P 119	0.19	0.5-1'
P 119	0.385	1.5-2'
P 120	0.144	0-0.5'
P 120	<0.061	0.5-1'
P 120	0.193	1.5-2'
MW 18	0.266	5-5.5'



Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (423) Phenanthrene concentration in sample: mg/kg
- —45— Ecological soil screening level contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is NA
Non-residential direct contact standard is 300,000 mg/kg
Default impact to groundwater screening level is NA
Ecological soil screening level is 45.7 mg/kg for exposed soil from 0 to 1 ft.

Property of Denice Luzack
368 Washington Place

N
0' 35'
Approximate scale in feet

SOIL SAMPLES

Sample ID	Phenanthrene (mg/kg)	Depth (ft)
P 10	10.3 b e	0-1'
P 10	1.230 e	3'
P 17	0.267	4'
P 17	0.044	9'
P 18	<0.023	4-4.5'
P 20	<0.021 e	5'
P 22	0.597	0-6''
P 54	0.744	0.5-1'
P 55	0.216	0-4''
P 58	423	0-0.5'
P 58	1.66	1.5-2'
P 58	<0.012	6-6.5'
P 58	<0.012	18-18.5'
P 59	51.8	0-0.5'
P 59	0.225	1.5-2'
P 59	0.136	4.5-5'
P 59	<0.020	9.5-10'
P 61	9.31	0-0.5'
P 61	0.275	1.5-2'
P 61	0.102	4-4.5'
P 61	<0.012	12.5-13'
P 66	<0.011	6-6.5'
P 66	<0.013	13.5-14'
P 68	0.0211 J	0-0.5'
P 68	<0.011	1.5-2'
P 68	<0.012	6-6.5'
P 68	0.0173 J	7.5-8'
P 69	1.79	1-1.5'
P 70	0.15	3.5-4'
P 70	<0.013	6.5-7'
P 71	<0.012	6-6.5'
P 71	<0.013	9-9.5'
P 72	2.51	3.5-4'
P 72	0.142 J	6.5-7
P 80	0.0993	0-0.5'
P 84	1.59	0-0.5'
P 84	0.0426	0.5-1'
P 85	1.98	0-0.5'
P 85	2.93	1.5-2'
P 99	0.381	Storm Drain
P 100	3.4	Storm Drain
P 102	2.44	0-0.5'
P 102	0.475	1-2'
P 102	<0.013	5-6'
P 102	<0.012	10-11'
P 103	0.648	0-0.5'
P 103	0.0187 J	1-2'
P 103	0.823	3-4'
P 103	<0.013	13.5-14'
P 104	0.186	1-2'
P 104	<0.013	6.5-7.5'

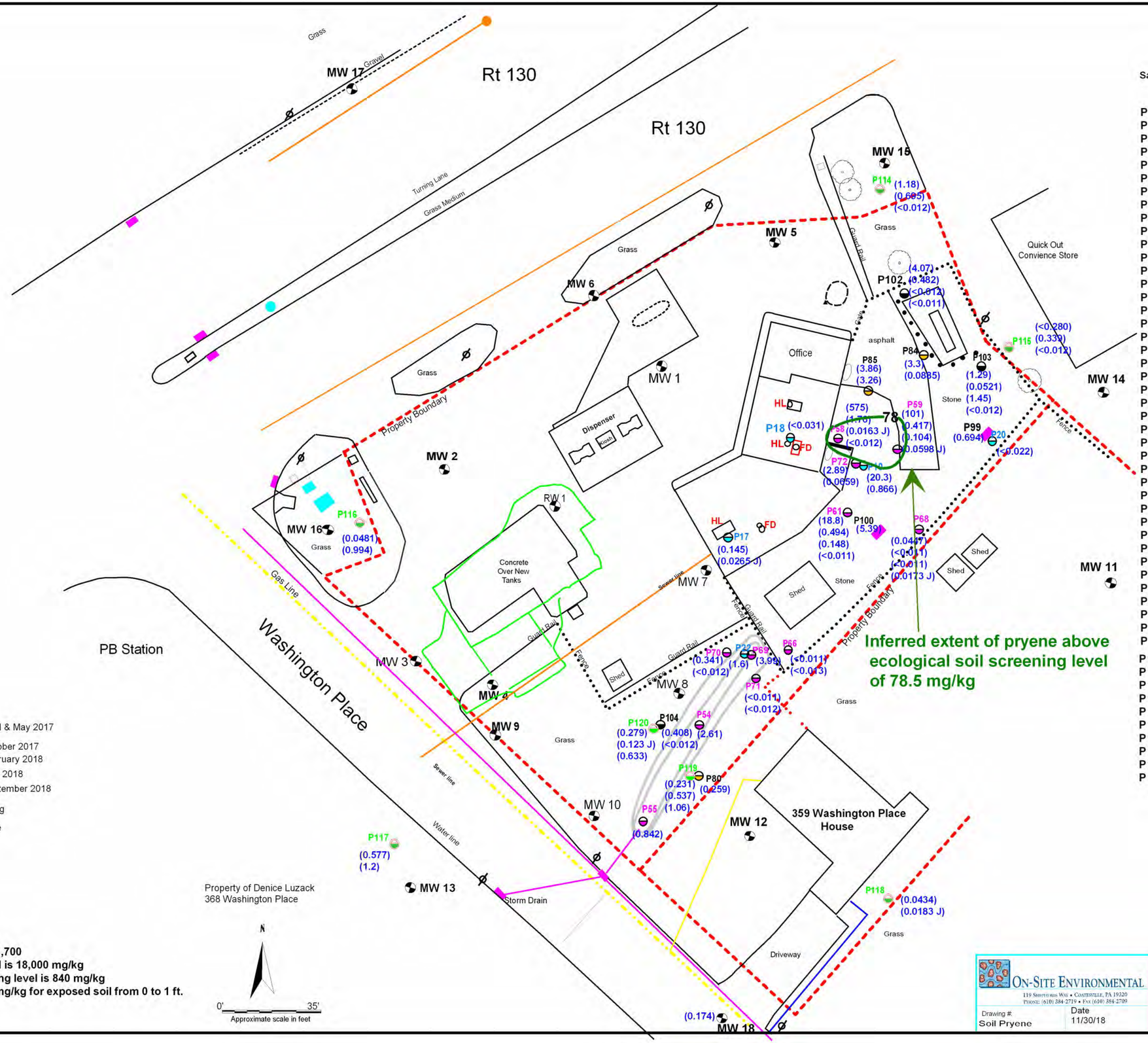
ON-SITE ENVIRONMENTAL
119 Shoffstall Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Phenanthrene
Date 11/30/18

Figure 48 Phenanthrene in Soil Above Ecological Soil Screening Level

SOIL SAMPLES

Sample ID	Pryene (mg/kg)	Depth (ft)
P 114	1.18	0-0.5'
P 114	0.695	0.5-1'
P 114	<0.012	6-6.5'
P 115	<0.280	0-0.5'
P 115	0.339	0.5-1'
P 115	<0.012	6-6.5'
P 116	0.0481	0-0.5'
P 116	0.994	0.5-1'
P 117	0.577	0-0.5'
P 117	1.2	0.5-1'
P 118	0.0434	0-0.5'
P 118	0.0186 J	0.5-1'
P 119	0.231	0-0.5'
P 119	0.537	0.5-1'
P 119	1.06	1.5-2'
P 120	0.279	0-0.5'
P 120	0.123 J	0.5-1'
P 120	0.633	1.5-2'
MW 18	0.174	5-5.5'



SOIL SAMPLES

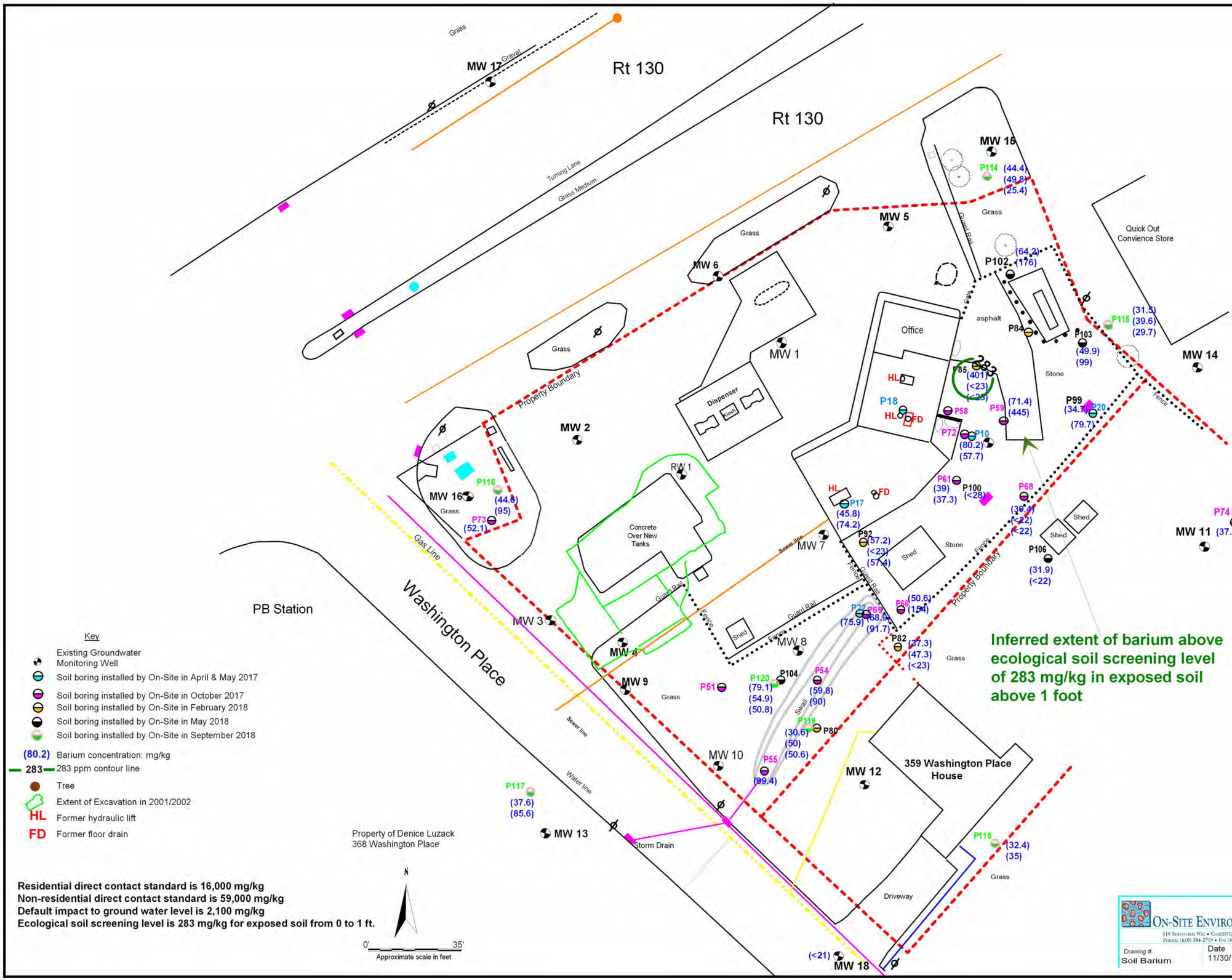
Sample ID	Pryene (mg/kg)	Depth (ft)
P 10	20.3 b e	0-1'
P 10	0.866 e	3'
P 17	0.145	4'
P 17	0.0265 J	9'
P 18	<0.031	4-4.5'
P 20	<0.022	5'
P 22	1.6	0-6"
P 54	2.61	0.5-1'
P 55	0.842	0-4"
P 58	575	0-0.5'
P 58	1.76	1.5-2'
P 58	0.0163 J	6-6.5'
P 58	<0.012	18-18.5'
P 59	101	0-0.5'
P 59	0.417	1.5-2'
P 59	0.104	4.5-5'
P 59	0.0598 J	9.5-10'
P 61	18.8	0-0.5'
P 61	0.494	1.5-2'
P 61	0.148	4-4.5'
P 61	<0.011	12.5-13'
P 66	<0.011	6-6.5'
P 66	<0.013	13.5-14'
P 68	0.0447	0-0.5'
P 68	<0.011	1.5-2'
P 68	<0.011	6-6.5'
P 68	0.0173 J	7.5-8'
P 69	3.99	1-1.5'
P 70	0.341	3.5-4'
P 70	<0.012	6.5-7'
P 71	<0.011	6-6.5'
P 71	<0.012	9-9.5'
P 72	2.89	3.5-4'
P 72	0.0659	6.5-7
P 80	0.259	0-0.5'
P 84	3.3	0-0.5'
P 84	0.0885	0.5-1'
P 85	3.86	0-0.5'
P 85	3.26	1.5-2'
P 99	0.694	Storm Drain
P 100	5.39	Storm Drain
P 102	4.07	0-0.5'
P 102	0.482	1-2'
P 102	<0.012	5-6'
P 102	<0.011	10-11'
P 103	1.29	0-0.5'
P 103	0.0521	1-2'
P 103	1.45	3-4'
P 103	<0.012	13.5-14'
P 104	0.408	1-2'
P 104	<0.012	6.5-7.5'

Residential direct contact standard is 1,700
Non-residential direct contact standard is 18,000 mg/kg
Default impact to groundwater screening level is 840 mg/kg
Ecological soil screening level is 78.5 mg/kg for exposed soil from 0 to 1 ft.

On-Site Environmental
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Pryene
Date: 11/30/18

Figure 49 Pryene in Soil Above Ecological Soil Screening Level



Residential direct contact standard is 16,000 mg/kg
Non-residential direct contact standard is 59,000 mg/kg
Default impact to ground water level is 2,100 mg/kg
Ecological soil screening level is 283 mg/kg for exposed soil from 0 to 1 ft.

SOIL SAMPLES

Sample ID	Barium (mg/kg)	Depth (ft)
P 10	80.2	0-1'
P 10	57.7	3'
P 17	45.8	4'
P 17	74.2	9'
P 20	79.7	5'
P 22	75.9	0-6"
P 54	59.8	0-0.5'
P 54	90	0.5-1'
P 55	99.4	0-4"
P 59	71.4	0-0.5'
P 59	445	1.5-2'
P 61	39	0-0.5'
P 61	37.3	1.5-2'
P 66	50.6	0-0.5'
P 66	154	1.5-2'
P 68	39.4	0-0.5'
P 68	<22	1.5-2'
P 68	<22	6-6.5'
P 69	68.9	0.5-1'
P 69	91.7	1-1.5'
P 73	52.1	3'
P 74	37.5	6-6.5'
P 82	37.3	0-0.5'
P 82	47.3	1.5-2'
P 82	<23	5.5-6'
P 85	401	0-0.5'
P 85	<23	1.5-2'
P 85	<23	3.5-4'
P 92	57.2	0-0.5'
P 92	<23	1.5-2'
P 92	57.4	6-6.5'
P 99	34.7	Storm Drain
P 100	<28	Storm Drain
P 102	64.2	0-0.5'
P 102	176	1-2'
P 103	49.9	0-0.5'
P 103	99	1-2'
P 106	31.9	0-0.5'
P 106	<22	1.5-2'
P 114	44.4	0-0.5'
P 114	49.8	0.5-1'
P 114	25.4	6-6.5'
P 115	31.5	0-0.5'
P 115	39.6	0.5-1'
P 115	29.7	6-6.5'
P 116	44.6	0-0.5'
P 116	95	0.5-1'
P 117	37.6	0-0.5'
P 117	85.6	0.5-1'
P 118	32.4	0-0.5'
P 118	35	0.5-1'
P 119	30.6	0-0.5'
P 119	50	0.5-1'
P 119	50.6	1.5-2'
P 120	79.1	0-0.5'
P 120	54.9	0.5-1'
P 120	50.8	1.5-2'
MW 18	<21	5-5.5'

ON-SITE ENVIRONMENTAL
119 Shiptown Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

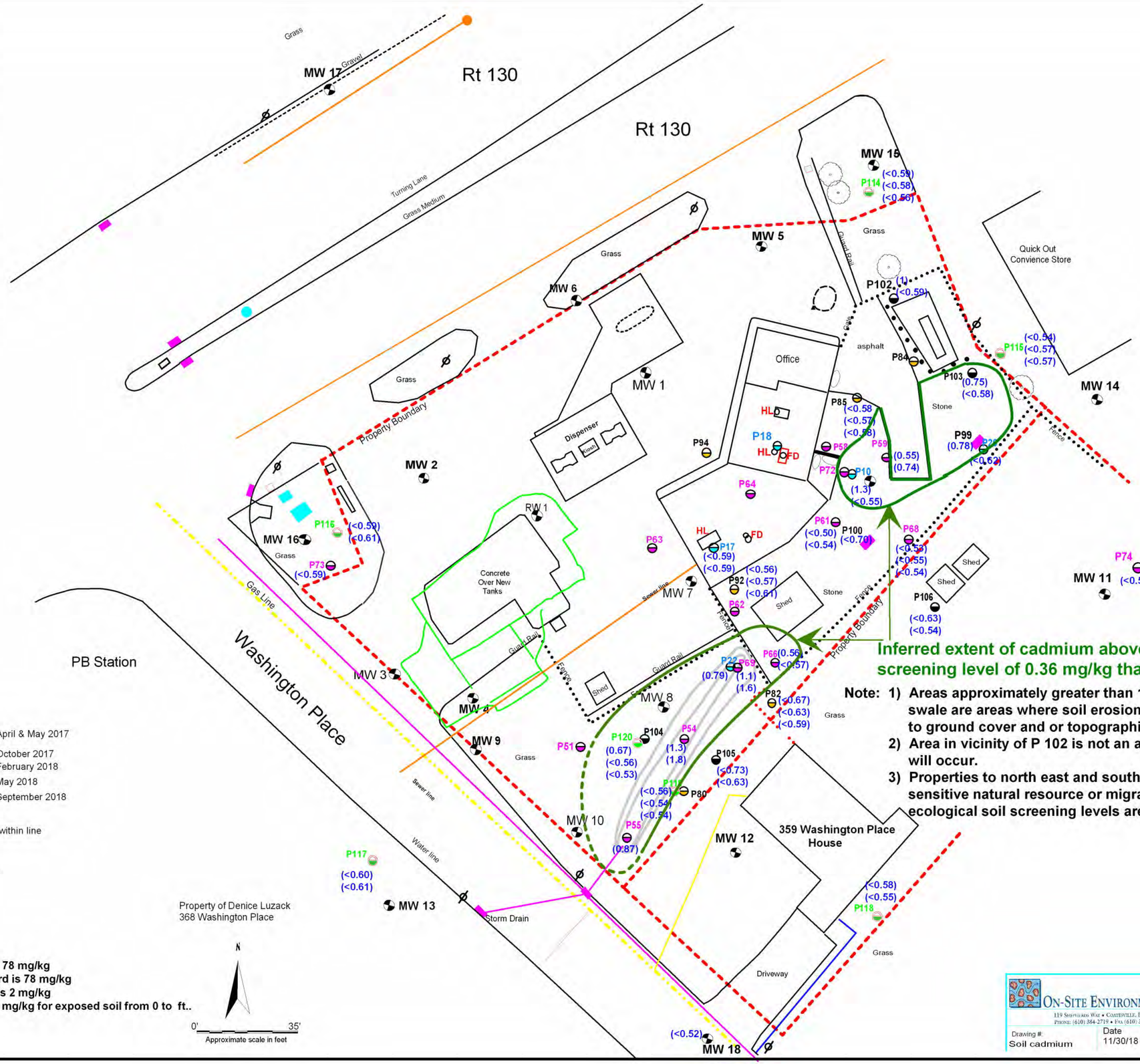
Drawing # Soil Barium
Date 11/30/18

Figure 50 Barium Above Ecological Soil Screening Level

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Cadmium (mg/kg)	Depth (ft)
P 114	<0.59	0-0.5'
P 114	<0.58	0.5-1'
P 114	<0.56	6-6.5'
P 115	<0.54	0-0.5'
P 115	<0.57	0.5-1'
P 115	<0.57	6-6.5'
P 116	<0.59	0-0.5'
P 116	<0.61	0.5-1'
P 117	<0.60	0-0.5'
P 117	<0.61	0.5-1'
P 118	<0.58	0-0.5'
P 118	<0.55	0.5-1'
P 119	<0.56	0-0.5'
P 119	<0.54	0.5-1'
P 119	<0.54	1.5-2'
P 120	0.67	0-0.5'
P 120	<0.56	0.5-1'
P 120	<0.53	1.5-2'
MW 18	<0.52	5-5.5'



Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (1.3) Cadmium concentration: mg/kg
- 0.36 Concentration above back ground within line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Property of Denice Luzack
368 Washington Place

N

0' 35'
Approximate scale in feet

Residential direct contact standard is 78 mg/kg
Non-residential direct contact standard is 78 mg/kg
Default impact to ground water level is 2 mg/kg
Ecological soil screening level is 0.36 mg/kg for exposed soil from 0 to ft..

SOIL SAMPLES

Sample ID	Cadmium (mg/kg)	Depth (ft)
P 10	1.3	0-1'
P 10	<0.55	3'
P 17	<0.59	4'
P 17	<0.59	9'
P 20	<0.62	5'
P 22	0.79	0-6"
P 54	1.3	0-0.5'
P 54	1.8	0.5-1'
P 55	0.87	0-4"
P 59	0.55	0-0.5'
P 59	0.74	1.5-2'
P 61	<0.50	0-0.5'
P 61	<0.54	1.5-2'
P 66	0.56	0-0.5'
P 66	<0.57	1.5-2'
P 68	<0.53	0-0.5'
P 68	<0.55	1.5-2'
P 68	<0.54	6-6.5'
P 69	1.1	0.5-1'
P 69	1.6	1-1.5'
P 73	<0.59	3'
P 74	<0.56	6-6.5'
P 82	<0.67	0-0.5'
P 82	<0.63	1.5-2'
P 82	<0.59	5.5-6'
P 85	<0.58	0-0.5'
P 85	<0.57	1.5-2'
P 85	<0.58	3.5-4'
P 92	<0.56	0-0.5'
P 92	<0.57	1.5-2'
P 92	<0.61	6-6.5'
P 99	0.78	Storm Drain
P 100	<0.70	Storm Drain
P 102	1	0-0.5'
P 102	<0.59	1-2'
P 103	0.75	0-0.5'
P 103	<0.58	1-2'
P 105	<0.73	0-0.5'
P 105	<0.63	1.5-2'
P 106	<0.63	0-0.5'
P 106	<0.54	1.5-2'

Inferred extent of cadmium above ecological soil screening level of 0.36 mg/kg that could migrate to swale

Note:
1) **Areas approximately greater than 10 feet to the east and west of the swale are areas where soil erosion to the swale will not occur due to ground cover and or topographic gradient.**
2) **Area in vicinity of P 102 is not an area where soil erosion to the swale will occur.**
3) **Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening levels are not applicable at those properties.**

On-Site Environmental
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil cadmium
Date 11/30/18

Figure 51 Cadmium in Soil Above Ecological Soil Screening Level that Could Migrate to Swale
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Cobalt (mg/kg)	Depth (ft)
P 114	<5.9	0-0.5'
P 114	<5.8	0.5-1'
P 114	<5.6	6-6.5'
P 115	<5.4	0-0.5'
P 115	<5.7	0.5-1'
P 115	<5.7	6-6.5'
P 116	<5.9	0-0.5'
P 116	9	0.5-1'
P 117	<6.0	0-0.5'
P 117	6.9	0.5-1'
P 118	<5.8	0-0.5'
P 118	<5.5	0.5-1'
P 119	<5.6	0-0.5'
P 119	<5.4	0.5-1'
P 119	<5.4	1.5-2'
P 120	8.7	0-0.5'
P 120	<5.6	0.5-1'
P 120	<5.3	1.5-2'
MW 18	<5.2	5-5.5'

SOIL SAMPLES

Sample ID	Cobalt (mg/kg)	Depth (ft)
P 10	18.3	0-1'
P 10	5.5	3'
P 17	7.6	4'
P 17	<5.9	9'
P 20	<6.2	5'
P 22	6.1	0-6"
P 54	<4.9	0-0.5'
P 54	7.3	0.5-1'
P 55	6.3	0-4"
P 59	10.6	0-0.5'
P 59	14	1.5-2'
P 61	12.4	0-0.5'
P 61	<5.4	1.5-2'
P 66	15.2	0-0.5'
P 66	12.2	1.5-2'
P 68	17.1	0-0.5'
P 68	<5.5	1.5-2'
P 68	<5.4	6-6.5'
P 69	10	0.5-1'
P 69	12.2	1-1.5'
P 73	<5.9	3'
P 74	7.8	6-6.5'
P 82	<6.7	0-0.5'
P 82	<6.3	1.5-2'
P 82	<5.9	5.5-6'
P 85	<5.6	0-0.5'
P 85	<5.7	1.5-2'
P 85	<5.8	3.5-4'
P 92	18	0-0.5'
P 92	<5.7	1.5-2'
P 92	<6.1	6-6.5'
P 99	9.6	Storm Drain
P 100	<7.0	Storm Drain
P 102	11.6	0-0.5'
P 102	22.1	1-2'
P 103	15.9	0-0.5'
P 103	11.9	1-2'
P 106	<6.3	0-0.5'
P 106	<5.4	1.5-2'

Rt 130

Rt 130

Grass

Gravel

Turning Lane

Grass Medium

MW 17

MW 18

MW 15

P114 (<5.9) (<5.8) (<5.6)

MW 5

Grass

Guard Rail

Quick Out Convience Store

P102 (11.6) (22.1)

MW 6

Grass

Grass

MW 1

Property Boundary

Dispenser

Kiosk

Office

asphalt

P84

P115 (<5.4) (<5.7) (<5.7)

P103 (15.9) (11.9)

MW 14

Stone

P85 (<5.8) (<5.7) (<5.8)

HL

P18

FD

P94 (0.3)

P99 (9.6)

P20 (<6.2)

P59 (10.6) (14)

P72

P10 (18.3) (5.5)

P64

Fence

MW 2

RW 1

P116 (9) (<6.0)

MW 16

Grass

P73 (<5.9)

P63

HL

FD

P17 (7.6) (<5.9)

P61 (12.4) (<5.4)

P100 (<7.0)

P68 (17.1) (<5.5) (<5.4)

P74

MW 11 (7.8)

Concrete Over New Tanks

MW 7

Sewer line

P92 (<5.7) (<6.1)

Stone

Shed

Shed

Shed

P106 (<6.3) (<5.4)

Fence

P62

Guard Rail

Fence

Guard Rail

P66 (15.2) (12.2)

P67 (6.1)

P69 (10) (12.2)

Property Boundary

Gas Line

Washington Place

PB Station

MW 3

MW 4

MW 8

P92 (<6.7) (<6.3) (<5.9)

Grass

MW 9

Grass

P51

P120 (8.7) (<5.6) (<5.3)

P104

P54 (<4.9) (7.3)

P119 (<5.6) (<5.4) (<5.4)

P80

Sewer line

MW 10

P55 (6.3)

MW 12

359 Washington Place House

Water line

P117 (<6.0) (6.9)

MW 13

Storm Drain

(<5.8) (<5.5)

P118

Grass

Driveway

(<5.2)

MW 18

Property of Denice Luzack
368 Washington Place

Inferred extent of cobalt above background level of 9 mg/kg in exposed soil above 1 foot that could migrate to swale

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (18.3) Cobalt concentration: mg/kg
- 9 — 9 ppm contour line
- (9) (<6.0) Concentration related to background
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 1,600 mg/kg
Non-residential direct contact standard is 590 mg/kg
Default impact to ground water level is 90 mg/kg
Ecological soil screening level is 0.14 mg/kg in exposed soil from 0 to 1 ft

N

0' 35'
Approximate scale in feet

Note:
1) **Areas approximately greater than 10 feet to the east and west of the swale are areas where soil erosion to the swale will not occur due to ground cover and or topographic gradient.**
2) **Area in vicinity of P 102 is not an area where soil erosion to the swale will occur.**
3) **Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening levels are not applicable at those properties.**
4) **Highest background concentration was 9 mg/kg in P 116 which is above ecological soil screeening level of 0.14 mg/kg.**

ON-SITE ENVIRONMENTAL
119 Shipyard Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

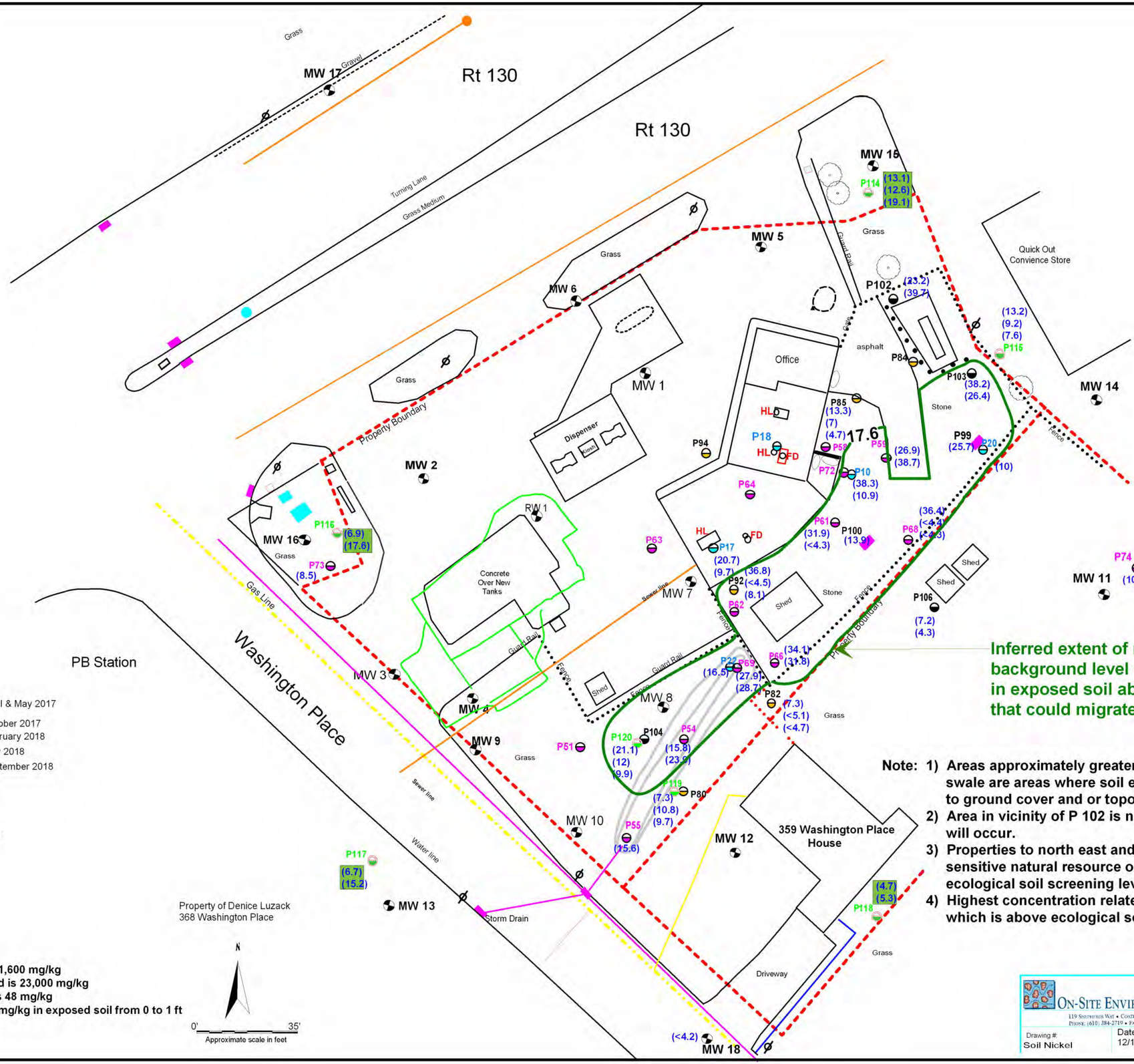
Drawing #: Soil Cobalt
Date 11/30/18

Figure 52 Cobalt Above Background Level of 9 mg/kg that Could Migrate to Swale

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Nickel (mg/kg)	Depth (ft)
P 114	13.1	0-0.5'
P 114	12.6	0.5-1'
P 114	19.1	6-6.5'
P 115	13.2	0-0.5'
P 115	9.2	0.5-1'
P 115	7.6	6-6.5'
P 116	6.9	0-0.5'
P 116	17.6	0.5-1'
P 117	6.7	0-0.5'
P 117	15.2	0.5-1'
P 118	4.7	0-0.5'
P 118	5.3	0.5-1'
P 119	7.3	0-0.5'
P 119	10.8	0.5-1'
P 119	9.7	1.5-2'
P 120	21.1	0-0.5'
P 120	12	0.5-1'
P 120	9.9	1.5-2'
MW 18	<4.2	5-5.5'



SOIL SAMPLES

Sample ID	Nickel (mg/kg)	Depth (ft)
P 10	38.3	0-1'
P 10	10.9	3'
P 17	20.7	4'
P 17	9.7	9'
P 20	10	5'
P 22	16.5	0-6"
P 54	15.8	0-0.5'
P 54	23.9	0.5-1'
P 55	15.6	0-4"
P 59	26.9	0-0.5'
P 59	38.7	1.5-2'
P 61	31.9	0-0.5'
P 61	<4.3	1.5-2'
P 66	34.1	0-0.5'
P 66	31.8	1.5-2'
P 68	36.4	0-0.5'
P 68	<4.4	1.5-2'
P 68	<4.3	6-6.5'
P 69	27.9	0.5-1'
P 69	28.7	1-1.5'
P 73	8.5	3'
P 74	10.6	6-6.5'
P 82	7.3	0-0.5'
P 82	<5.1	1.5-2'
P 82	<4.7	5.5-6'
P 85	13.3	0-0.5'
P 85	7	1.5-2'
P 85	4.7	3.5-4'
P 92	36.8	0-0.5'
P 92	<4.5	1.5-2'
P 92	8.1	6-6.5'
P 99	25.7	Storm Drain
P 100	13.9	Storm Drain
P 102	23.2	0-0.5'
P 102	39.7	1-2'
P 103	38.2	0-0.5'
P 103	26.4	1-2'
P 106	7.2	0-0.5'
P 106	4.3	1.5-2'

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (38.3) Nickel concentration: mg/kg
- 13 13 ppm contour line
- (6.9) (17.6) Concentration related to Background
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Inferred extent of nickel above background level of 17.6 mg/kg in exposed soil above 1 foot that could migrate to swale

Note:
1) **Areas approximately greater than 10 feet to the east and west of the swale are areas where soil erosion to the swale will not occur due to ground cover and or topographic gradient.**
2) **Area in vicinity of P 102 is not an area where soil erosion to the swale will occur.**
3) **Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening levels are not applicable at those properties.**
4) **Highest concentration related to background was 17.6 mg/kg in P 116 which is above ecological soil screening level of 13.6 mg/kg.**

Residential direct contact standard is 1,600 mg/kg
Non-residential direct contact standard is 23,000 mg/kg
Default impact to ground water level is 48 mg/kg
Ecological soil screening level is 13.6 mg/kg in exposed soil from 0 to 1 ft

On-Site Environmental
119 Shoemaker Way • Coatesville, PA 19320
Phone: (610) 384-2710 • Fax (610) 384-2709

Drawing #: Soil Nickel
Date: 12/1/18

Figure 53 Nickel Above Background Level of 17.6 mg/kg that Could Migrate to Swale

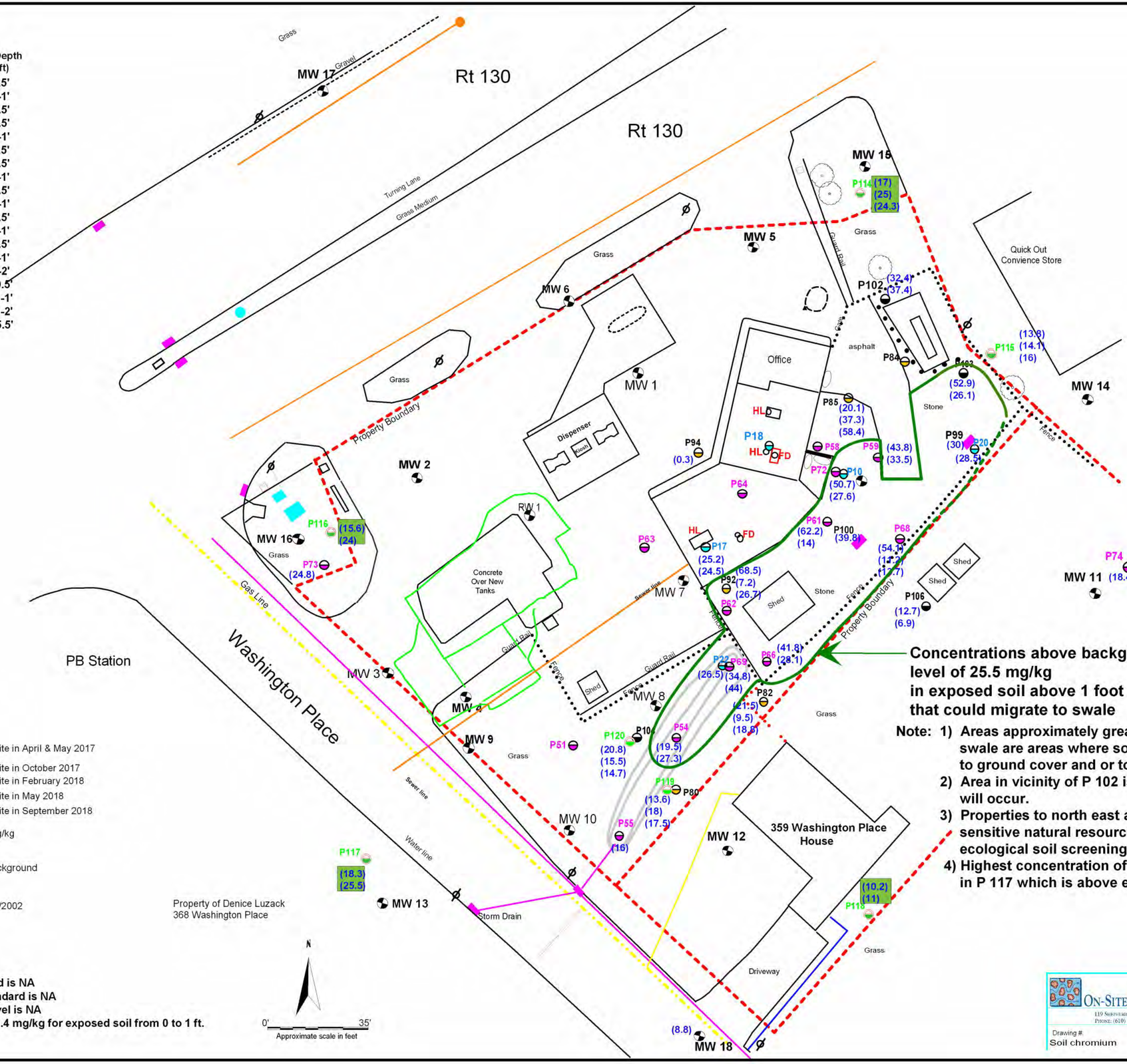
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Chromium (mg/kg)	Depth (ft)
P 114	17	0-0.5'
P 114	25	0.5-1'
P 114	24.3	6-6.5'
P 115	13.8	0-0.5'
P 115	14.1	0.5-1'
P 115	16	6-6.5'
P 116	15.6	0-0.5'
P 116	24	0.5-1'
P 117	18.3	0-0.5'
P 117	25.5	0.5-1'
P 118	10.2	0-0.5'
P 118	11	0.5-1'
P 119	13.6	0-0.5'
P 119	18	0.5-1'
P 119	17.5	1.5-2'
P 120	20.8	0-0.5'
P 120	15.5	0.5-1'
P 120	14.7	1.5-2'
MW 18	8.8	5-5.5'

SOIL SAMPLES

Sample ID	Chromium (mg/kg)	Depth (ft)
P 10	50.7	0-1'
P 10	27.6	3'
P 17	25.2	4'
P 17	24.5	9'
P 20	28.5	5'
P 22	26.5	0-6''
P 54	19.5	0-0.5'
P 54	27.3	0.5-1'
P 55	16	0-4''
P 59	43.8	0-0.5'
P 59	33.5	1.5-2'
P 61	62.2	0-0.5'
P 61	14	1.5-2'
P 66	41.8	0-0.5'
P 66	28.1	1.5-2'
P 68	54.1	0-0.5'
P 68	11.2 T	1.5-2'
P 68	13.7 T	6-6.5'
P 69	34.8	0.5-1'
P 69	44	1-1.5'
P 73	24.8	3'
P 74	18.4	6-6.5'
P 82	21.5	0-0.5'
P 82	9.5	1.5-2'
P 82	18.8	5.5-6'
P 85	20.1 C	0-0.5'
P 85	37.3	1.5-2'
P 85	58.4	3.5-4'
P 92	68.5	0-0.5'
P 92	7.2	1.5-2'
P 92	26.7	6-6.5'
P 99	30	Storm Drain
P 100	39.8	Storm Drain
P 102	32.4	0-0.5'
P 102	37.4	1-2'
P 103	52.9	0-0.5'
P 103	26.1	1-2'
P 106	12.7	0-0.5'
P 106	6.9	1.5-2'



Concentrations above background level of 25.5 mg/kg in exposed soil above 1 foot that could migrate to swale

Note:
1) **Areas approximately greater than 15 feet to the east and west of the swale are areas where soil erosion to the swale will not occur due to ground cover and or topographic gradient.**
2) **Area in vicinity of P 102 is not an area where soil erosion to the swale will occur.**
3) **Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening levels are not applicable at those properties.**
4) **Highest concentration of chromium related to background was 25.5 mg/kg in P 117 which is above ecological soil screening level of 0.4 mg/kg.**

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (16) Chromium concentration: mg/kg
- 24.8 0.4 mg/kg contour line
- (18.3) (25.5) Concentration related to background
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is NA
Non-residential direct contact standard is NA
Default impact to ground water level is NA
Ecological soil screening level is 0.4 mg/kg for exposed soil from 0 to 1 ft.

N

0' 35'

Approximate scale in feet

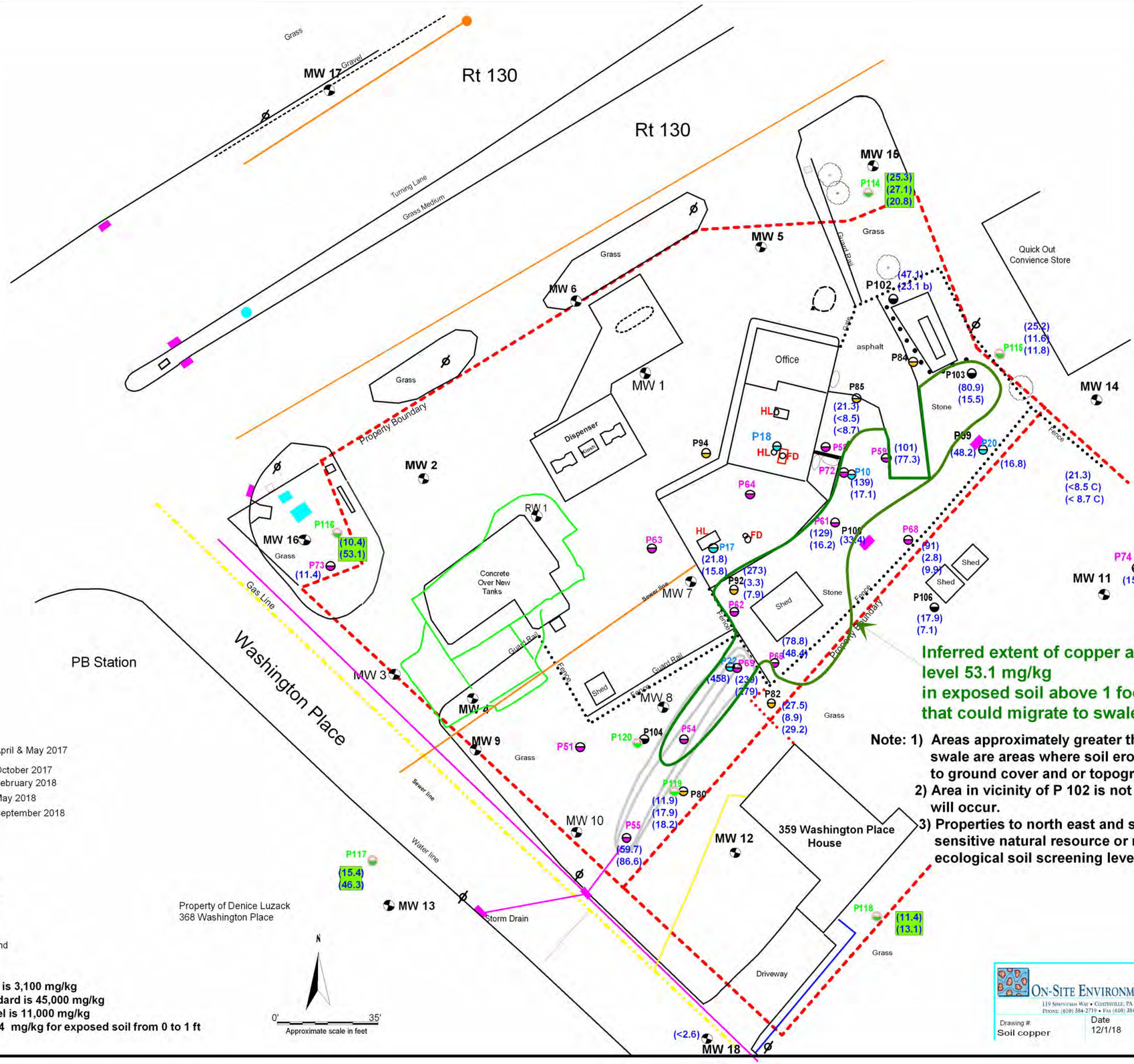
ON-SITE ENVIRONMENTAL
119 Shipyard Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil chromium
Date: 11/30/18

Figure 54 Chromium in Exposed Soil Above Background Level of 25.5 mg/kg that Could Migrate to Swale
North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Copper (mg/kg)	Depth (ft)
P 114	25.3	0-0.5'
P 114	27.1	0.5-1'
P 114	20.8	6-6.5'
P 115	25.2	0-0.5'
P 115	11.6	0.5-1'
P 115	11.8	6-6.5'
P 116	10.4	0-0.5'
P 116	53.1	0.5-1'
P 117	15.4	0-0.5'
P 117	46.3	0.5-1'
P 118	11.4	0-0.5'
P 118	13.1	0.5-1'
P 119	11.9	0-0.5'
P 119	17.9	0.5-1'
P 119	18.2	1.5-2'
P 120	22.8	0-0.5'
P 120	14.3	0.5-1'
P 120	18.4	1.5-2'
MW 18	<2.6	5-5.5'



Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (139) Copper concentration: mg/kg
- 53 53 ppm contour line
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain
- (10.4) (53.1) Concentration related to background

Residential direct contact standard is 3,100 mg/kg
Non-residential direct contact standard is 45,000 mg/kg
Default impact to ground water level is 11,000 mg/kg
Ecological soil screening level is 5.4 mg/kg for exposed soil from 0 to 1 ft

SOIL SAMPLES

Sample ID	Copper (mg/kg)	Depth (ft)
P 10	139	0-1'
P 10	17.1	3'
P 17	21.8	4'
P 17	15.8	9'
P 20	16.8	5'
P 22	458	0-6"
P 54	59.7	0-0.5'
P 54	86.6	0.5-1'
P 55	44.4	0-4"
P 59	101	0-0.5'
P 59	77.3	1.5-2'
P 61	129	0-0.5'
P 61	16.2	1.5-2'
P 66	78.8	0-0.5'
P 66	48.4	1.5-2'
P 68	91	0-0.5'
P 68	2.8	1.5-2'
P 68	9.9	6-6.5'
P 69	239	0.5-1'
P 69	279	1-1.5'
P 73	31.3	3'
P 74	15.2	6-6.5'
P 82	27.5	0-0.5'
P 82	8.9	1.5-2'
P 82	29.2	5.5-6'
P 85	21.3	0-0.5'
P 85	<8.5 C	1.5-2'
P 85	<8.7 C	3.5-4'
P 92	273	0-0.5'
P 92	3.2	1.5-2'
P 92	7.9	6-6.5'
P 99	48.2	Storm Drain
P 100	33.4	Storm Drain
P 102	47.1	0-0.5'
P 102	23.1 b	1-2'
P 103	80.9	0-0.5'
P 103	15.5	1-2'
P 106	17.9	0-0.5'
P 106	7.1	1.5-2'

Inferred extent of copper above background level 53.1 mg/kg in exposed soil above 1 foot that could migrate to swale

Note: 1) Areas approximately greater than 15 feet to the east and west of the swale are areas where soil erosion to the swale will not occur due to ground cover and or topographic gradient.
2) Area in vicinity of P 102 is not an area where soil erosion to the swale will occur.
3) Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening levels are not applicable at those properties.

ON-SITE ENVIRONMENTAL
119 Shipyards Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

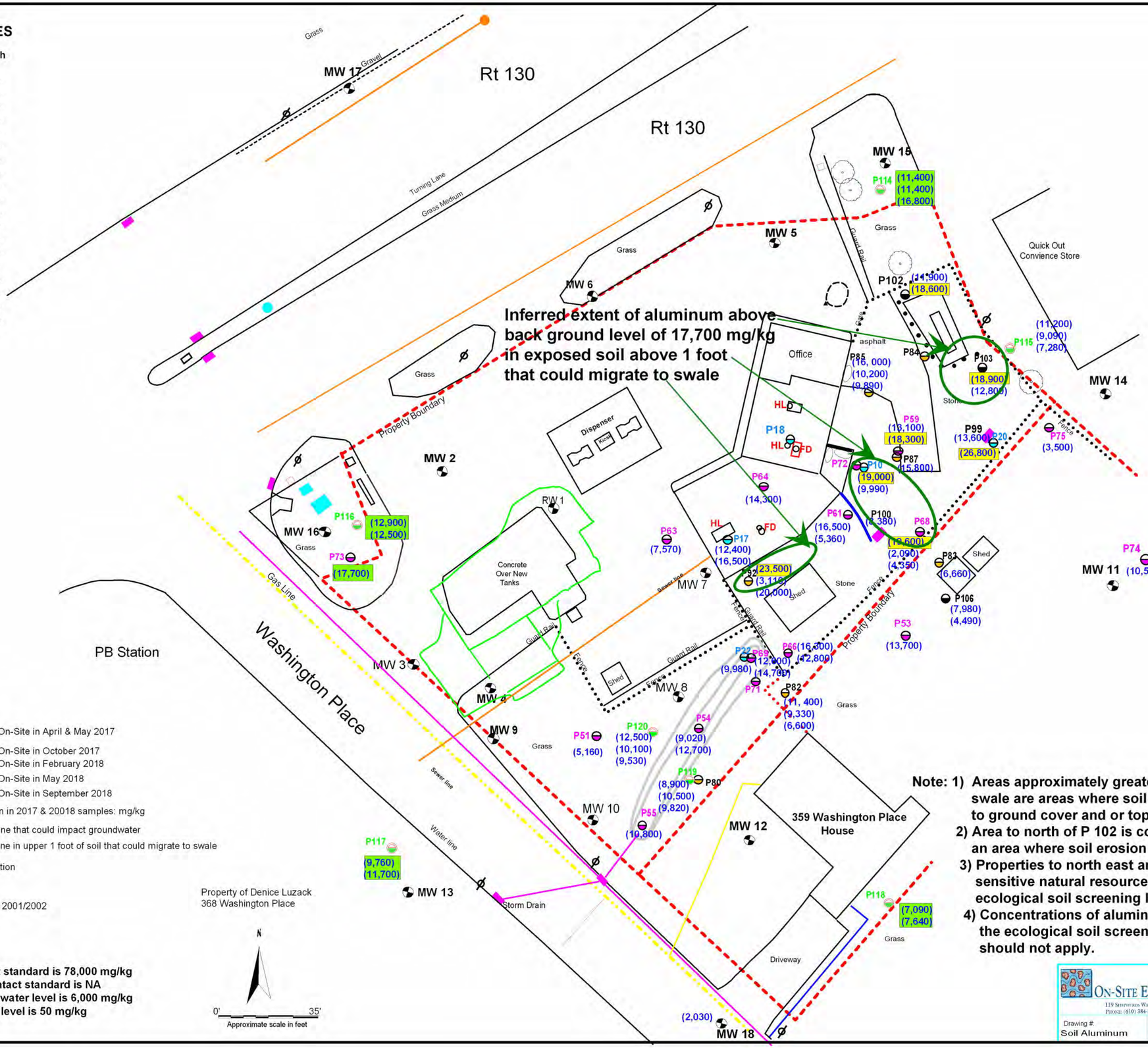
Drawing # Soil copper
Date 12/1/18

Figure 55 Copper Above Background Level of 53 mg/kg that Could Migrate to Swale

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

SOIL SAMPLES

Sample ID	Aluminum (mg/kg)	Depth (ft)
P 114	11,400	0-0.5'
P 114	11,400	0.5-1'
P 114	16,800	6-6.5'
P 115	11,200	0-0.5'
P 115	9,090	0.5-1'
P 115	7,280	6-6.5'
P 116	12,900	0-0.5'
P 116	12,500	0.5-1'
P 117	9,760	0-0.5'
P 117	11,700	0.5-1'
P 118	7,090	0-0.5'
P 118	7,640	0.5-1'
P 119	8,900	0-0.5'
P 119	10,500	0.5-1'
P 119	9,820	1.5-2'
P 120	12,500	0-0.5'
P 120	10,100	0.5-1'
P 120	9,530	1.5-2'
MW 18	2,030	5-5.5'



Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (9,990) Aluminum concentration in 2017 & 20018 samples: mg/kg
- 17,700 17,700 mg/kg contour line that could impact groundwater
- 17,700 17,700 mg/kg contour line in upper 1 foot of soil that could migrate to swale
- (17,700) Back ground Concentration
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

Residential direct contact standard is 78,000 mg/kg
Non-residential direct contact standard is NA
Default impact to ground water level is 6,000 mg/kg
Ecological soil screening level is 50 mg/kg

SOIL SAMPLES

Sample ID	Aluminum (mg/kg)	Depth (ft)
P 10	19,000	0-1'
P 10	9,990	3'
P 17	12,400	4'
P 17	16,500	9'
P 20	26,800	5'
P 22	9,980	0-6"
P 51	5,160	2.5-3'
P 53	13,700	4-4.5'
P 54	9,020	0-0.5'
P 54	12,700	0.5-1'
P 55	10,800	0-4"
P 59	13,100	0-0.5'
P 59	18,300	1.5-2'
P 61	16,500	0-0.5'
P 61	5,360	1.5-2'
P 63	7,570	3-3.5'
P 64	14,300	5.5-6'
P 66	16,300	0-0.5'
P 66	12,800	1.5-2'
P 68	19,600	0-0.5'
P 68	2,090	1.5-2'
P 68	4,350	6-6.5'
P 69	12,600	0.5-1'
P 69	14,700	1-1.5'
P 73	17,700	3'
P 74	10,500	6-6.5'
P 75	3.500	5.5-6'
P 82	11,400	0-0.5'
P 82	9,330	1.5-2'
P 82	6,600	5.5-6'
P 83	6,660	4.5'
P 85	16,000	0-0.5'
P 85	10,200	1.5-2'
P 85	9,890	3.5-4'
P 87	15,800	4.5-5'
P 92	23,500	0-0.5'
P 92	3,110	1.5-2'
P 92	20,000	6-6.5'
P 99	13,600	Storm Drain
P 100	8,380	Storm Drain
P 102	11,900	0-0.5'
P 102	18,600	1-2'
P 103	18,900	0-0.5'
P 103	12,800	1-2'
P 106	7,980	0-0.5'
P 106	4,490	1.5-2'

Note: 1) Areas approximately greater than 15 feet to the east and west of the swale are areas where soil erosion to the swale will not occur due to ground cover and or topographic gradient.
2) Area to north of P 102 is covered with grass and is not an area where soil erosion to the swale will occur.
3) Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening levels are not applicable at those properties.
4) Concentrations of aluminum in back ground samples are higher than the ecological soil screening level therefore the ESSL of 50 mg/kg should not apply.

ON-SITE ENVIRONMENTAL
119 Shipyard Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Aluminum
Date: 11/30/18

Figure 56 Aluminum in Soil Above Back Ground Level of 17,700 mg/kg in exosed soil that could migrateto swale

SOIL SAMPLES

Sample ID	Zinc (mg/kg)	Depth (ft)
P 82	54.9	0-0.5'
P 82	23.5	1.5-2'
P 82	10.1	5.5-6'
P 85	92.2	0-0.5'
P 85	71.6	1.5-2'
P 85	29.7	3.5-4'
p 87	58.5	4.5-5'
P 92	77.9	0-0.5'
P 92	8.9	1.5-2'
P 92	27	6-6.5'
P 99	82	Storm Drain
P 100	132	Storm Drain
P 102	357	0-0.5'
P 102	99.8	1-2'
P 103	104	0-0.5'
P 103	65.3	1-2'
P 105	79.1	0-0.5'
P 106	60.7	0-0.5'
P 106	10.1	1.5-2'
P 114	70.3	0-0.5'
P 114	74.8	0.5-1'
P 114	27.3	6-6.5'
P 115	27.7	0-0.5'
P 115	40.3	0.5-1'
P 115	15.6	6-6.5'
P 116	42.6	0-0.5'
P 116	106	0.5-1'
P 117	39.1	0-0.5'
P 117	122	0.5-1'
P 118	18.4	0-0.5'
P 118	19.4	0.5-1'
P 119	30.7	0-0.5'
P 119	46.4	0.5-1'
P 119	44.8	1.5-2'
P 120	160	0-0.5'
P 120	93.1	0.5-1'
P 120	85.8	1.5-2'
MW 18	6.3	5-5.5'

SOIL SAMPLES

Sample ID	Zinc (mg/kg)	Depth (ft)
P 10	572	0-1'
P 10	65.3	3'
P 17	59.2	4'
P 17	35.5	9'
P 20	37.6	5'
P 22	241	0-6"
P 54	190	0-0.5'
P 54	266	0.5-1'
P 55	184	0-4"
P 59	228	0-0.5'
P 59	1,280	1.5-2'
P 61	109	0-0.5'
P 61	22.2	1.5-2'
P 66	139	0-0.5'
P 66	597	1.5-2'
P 68	63.2	0-0.5'
P 68	<11	1.5-2'
P 68	<11	6-6.5'
P 69	348	0.5-1'
P 69	440	1-1.5'
P 73	31.3	3'
P 74	40.3	6-6.5'

Inferred extent of zinc above background level of 122 mg/kg in exposed soil above 1 foot that could erode to swale

Note: 1) Areas approximately greater than 15 feet to the east and west of the swale are areas where soil erosion to the swale will not occur due to ground cover and or topographic gradient.
2) Area by P 102 is not an area where soil can erode to swale.
3) Properties to north east and south of site do not have environmentally sensitive natural resource or migration pathway to ENSR therefore ecological soil screening level of 6.62 mg/kg is not applicable at those properties.

Key

- Existing Groundwater Monitoring Well
- Soil boring installed by On-Site in April & May 2017
- Soil boring installed by On-Site in October 2017
- Soil boring installed by On-Site in February 2018
- Soil boring installed by On-Site in May 2018
- Soil boring installed by On-Site in September 2018
- (65.3) Zinc concentration: mg/kg
- 122 122 ppm contour line
- 930 930 ppm contour line
- (39.1) (122) Concentration related to Background
- Tree
- Extent of Excavation in 2001/2002
- HL Former hydraulic lift
- FD Former floor drain

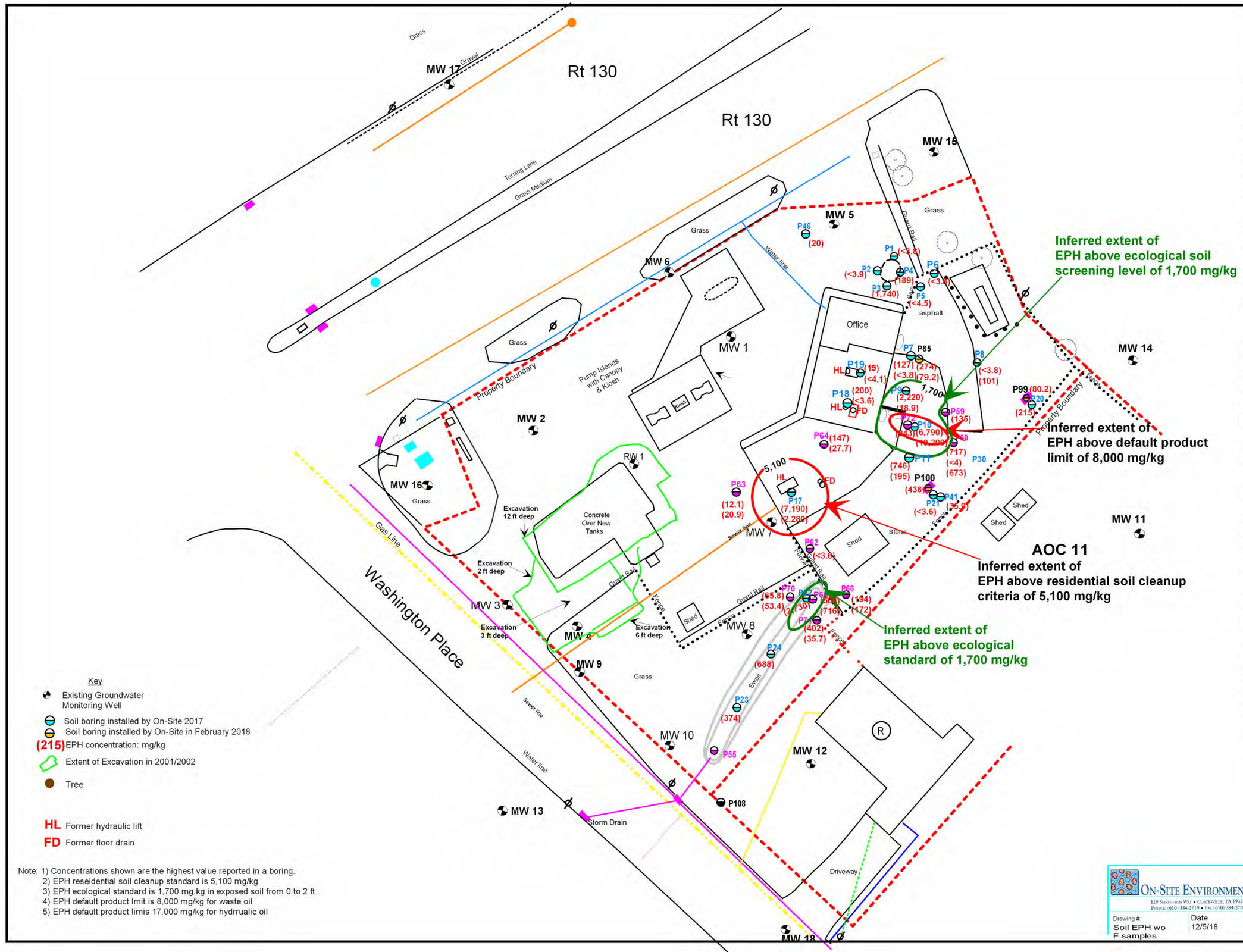
Residential direct contact standard is 23,000 mg/kg
Non-residential direct contact standard is 110,000 mg/kg
Default impact to ground water level is 930 mg/kg
Ecological soil screening level is 6.62 mg/kg

N
0' 35'
Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Soil Zinc
Date 12/1/18

Figure 57 Zinc Above Background Level of 122 mg/kg that Could Migrate to Swale



Note: 1) Concentrations shown are the highest value reported in a boring.
2) EPH reseidential soil cleanup standard is 5,100 mg/kg
3) EPH ecological standard is 1,700 mg.kg in exposed soil from 0 to 2 ft
4) EPH default product lmit is 8,000 mg/kg for waste oil
5) EPH default product limis 17,000 mg/kg for hydrrualic oil

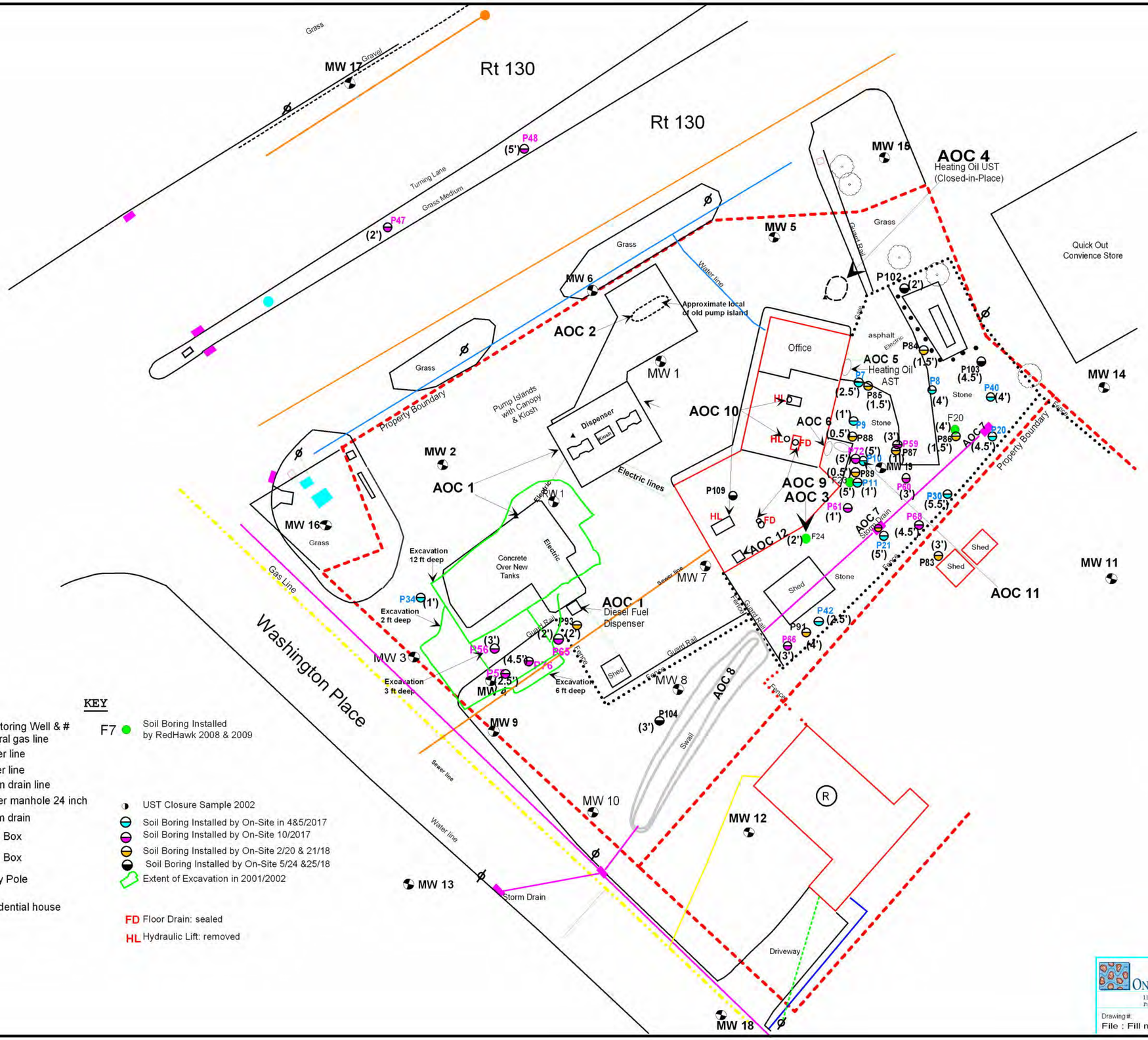
Soil Samples Analyzed for EPH

Sample ID	EPH (mg/kg)	Depth (ft)
P1	<3.8	7-7.5'
P 2	<3.9	4-.5-5'
P 2	<3.8	9-10'
P 3	1,740	4.5-5'
P 3	<3.6	15.5-16'
P 4	189	8-8.5'
P 4	<3.8	14-14.5'
P 5	<4.5	10'
P 6	<3.8	10'
P 7	127	0-6"
P 7	<3.8	9'
P 8	<3.8	6'
P 8	101	12'
P 9	2,220	0-1'
P 9	18.9	6'
P 10	6,790	0-1'
P 10	10,200	3'
P 11	746	0-1'
P 11	195	8'
P 17	7,190	4'
P 17	2,280	9'
P 18	200	4-4.5'
P 18	<3.6	6-7'
P 19	19	5'
P 19	<4.1	16'
P 20	215	5'
P 21	<3.6	5'
P 22	2,730	0-6"
P 23	374	0-6"
P 24	688	0-6"
P 41	35.9	5'
P 46	20.0	6-6.5'
P 59	135	9.5-10'
P 60	717	0-0.5'
P 60	<4	1.5-2'
P 60	673	7.5-8'
P 62	<3.6	8-8.5'
P 63	12.1	3-3.5'
P 63	20.9	7-7.5'
P 64	147	6'
P 64	27.7	8'
P 66	194	0-0.5'
P 66	172	1.5-2'
P 69	568	0.5-1'
P 69	716	1-1.5'
P 70	65.8	0-0.5'
P 70	53.4	1.5-2'
P 71	402	0-0.5'
P 71	35.7	1.5-2'
P 72	243	6.5-7'
P 85	274	0-0.5'
P 85	79.2	1.5-2'
P 99	80.2	Storm Drain
P 100	438	Storm Drain

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # Soil EPH wo F samples
Date 12/5/18

Figure 58 EPH in Soil Above Default Product Limit & Residential Cleanup criteria & Ecological Soil Sreening Level



Boring ID	Depth of Historic Fill at Rear of Site
P 7	0-2.5'
P 8	0-4'
P 9	0-1'
P 10	0-5'
P 11	0-1'
P 20	0-4.5'
P 21	0-5'
P30	0-5.5'
P 40	0-4'
P 42	0-2.5'
P 47	1-2'
P 48	1-5'
P 59	1.5-3'
P 60	1-3'
P 61	0-1'
P66	0-3'
P68	2.5-4.5'
P72	1-5'
P83	0-3'
P84	0.5-1.5'
P85	0.5-1.5'
P86	0.5-1.5'
P87	0.5-1'
P 88	0-0.5
P89	0-0.5'
P91	0-4'
P102	1-2'
P103	0.5-4.5'
P104	0.5-3'
F20	0.5-4'
F21	0-4'
F23	0-5'
F24	0-2'

KEY

- MW 6 — Monitoring Well & #
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R — Residential house
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- UST Closure Sample 2002
- Soil Boring Installed by On-Site in 4&5/2017
- Soil Boring Installed by On-Site 10/2017
- Soil Boring Installed by On-Site 2/20 & 21/18
- Soil Boring Installed by On-Site 5/24 &25/18
- Extent of Excavation in 2001/2002
- FD Floor Drain: sealed
- HL Hydraulic Lift: removed

Boring ID	Fill in Other Borings
P 34	1'
P 47	2'
P 48	5'
P 56	3'
P 57	2.5'
P 65	1-2'
P 76	4.5'
P 93	1-2'

ON-SITE ENVIRONMENTAL
119 Shoemakers Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: File : Fill map

Date 12/1/18

Figure 59 Fill Areas

North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Rt 130

Rt 130

Grass

Gravel

MW 17
(<0.43)

1

20

Grass Medium

MW 15
(<0.43)

MW 5
(<0.43)

Guard Rail

Grass

Quick Out
Convience Store

Fence

Water line

MW 6
(46.2)

Test asphalt

Office

Grass

MW 1
(1,660)

Stone

HL

Property Boundary

Dispenser

Kiosk

HL

FD

Stone

MW 14
(<0.43)

Fence

MW 2
(515)

MW 19
(1,530)

Property Boundary

RW 1
(510)

HL

FD

Storm Drain

MW 16
(<0.43)

Grass

Concrete
Over New
Tanks

Sewer line

MW 7
(71.5)

Shed

Stone

Fence

Shed

Shed

MW 11
(<0.43)

Gas Line

Guard Rail

Fence

Guard Rail

Guard Rail

Washington Place

MW 3
(<0.43)

MW 4
(8.2)

Shed

Fence

MW 8
(<0.43)

Fence

MW 9
(<0.43)

Grass

Swale

Sewer line

MW 10
(<0.43)

MW 12
(<0.43)

R

Water line

MW 13
(<0.43)

Storm Drain

Driveway

Water Line

MW 18
(<0.43)

MW 20
(0.68)

KEY

MW 6 Monitoring Well & #
Electric line
Natural gas line
Sewer line
Water line
Storm drain line
Sewer manhole 24 inch
Storm drain
DOT Box
DOT Box
Utility Pole
R Residential house
Tree
FD Floor Drain: sealed
HL Hydraulic Lift: removed
Pump Island with dispenser
UST closed in place
Former septic

Key

Existing Groundwater Monitoring Well

(515) Benzene concentration in monitoring wells (ppb)

1 ppb contour line

20 ppb contour line (dashed were approximated)

Note: Groundwater Class IIA standards is 1 ppb
Groundwater screening level for vapor intrusion is 20 pppb.

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 SHEPHERDS WAY • COATESVILLE, PA 19320
PHONE: (610) 384-2719 • FAX (610) 384-2709

Drawing #
Ben 5-2019

Date
6/14/19

Figure 60 Benzene in Groundwater 5/21 & 22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(<0.60)

Grass Medium

MW 15
(<0.5)

MW 5
(<0.60)

Grass

Guard Rail

Grass

Quick Out
Convience Store

Water line

700

MW 6
(149)

Fence

Fence

asphalt

Office

Grass

MW 1
(1750)

HL

Stone

Dispenser

Kiosk

HL

FD

Stone

MW 14
(<0.5)

Property Boundary

Fence

MW 2
(923)

MW 19
(2,800)

Property Boundary

RW 1
(295)

MW 16
(<0.60)

Grass

HL

FD

Storm Drain

Concrete
Over New
Tanks

Sewer line

MW 7
(3.7)

Shed

Stone

Fence

Shed

Shed

MW 11
(1.4)

Gas Line

Guard Rail

Fence

Guard Rail

Washington Place

MW 3
(<0.60)

(<0.60)

MW 4

Fence

Shed

Fence

Guard Rail

MW 8
(<0.60)

Fence

MW 9
(<0.60)

Grass

Swale

Sewer line

MW 10
(<0.60)

Water line

MW 12
(<0.60)

R

MW 13
(<0.60)

Storm Drain

Driveway

MW 18
(0.93 J)

MW 20
(<0.60)

KEY

- MW 6 — Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R — Residential house
- Tree
- FD — Floor Drain: sealed
- HL — Hydraulic Lift: removed
- Pump Island with dispenser
- UST closed in place
- Former septic

Key

- Existing Groundwater Monitoring Well
- (1750) Ethylbenzene concentration in monitoring wells (ppb)
- 700 — 700 ppb contour line

Note:
Groundwater Class IIA standard and groundwater screeening level for vapor intrusion is 700 ppb.

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: EB 5-2019

Date: 6/17/19

Figure 61 Ethyl Benzene in Groundwater 5/21 & 22/19

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Rt 130

Rt 130

Grass

Gravel

MW 17
(<0.53)

Grass Medium

MW 15
(<0.53)

MW 5
(<0.53)

Grass

Guard Rail

Fence

Quick Out
Convience Store

Water line

MW 6
(69.5)

Grass

(2510)
MW 1

Office

asphalt

asphalt

Stone

MW 14
(<0.53)

Property Boundary

600

Dispenser

Kiosk

HL

HL

FD

Stone

Fence

MW 2
(1140)

MW 19
(339)

RW 1
(940)

HL

FD

Storm Drain

MW 16 (<0.53)

Grass

Concrete
Over New
Tanks

Sewer line

MW 7
(0.53)

Shed

Stone

Shed

Shed

MW 11
(15.3)

Gas Line

Guard Rail

Fence

Guard Rail

Guard Rail

Fence

MW 3
(<0.53)

MW 4
(<0.53)

Shed

Fence

MW 8
(<0.5)

Fence

MW 9
(<0.53)

Grass

Swale

Washington Place

Sewer line

MW 10
(<0.53)

R

MW 12
(<0.53)

Water line

MW 13
(<0.53)

Storm Drain

Driveway

MW 18
(<0.53)

MW 20
(<0.53)

Key

Existing Groundwater Monitoring Well

Temporary well installed 4/27/18

(940) Toluene concentration in monitoring wells (ppb)

600 600 ppb contour line

KEY

MW 6 Monitoring Well & #

Electric line

Natural gas line

Sewer line

Water line

Storm drain line

Sewer manhole 24 inch

Storm drain

DOT Box

DOT Box

Utility Pole

R Residential house

Tree

FD Floor Drain: sealed

HL Hydraulic Lift: removed

Pump Island with dispenser

UST closed in place

Former septic

N

0' 30'

Approximate scale in feet

Note: Groundwater Class IIA standard is 600 ppb
Groundwater screening level for vapor intrusion is 330,000 ppb.

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Toluene 5-2019

Date 6/17/19

Figure 62 Toluene in Groundwater 5/21&22/19

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Rt 130

Rt 130

Grass

Gravel

MW 17
(<0.59)

Grass Medium

MW 15
(<0.5)

MW 5
(<0.59)

Grass

Guard Rail

Fence

Quick Out
Convience Store

Water line

MW 6
(662)

Grass

Fence

asphalt

Office

8,600

MW 1
(10,300)

1,000

Property Boundary

Dispenser

Kiosk

HL

FD

Stone

MW 14
(<0.5)

MW 2
(3,620)

MW 19
(10,800)

RW 1
(1,490)

MW 16 (<0.59)

Grass

Concrete
Over New
Tanks

Storm Drain

Gas Line

Sewer line

MW 7
(4.8)

Shed

Shed

MW 11
(<0.59)

Washington Place

MW 3
(<0.59)

MW 4
(<0.59)

Guard Rail

Fence

Shed

MW 8
(<0.59)

MW 9
(<0.59)

Grass

Swale

Sewer line

Water line

MW 10
(<0.59)

MW 12
(<0.5)

R

MW 13
(<0.59)

Storm Drain

Driveway

MW 18
(<0.59)

MW 20
(<0.59)

Key

Existing Groundwater
Monitoring Well

(1,490) Xylene concentration in monitoring wells (ppb)

1,000 1,000 ppb contour line (dashed were approximated)

KEY

- MW 6 Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R Residential house
- Tree
- FD Floor Drain: sealed
- HL Hydraulic Lift: removed
- Pump Island with dispenser
- UST closed in place
- Former septic

Note: Groundwater Class IIA standard is 1,000 ppb
Groundwater screening level for vapor intrusion is 8,600 ppb

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: xylenes 5-2019

Date 5/17/19

Figure 63 Xylenes in Groundwater 5/21&22/19

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Rt 130

Rt 130

Grass

Gravel

MW 17
(<0.51)

Grass Medium

MW 15
(<0.51)

MW 5
(<0.5)

Grass

Guard Rail

Fence

Quick Out
Convience Store

Water line

MW 6
(26)

Grass

Fence

Gate

asphalt

Office

MW 1
(83.6)

Stone

MW 14
(2.9)

Property Boundary

Dispenser

HL

Stone

Fence

HL

FD

MW 2
(65.6)

70

MW 19
(<10)

RW 1
(58.8)

MW 16
(0.78J)

Grass

HL

FD

Storm Drain

Concrete
Over New
Tanks

Gas Line

Sewer line

MW 7
(2.7)

Fence

Guard Rail

Shed

Stone

Shed

Shed

MW 11
(<0.51)

Washington Place

MW 3
(65.4)

Guard Rail

Fence

Shed

Fence

MW 4
(12.3)

MW 8
(0.75J)

Fence

MW 9
(0.51J)

Grass

Swale

Sewer line

MW 10
(<0.51)

R

MW 12
(<0.51)

Water line

Storm Drain

MW 13
(<0.51)

Driveway

MW 18
(<0.51)

MW 20
(<0.51)

KEY

- MW 6 — Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R — Residential house
- Tree
- FD — Floor Drain: sealed
- HL — Hydraulic Lift: removed
- Pump Island with dispenser

Key

- Existing Groundwater Monitoring Well
- Temporary well installed & sampled 10/4/17
- Temporary well installed & sampled 2/21/18
- (58.8) MTBE concentration in monitoring wells (ppb)

—70— 70 ppb contour line (dashed were approximated)

Note: Groundwater Class IIA standards is 70 ppb
Groundwater screening level for vapor intrusion is 580 pppb.

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: MTBE5-2019

Date 5/17/19

Figure 64 MTBE in Groundwater 5/21& 22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(<5.8)

Grass Medium

MW 15
(<5.8)

MW 5
(<5.8)

Grass

Guard Rail

Grass

Quick Out
Convience Store

Water line

Fence

MW 6
(62)

Gate

asphalt

Office

Grass

MW 1
(<120)

Stone

MW 14
(13.5)

Property Boundary

Dispenser

Kiosk

HL

FD

Stone

Fence

MW 2
(241)

MW 19
(<120)

Property Boundary

(111)

RW 1

100

MW 16
(<5.8)

Grass

Concrete
Over New
Tanks

Electric

HL

FD

Storm Drain

Shed

Shed

Gas Line

Sewer line

MW 7
(6.7J)

Fence

Guard Rail

Stone

Shed

MW 11
(<5.8)

Fence

Guard Rail

Guard Rail

MW 3
(64.3)

(7.0J)
MW 4

Fence

Shed

Fence

MW 8
(<5.8)

Fence

Washington Place

MW 9
(<5)

Grass

Swale

Sewer line

MW 10
(<5.8)

R

MW 12
(<5.8)

Water line

MW 13
(<5.8)

Storm Drain

Driveway

MW 18
(<5.8)

MW 20
(<5.8)

KEY

- MW 6 Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R Residential house
- Tree
- FD Floor Drain: sealed
- HL Hydraulic Lift: removed
- Pump Island with dispenser

Key

- Existing Groundwater Monitoring Well
- Temporary well installed & sampled 10/4/17
- Temporary well installed & sampled 2/21/18
- (241) TBA concentration in monitoring wells
- 100 100 ppb contour line (dashed were approximated)
- (<120) Detection level higher than standard

N

0' 30'

Approximate scale in feet

Note: Groundwater Class IIA standards is 100 ppb

119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: TBA 5-2019

Date 5/17/19

Figure 65 TBA in Groundwater
5/21&22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(<1)

Grass Medium

100

MW 5
(8)

Grass

Guard Rail

Grass

Quick Out
Convience Store

Water line

Fence

MW 6
(961)

Cable

asphalt

Office

Grass

MW 1
(1,030)

HL

Stone

Stone

Dispenser

Kiosk

HL

FD

MW 14
(<1)

Property Boundary

Fence

MW 2
(929)

MW 19
(2450)

Property Boundary

RW 1
(178)

HL

FD

MW 16
(<1)

Grass

Storm Drain

Shed

Shed

Concrete
Over New
Tanks

Sewer line

MW 7
(14.5)

Stone

Gas Line

Guard Rail

Fence

Guard Rail

Shed

Fence

Guard Rail

Fence

Fence

Washington Place

MW 3
(<1)

MW 4
(<1)

MW 8
(<1)

MW 9
(<1)

Grass

Swale

Sewer line

MW 10
(<1)

R

MW 12
(<1)

Water line

MW 13
(<1)

Storm Drain

Driveway

MW 18
(1.4 J)

MW 20
(<1)

Getty Station

Key

Existing Groundwater Monitoring Well

(961) 1,2,4-Trimethylbenzene concentration in monitoring wells

—100— 100 ppb contour line (dashed were approximated)

Note: Groundwater interum standard is 100 ppb

KEY

- MW 6 Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R Residential house
- Tree
- FD Floor Drain: sealed
- HL Hydraulic Lift: removed
- Pump Island with dispenser
- UST closed in place
- Former septic

N

0' 30'

Approximate scale in feet

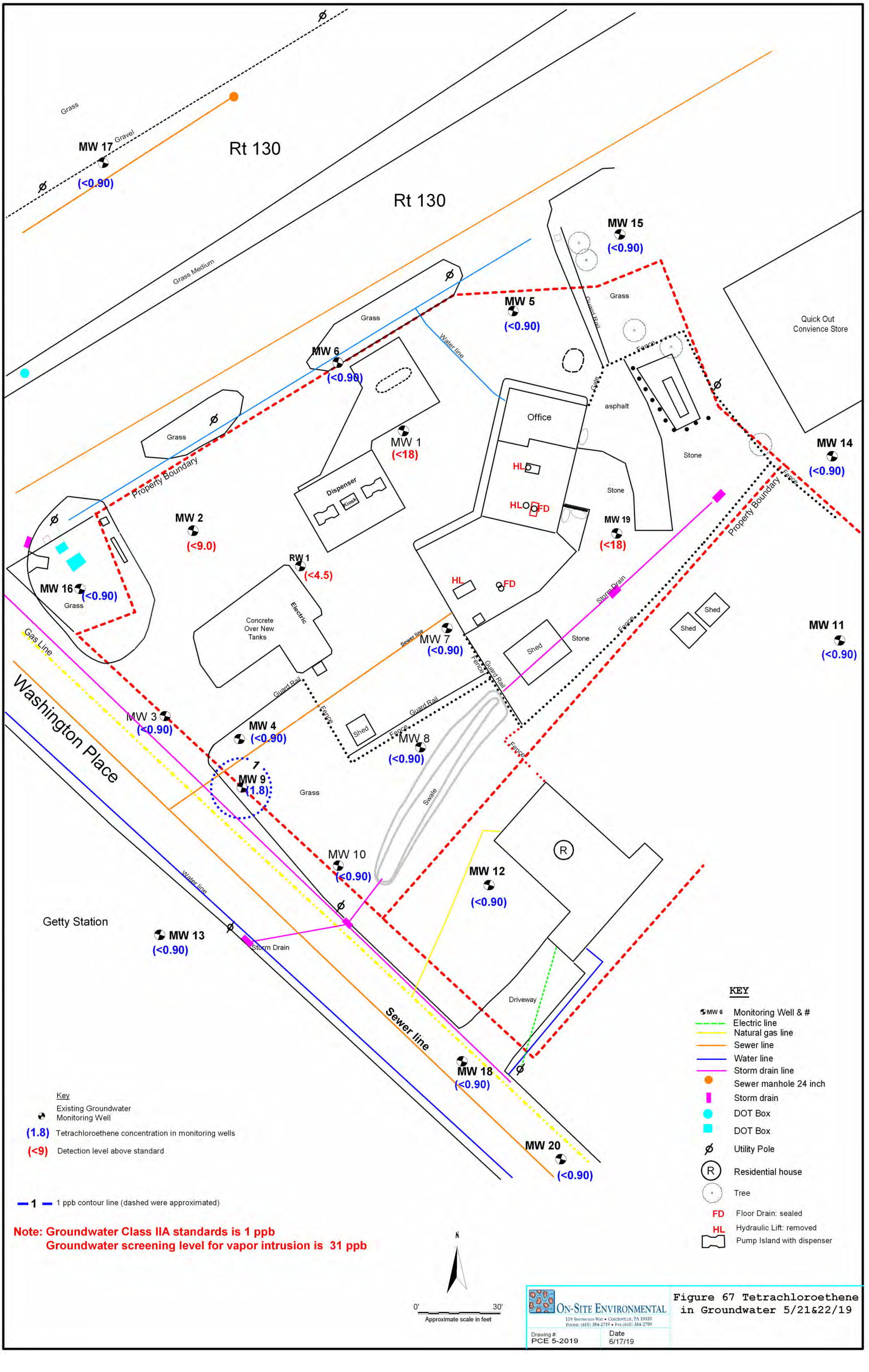
ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: 124 TMB 5-2019

Date 6/17/19

Figure 66 1,2,4-TMB in Groundwater 5/21&22/19

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey



ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # PCE 5-2019

Date 6/17/19

Figure 67 Tetrachloroethene in Groundwater 5/21&22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(0)

500

Grass Medium

MW 15
(0)

MW 5
(332 J)

Guard Rail

Grass

Quick Out
Convience Store

Fence

Water line

MW 6
(1,160 J)

Gas Line

asphalt

Office

Grass

MW 1
(4,630 J)

HL

Stone

MW 14
(5.9 J)

Property Boundary

Dispenser

Kiosk

HL

FD

Stone

Fence

MW 2
(8,140)

MW 19
(6,540 J)

RW 1
(1,015 J)

HL

FD

Storm Drain

MW 16
(0)

Grass

Concrete
Over New
Tanks

Electric

Shed

Shed

MW 11
(0)

Gas Line

Sewer line

MW 7
(24.6 J)

Stone

Fence

Guard Rail

Guard Rail

Fence

Shed

Fence

Guard Rail

Fence

MW 3
(0)

MW 4
(0)

MW 8
(0)

Washington Place

MW 9
(0)

Grass

Swale

MW 10
(0)

R

MW 12
(0)

Water line

Getty Station

MW 13
(0)

Storm Drain

Driveway

Sewer line

MW 18
(28 J)

MW 20
(7.2 J)

Key

Existing Groundwater
Monitoring Well

(8,140) VOC TIC concentration in monitoring wells (ug/l)

1 1 ppb contour line (dashed were approximated)

Note: Groundwater cleanup criteria is 100 individual/500 total ppb
Groundwater screening level for vapor intrusion is 31 ppb

N

0' 30'

Approximate scale in feet

KEY

- MW 6 Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R Residential house
- Tree
- FD Floor Drain: sealed
- HL Hydraulic Lift: removed
- Pump Island with dispenser
- UST closed in place
- Former septic

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: VOC TICs 5-2019

Date 6/17/19

Figure 68 VOC TICs in Groundwater 5/21&22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(<1.7)

Grass Medium

MW 15
(<1.6)

MW 5
(<1.6)

Guard Rail

Grass

Quick Out
Convience Store

Fence

Water line

MW 6
(<1.6)

Gate

asphalt

Office

Grass

MW 1
(5)

Stone

MW 14
(<1.6)

HL

Dispenser

Kiosk

Stone

Fence

HL

FD

Property Boundary

MW 2
(<1.6)

MW 19
(<1.6)

RW 1
(<1.7)

Property Boundary

HL

FD

MW 16
(<1.7)

Grass

Storm Drain

Concrete
Over New
Tanks

Shed

Shed

Gas Line

Sewer line

MW 7
(<1.6)

Stone

MW 11
(<1.7)

Guard Rail

Fence

Guard Rail

Fence

Shed

Fence

Guard Rail

Fence

MW 3
(<1.6)

MW 4
(<1.6)

MW 8
(<1.7 J)

Washington Place

MW 9
(<1.6)

Grass

Swale

MW 10
(<1.6)

R

MW 12
(<1.6)

Water line

Getty Station

MW 13
(<1.6)

Storm Drain

Sewer line

Driveway

MW 18
(<1.7)

MW 20
(<1.7)

Key

Existing Groundwater
Monitoring Well

(5) Bis(2-ethylhexyl)phtyhalate concentration in monitoring wells

1 1 ppb contour line (dashed were approximated)

Note: Groundwater Class IIA standards is 3 ppb

KEY

- MW 6 Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R Residential house
- Tree
- FD Floor Drain: sealed
- HL Hydraulic Lift: removed
- Pump Island with dispenser

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # Bis 5-2019

Date 6/17/19

Figure 69
Bis(2-ethylhexyl)phthalate
in Groundwater 5/21&22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(<0.21)

Grass Medium

MW 15
(<0.20)

MW 5
(<0.21)

Grass

Guard Rail

Grass

Quick Out
Convience Store

Water line

Fence

MW 6
(29.4)

Gate

asphalt

Office

Grass

30

MW 1
(34)

Stone

HL

Property Boundary

Dispenser

Kiosk

Stone

HL

FD

Fence

MW 14
(<0.20)

MW 2
(56.1)

MW 19
(92.3)

Property Boundary

RW 1
(5.9)

HL

FD

Storm Drain

MW 16
(<0.21)

Grass

Concrete
Over New
Tanks

Shed

Shed

Stone

Fence

MW 11
(<0.21)

Gas Line

Sewer line

MW 7
(1.1)

Guard Rail

Fence

Guard Rail

Washington Place

MW 3
(<0.1)

(<0.20)

MW 4

Shed

Fence

Guard Rail

MW 8
(<0.20)

Fence

MW 9
(<0.20)

Grass

Swale

Sewer line

Getty Station

MW 10
(<0.20)

R

MW 12
(<0.20)

Water line

Storm Drain

MW 13
(<0.20)

Driveway

MW 18
(5.8)

MW 20

(0.98J)

Key

Existing Groundwater Monitoring Well

(34) 2-methylnaphthalene concentration in monitoring wells (ppb)

30 30 ppb contour line (dashed were approximated)

Note: Groundwater Class IIA standards is 30 ppb

N

0' 30'

Approximate scale in feet

KEY

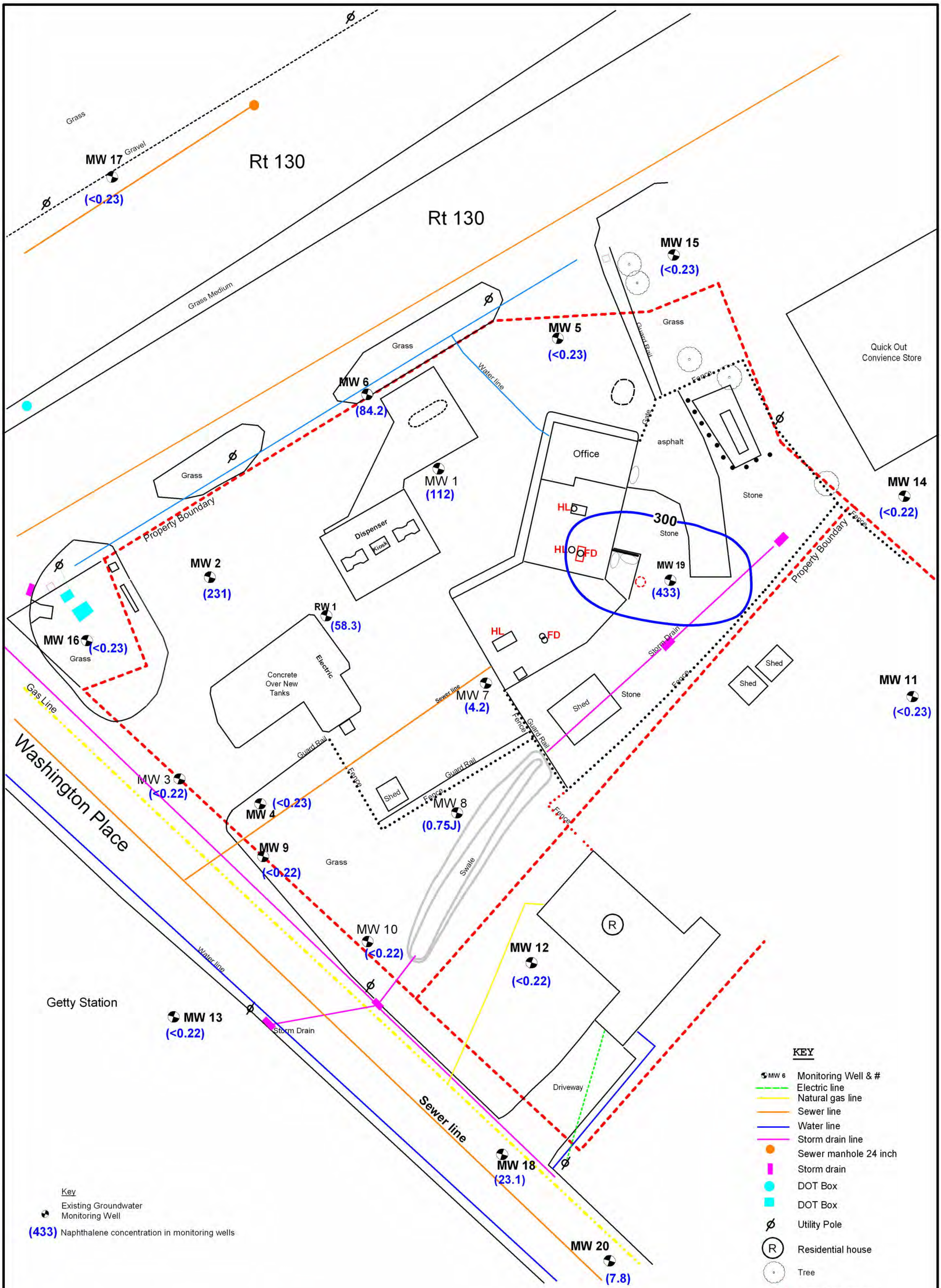
- MW 6 Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R Residential house
- Tree
- FD Floor Drain: sealed
- HL Hydraulic Lift: removed
- Pump Island with dispenser
- UST closed in place
- Former septic

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: 2Mnap 5-2019

Date 6/17/19

Figure 70 2-Methylnaphthalene in Groundwater 5/21&22/19



ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Nap 5-2019

Date 6/17/19

Figure 71 Naphthalene in Groundwater 5/21&22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(<0.26)

Grass Medium

MW 15
(<0.26)

MW 5
(1.8)

Grass

Guard Rail

Fence

Quick Out
Convience Store

Water line

MW 6
(22.8)

Fence

Gate

asphalt

Office

Grass

TB7-1

MW 1
(17.6)

Stone

HL

Dispenser

Kiosk

Property Boundary

Stone

HL

FD

MW 14
(<0.25)

Fence

MW 2
(28.3)

MW 19
(7.5 J)

Property Boundary

RW 1
(5.1)

HL

FD

Storm Drain

MW 16
(<0.26)

Grass

Concrete
Over New
Tanks

Electric

Shed

Shed

Shed

Stone

Fence

MW 11
(<0.26)

Gas Line

Sewer line

MW 7
(0.65 J)

Fence

Guard Rail

Guard Rail

Guard Rail

Fence

MW 3
(<0.25)

Shed

Fence

MW 4
(<0.26)

MW 8
(<0.25)

Fence

MW 9
(<0.25)

Grass

Swale

MW 10
(<0.25)

R

MW 12
(<0.25)

Water line

MW 13
(<0.25)

Storm Drain

Driveway

5

MW 18
(5.2)

Sewer line

MW 20
(2.5)

Washington Place

KEY

- MW 6 — Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R — Residential house
- Tree
- FD — Floor Drain: sealed
- HL — Hydraulic Lift: removed
- Pump Island with dispenser

Getty Station

Key

- Existing Groundwater Monitoring Well

(100) 1-methylnaphthalene concentration in monitoring wells on 12/19-21/2016 except MW 17, MW 18, MW 19 & MW 20
Concentration in MW 17, MW 18 & MW 19 on 10/3/18(ppb)
Concentration in MW 18 on 11/15/18

— 5 — 5 ppb contour line (dashed were approximated)

a: sample extracted out of hold time

Note: Groundwater interim standards is 5 ppb

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # GW 1-methylnap May 2019

Date 2/19/19

Figure 72 1-Methylnaphthalene in Groundwater 5/21 -22/2019

North Bruswick Gulf
1696 Georges Road Rt 130
North Brunswick,New Jersey

Rt 130

Rt 130

Grass

Gravel

MW 17
(0)

Grass Medium

MW 15
(0)

MW 5
(231.5 J)

Guard Rail

Grass

Quick Out
Convience Store

Fence

Gate

asphalt

Water line

MW 6
(1,518 J)

Grass

TB7-1

MW 1
(1,602 J)

Office

Stone

MW 14
(3.9 J)

Property Boundary

Dispenser

Kiosk

HL

FD

Stone

Fence

MW 2
(1,438 J)

MW 19
(3,898 J)

RW 1
(560.2 J)

500

MW 16
(18 J)

Grass

Concrete
Over New
Tanks

Electric

HL

FD

Storm Drain

Property Boundary

Shed

Shed

MW 11
(4.2 J)

Gas Line

Sewer line

MW 7
(122.6 J)

Stone

Fence

Guard Rail

Shed

Guard Rail

Fence

Washington Place

MW 3
(0)

MW 4
(19 J)

Fence

Shed

Guard Rail

Fence

MW 8
(22 J)

Fence

MW 9
(24 J)

Grass

Swale

MW 10
(15.9 J)

R

MW 12
(6.9 J)

Water line

Getty Station

MW 13
(0)

Storm Drain

Sewer line

Driveway

MW 18
(21.2 J)

MW 20
(5.2 J)

Key

Existing Groundwater
Monitoring Well

(1,602 J) SVOC TIC estimated concentration in monitoring wells (ug/l)

500 500 ppb contour line (dashed were approximated)

KEY

MW 6 Monitoring Well & #
Electric line
Natural gas line
Sewer line
Water line
Storm drain line
Sewer manhole 24 inch
Storm drain
DOT Box
DOT Box
Utility Pole
R Residential house
Tree
FD Floor Drain: sealed
HL Hydraulic Lift: removed
Pump Island with dispenser

Note: Groundwater cleanup criteria is 100 individual/500 total ppb
Groundwater screening level for vapor intrusion is 31 ppb

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # SVOC TICs 5-2019

Date 6/17/19

Figure 73 SVOC TICs in Groundwater 5/21&22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(2)

Grass Medium

MW 15
(3.6)

3

MW 5
(5)

Grass

Guard Rail

Grass

Quick Out
Convience Store

Water line

Fence

MW 6
(2)

Gate

asphalt

Office

Grass

MW 1
(1.3)

Stone

HL

Stone

Dispenser

Kiosk

HL FD

MW 14
(4.6)

Property Boundary

Fence

MW 2
(1.8)

MW 19
(8)

RW 1
(<1.0)

Property Boundary

Storm Drain

MW 16
(1.1)

Grass

HL

FD

Concrete
Over New
Tanks

Electric

Shed

Shed

MW 11
(1.9)

Gas Line

Sewer line

MW 7
(4.2)

Stone

Shed

Fence

Guard Rail

Guard Rail

Fence

Guard Rail

Fence

Washington Place

MW 3
(<1.0)

(<1.0)
MW 4

Shed

Fence

MW 8
(4.2)

Fence

MW 9
(1.2)

Grass

Swale

MW 10
(17.4)

R

MW 12
(4.6)

Water line

MW 13
(8.7)

Storm Drain

3

Driveway

Water Line

MW 18
(3.9)

Sewer line

MW 20
(1.4)

KEY

MW 6 Monitoring Well & #
Electric line
Natural gas line
Sewer line
Water line
Storm drain line
Sewer manhole 24 inch
Storm drain
DOT Box
DOT Box
Utility Pole
R Residential house
Tree
FD Floor Drain: sealed
HL Hydraulic Lift: removed
Pump Island with dispenser
UST closed in place
Former septic

Key

Existing Groundwater Monitoring Well

(1.2) Arsenic concentration in monitoring wells (ppb)

(5) Concentration above standard

3 Inferred extent of arsenic above standard of 3 ug/l dashed where approximated

Note: Groundwater Class IIA standards is 3 ppb

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # GW Arsenic

Date 6/17/19

Figure 74 Arsenic in Groundwater 5/21&22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(<1.0)

Grass Medium

Grass

MW 6
(<1.0)

Water line

MW 5
(<1.0)

Guard Rail

Grass

Fence

Quick Out
Convience Store

Gate

asphalt

Office

HL

HL

FD

Stone

Stone

MW 15
(<1.0)

MW 14
(6.7)

1

Property Boundary

Fence

Grass

MW 1
(<1.0)

Dispenser

Kiosk

Property Boundary

MW 2
(<1.0)

MW 19
(<1.0)

RW 1
(<1.0)

MW 16
(<1.0)

Grass

Concrete
Over New
Tanks

Electric

HL

FD

Storm Drain

Shed

Shed

Stone

Fence

Gas Line

Sewer line

MW 7
(<1.0)

Guard Rail

Fence

Guard Rail

MW 11
(<1.0)

1

Washington Place

MW 3
(2.1)

Guard Rail

Fence

Shed

Fence

Guard Rail

Fence

(<1.0)
MW 4

MW 8
(<1.0)

MW 9
(<1.0)

Grass

Swale

MW 10
(<1.0)

R

MW 12
(<1.0)

Water line

MW 13
(<1.0)

Storm Drain

Driveway

Water Line

MW 18
(<1.0)

Sewer line

1

MW 20
(2.7)

KEY

MW 6 Monitoring Well & #
Electric line
Natural gas line
Sewer line
Water line
Storm drain line
Sewer manhole 24 inch
Storm drain
DOT Box
DOT Box
Utility Pole
R Residential house
Tree
FD Floor Drain: sealed
HL Hydraulic Lift: removed
Pump Island with dispenser

Key

Existing Groundwater
Monitoring Well

(<1.0) Beryllium concentration in monitoring wells

(2.1) Beryllium concentration above standard

— 1 — Inferred extent of beryllium above standard of 1 ug/l dashed where approximated

Note: Groundwater Class IIA standards is 1 ppb

Tree

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #
Beryllium GW

Date
6/17/19

Figure 75 Beryllium
Groundwater 5/21&22/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(<50)

Grass Medium

MW 15
(<50)

MW 5
(<50)

Grass

Guard Rail

Grass

Quick Out
Convience Store

Water line

MW 6
(<50)

Fence

Gate

asphalt

Office

MW 1
(<50)

Grass

Stone

MW 14
(87.2)

HL

Dispenser

Kiosk

Stone

Property Boundary

HL FD

Fence

MW 2
(<50)

MW 19
(<50)

RW 1
(<50)

MW 16
(<50)

Grass

HL

FD

Storm Drain

Concrete
Over New
Tanks

Electric

Shed

Shed

Gas Line

Sewer line

MW 7
(<50)

Stone

MW 11
(<50)

Guard Rail

Fence

Guard Rail

Shed

Fence

Guard Rail

Fence

Washington Place

MW 3
(71.8)

MW 4
(<50)

MW 8
(<50)

MW 9
(<50)

Grass

Swale

MW 10
(<50)

R

MW 12
(<50)

Water line

MW 13
(<50)

Storm Drain

Driveway

Water Line

MW 18
(<50)

Sewer line

100

MW 20
(121)

KEY

MW 6 Monitoring Well & #
Electric line
Natural gas line
Sewer line
Water line
Storm drain line
Sewer manhole 24 inch
Storm drain
DOT Box
DOT Box
Utility Pole
R Residential house
Tree
FD Floor Drain: sealed
HL Hydraulic Lift: removed
Pump Island with dispenser

Key

Existing Groundwater Monitoring Well

(<50) Cobalt concentration in monitoring wells (ppb)

(121) Concentration above groundwater standard

—100— Inferred extent of cobalt above standard of 100 ug/l dashed where approximated

Note: Groundwater Class IIA standards is 100 ppb

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # GW Cobalt

Date 6/17/19

Figure 76 Cobalt in Groundwater 5/21&22/19

Rt 130

Rt 130

5

Grass

Gravel

MW 17
(6.3)

Grass Medium

MW 15
(17.5)

5

MW 5
(<3)

Grass

Guard Rail

Grass

Quick Out
Convience Store

Water line

Fence

MW 6
(4.5)

Gate

asphalt

Office

Grass

MW 1
(<3)

HL

Stone

Dispenser

Kiosk

HL FD

Stone

MW 14
(11.4)

Property Boundary

Fence

MW 2
(<3)

MW 19
(<3)

RW 1
(<3)

HL

FD

MW 16
Grass
(<3)

Concrete
Over New
Tanks

Electric

Storm Drain

Shed

Shed

MW 11
(<3)

Gas Line

Sewer line

MW 7
(<15)

Fence

Guard Rail

Stone

Shed

Washington Place

Guard Rail

Fence

MW 3
(<3)

Guard Rail

Fence

MW 4
(<3)

Shed

MW 8
(3)

Fence

MW 9
(<3)

Grass

Swale

MW 10
(<3)

R

MW 12
(<3)

Water line

MW 13
(<3)

Storm Drain

Driveway

Water Line

MW 18
(<3)

Sewer line

MW 20
(<6)

KEY

- MW 6 Monitoring Well & #
- Electric line
- Natural gas line
- Sewer line
- Water line
- Storm drain line
- Sewer manhole 24 inch
- Storm drain
- DOT Box
- DOT Box
- Utility Pole
- R Residential house
- Tree
- FD Floor Drain: sealed
- HL Hydraulic Lift: removed
- Pump Island with dispenser

Key

- Existing Groundwater Monitoring Well
- (<3) Lead concentration in monitoring wells (ppb)
- (11.4) Concentration above standard
- (<15) Detection level above standard
- — 5 — Inferred extent of lead above standard of 5 ug/l dashed where approximated

Note: Groundwater Class IIA standards is 5 ppb

N

0' 30'

Approximate scale in feet

Figure 77 Lead in Groundwater
5/21&22/19

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # GWLead

Date 6/18/19

Rt 130

Rt 130

Grass

Gravel

MW 17
(13.1)

Grass Medium

MW 15
(16.2)

Grass

Guard Rail

Quick Out
Convience Store

MW 5
(<10)

Water line

Fence

Gate

asphalt

100

Grass

Office

MW 1
(<10)

MW 6
(<10)

Stone

MW 14
(114)

HL

Dispenser

Kiosk

Property Boundary

HL

FD

Stone

MW 2
(21.3)

MW 19
(<10)

RW 1
(<10)

Property Boundary

Fence

MW 16
(33.4)

Grass

HL

FD

Storm Drain

Shed

Shed

Concrete
Over New
Tanks

Electric

Gas Line

Sewer line

MW 7
(21.1)

Stone

MW 11
(22)

Guard Rail

Fence

Guard Rail

Shed

Fence

Guard Rail

Fence

MW 3
(97)

(29.7)
MW 4

MW 8
(20.3)

Fence

Washington Place

MW 9
(19.9)

Grass

Swale

MW 10
(22.3)

R

MW 12
(14.3)

Water line

MW 13
(26)

Storm Drain

Driveway

Water Line

MW 18
(<10)

Sewer line

100

MW 20
(172)

KEY

MW 6 Monitoring Well & #
Electric line
Natural gas line
Sewer line
Water line
Storm drain line
Sewer manhole 24 inch
Storm drain
DOT Box
DOT Box
Utility Pole
R Residential house
Tree
FD Floor Drain: sealed
HL Hydraulic Lift: removed
Pump Island with dispenser

Key

Existing Groundwater Monitoring Well

(22) Nickel concentration in monitoring wells (ppb)

(114) Concentration above standard

—100— Inferred extent of nickel above standard of 100 ug/l dashed where approximated

Note: Groundwater Class IIA standards is 100 ppb

Tree

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL

119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #. GW Nickel

Date 6/17/19

Figure 78 Nickel in Groundwater 5/21&22/19

Rt 130

Rt 130

Grass

Gravel

MW 17

Grass Medium

MW 15

MW 5

Grass

Guard Rail

Quick Out
Convience Store

Fence

Water line

MW 6

Gate

asphalt

Office

MW 1

Grass

Stone

MW 14

HL

Dispenser

Kiosk

Property Boundary

Stone

HL

FD

MW 2

MW 19

Property Boundary

Fence

RW 1

HL

FD

MW 16

Grass

Storm Drain

Concrete
Over New
Tanks

Electric

Sewer line

MW 7

Shed

Shed

Shed

Stone

Fence

Guard Rail

Fence

Guard Rail

Gas Line

MW 11

Washington Place

MW 3

Guard Rail

Fence

Shed

Fence

MW 4

MW 8

Fence

Proposed CEA Boundary

MW 9

Grass

Swale

Sewer line

MW 10

R

MW 12

Water line

MW 13

Storm Drain

Driveway

Water Line

MW 18

MW 20

KEY

MW 6 Monitoring Well & #
Electric line
Natural gas line
Sewer line
Water line
Storm drain line
Sewer manhole 24 inch
Storm drain
DOT Box
DOT Box
Utility Pole
R Residential house
Tree
FD Floor Drain: sealed
HL Hydraulic Lift: removed
Pump Island with dispenser
CEA Boundary Extent

N

0' 30'

Approximate scale in feet

ON-SITE ENVIRONMENTAL

119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: CEA 2nd extent map

Date 8/2/19

Figure 79 CEA Boundary Extent

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

- The soil and groundwater permits will require initial fees, annual fees and inspections and biennial certification reporting that ensures the conditions remain the same and that the engineering controls (cap) continue to be protective of public health and the environment. Once the permits are in place the annual remediation fee is no longer applicable.

- The deed notice will restrict the site to non-residential and describe where the soil exceeds the non-residential standards. The deed notice needs to be in place before a soil permit application is submitted. After the permits are in pace the LSRP can issue a Remedial Action Outcome (RAO).

- A Remedial Action Work Plan (RAP) needs to be developed to detail the remedial actions discussed above.

15.0 CONTACT INFORMATION

CONTACT	ADDRESS	NAME/TELEPHONE
Site Owner/Partner	555 Georges Rd Dayton, NJ 08810	Mr. Walter Lapp Jr. 732-710-7209
Site Owner/Partner	582 S. Waterloo Rd Devon, Pa. 19333	Mrs. Ruth Frey 267-426-6298
Licensed Site Remediation Professional	On-Site Environmental, Inc. 119 Shepherds Way Coatesville, Pa. 19320	Frank Jasiulewicz 610-384-2719

16.0 VARIANCE FROM REGULATIONS

- No Form A were available for submittal for MW 5 through MW 10 installed by the Whitman Company in 2004.
- No EDDS were available for submittal for the soil or groundwater samples collected by RedHawk from 2001 through February 2009.
- No EDDS were available for submittal for the soil and groundwater samples collected by the Whitman Co. 2004 & 2005.
- EPH sample P 17 was not fractionated to develop a soil remediation criteria because xylenes was over the soil saturation limit in the sample and would likely have to be remediated.
- The mandatory timeframe to submit the RIR has been exceeded, which was March 1, 2019.

TABLES

Table 1: Summary of Indoor and Ambient Air Samples at Csepes Residence
Collected 2/19/13
North Brunswick Gulf, Inc.
1696 Georges Road RT 130
North Brunswick, Middelsex County
NJDEP PI# 010180

Csepes Residence 359 Washington Place North Brunswick, Middelsex County Block 282; Lot 5	NJDEP Residential Indoor Air Screening Levels	IA Results Basement I-1	IA Results Living Room I-2 Run 1	Outside Ambient Air A-1
Chemical		**2/19/2013**	**2/19/2013**	**2/19/2013**
Acetone	32,000	6.7	14	4.8
Benzene	2	1.1	1.4	0.96
Chloroform	2	0.73 J	0.78 J	ND
Chloromethane	94	0.95	1.2	1.3
Cyclohexane	6,300	0.79	0.72	ND
1,2-Dichloroethane	2	ND	1.3	ND
Dichlorodifluoromethane	100	2.4	2.4	2.4
p-Dichlorobenzene	3	1.1 J	1.3	ND
Ethanol	NA	76.9 E	635 E	13
Ethylbenzene	2	0.56 J	ND	ND
Ethyl Acetate	NA	0.50 J	26	5.8
Heptane	NA	0.61 J	0.41 J	ND
Hexane	730	0.78	0.74	0.34 J
Isopropyl Alcohol	NA	1.5	6.9	0.74
Methylene chloride	96	0.9	1.1	0.87
Methyl ethyl ketone	5,200	0.47 J	0.65	0.91
Naphthalene	3	ND	0.84 J	ND
2,2,4-Trimethylpentane	NA	0.70 J	0.75 J	0.56 J
Tetrachloroethylene	3	ND	0.47	0.48
Toluene	5,200	3.5	3.3	1.8
Trichlorofluoromethane	730	3.3	2	1.3
m,p-Xylene	100	1.8	0.91	1.3
o-Xylene	100	0.52 J	ND	ND
Xylenes (total)	100	2.3	0.91	1.3

Only compounds detected at one or more sample locations above the analytical reporting limits are listed in this table.

All results are in micrograms per cubic miter (ug/m3).

J: Estimated value.

NA: An indoor air screening level is currently not available for this compound.

ND: Not detcted.

E: Indicates value exceeded the calibration range.

Table 2: Sump and Swale Samples

Sample ID	NBG Swale	Csepes Sump	Field Blank	NJDEP Ground Water Standard (ug/l)	NJDEP Surface Water Standard (ug/l)	NJDEP Ground Water Screening Level for Vapor Intrusion (ug/l)
Date	1/15/2014	1/15/2014				
Lab ID	JB57955-1	JB57955-2				
VOCs (ug/l)						
Chloroform	1.1	0.85 J		70	68	70
SVOC (ug/l)						
Bis(2-ethylhexyl)phalate	1.1 B J	<0.59		3	1.2	NS
Benzo(a)anthracene	**0.188**	<0.012		0.1	0.038	NS
Date	1/21/2014		1/21/2014			
Lab ID	JB60243-1		JB60243-2			
VOCs (ug/l)						
Chloroform	<0.25		<0.25	70	68	70
SVOC (ug/l)						
Bis(2-ethylhexyl)phalate	<0.60		<0.59	3	1.2	NS
Benzo(a)anthracene	<0.012		<0.012	0.1	0.038	NS

VOCs: Volatile organic Compounds
SVOCs: Semi Volatile Compounds
ug/l: micro grams per liter = parts per billion
NS: No standard
Note: Bis(2-ethylhexyl)phthalate is also a common laboratory contaminant

J: Estimated concentration
B: Compound found in blank

Table 3: Water Level 12/19/16 Data

WELL ID	WELL DEPTH from TOC (feet)	T.O.C. ELEVATION (feet)	Depth to Screen from TOC (feet)	DTW (feet)	DTP (feet)	PRODUCT THICKNESS (feet)	PRODUCT ELEVATION (feet)	PRODUCT GRAVITY	HYDRO. EQUIV.	CORRECTED DTW (feet)	CORRECTED WATER ELEVATION (feet)
MW 1	20.10 mud	109.95	5	8.27							101.68
MW 2	20.29	109.25	5	6.60							102.65
MW 3	20.25	105.65	5	5.98							99.67
MW 4	21.08 mud	107.42	6.03	3.01							104.41
MW 5	19.43	110.27		8.96							101.31
MW 6	19.48	110.02		8.44							101.58
MW 7	19.37	109.83		8.07							101.76
MW 8	18.20 mud	107.70		2.43							105.27
MW 9	18.82	105.81		0.79							105.02
MW 10	19.32	106.02		1.37							104.65
MW11	19.10	106.24	4.10	7.26							98.98
MW12	19.09	106.33	4.09	1.26							105.07
MW13	19.05	105.79	4.05	0.52							105.27
MW14	18.54 mud	106.47	3.59	7.16							99.31
MW15	17.53	109.49	2.53	8.24							101.25
MW16	18.65	108.72	3.68	2.63							106.09
RW 1	12.60	109.12	5	7.23							101.89

T.O.C. : Top of Casing DTW: Depth to Top of Water DTP: Depth to Top of Product

Table 4
Summary of Volatile Organic Analysis of Groundwater Samples
Collected December 2016
North Brunswick Gulf - North Brunswick, NJ

Well Number	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	TBA (ug/l)	Acetone (ug/l)	2-Butanone (ug/l)	Chloroethane (ug/l)	Cyclohexane (ug/l)	2-Hexanone (ug/l)	Cumene (ug/l)	Ethylene dibromide (ug/l)	Methylclyclohexane (ug/l)	4-Methyl-2-pentanone	1,2,4-TMB (ug/l)	1,3,5 TMB (ug/l)	Total VOC TICs (ug/l)	VOC TIC over 100 ug/l	Lab I.D.
MW 1	**190**	580	260	980	9	63	13 J	6 J	<0.5	23	<3	54	<0.0094	47	<3	**240**	62	**1,500**	yes	8762279
MW 2	1	4	39	145	1	<5	54	25	2	30	11	17	<0.048	78	4 J	**170**	73	**1,700 J**	yes	8762270
MWA is MW 2 Duplicate	1	4	48	182	1	9 J	54	25	2	30	14	21	<0.048	90	3 J	**230**	96	**1,900 J**	yes	8762271
MW 3	<0.5	<0.5	<0.5	<0.5	**200**	**2,100**	20 J	<3	<0.5	<2	<3	<1	<0.0094	<1	<3	<1	<1	43 J	no	8762266
MW 4	<0.5	<0.5	<0.5	<0.5	16	47	<6	<3	<0.5	<2	<3	<1	<0.0096	<1	<3	<1	<1	0	no	8762265
MW 5	**83**	25	73	47	2	7 J	7 J	3 J	<0.5	6	<3	66	<0.0095	23	<3	**660**	220	**4,000 J**	yes	8762277
MW 6	**51**	32	58	66	20	70	8 J	3 J	<0.5	9	6 J	16	<0.0095	13	<3	13	9	450 J	no	8762278
MW 7	**2,200**	**810**	**1,900**	**5,200**	**190**	**430**	150	74	<3	26	23 J	120	**0.052**	34	<15	**1,800**	530	**4,700**	yes	8762280
MW 8	<0.5	<0.5	<0.5	1.6 J	1	<5	<6	<3	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762264
MW 9	<0.5	<0.5	<0.5	<0.5	2	<5	<6	<3	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762263
MW 10	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<6	<3	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762262
MW 11	<0.5	<0.5	<0.5	<0.5	<0.5	<5	18 J	<3	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762260
MW 12	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<6	<3	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762259
MW 13	<0.5	<0.5	<0.5	<0.5	0.9 J	<5	<6	<3	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762261
MW 14	<0.5	<0.5	<0.5	<0.5	3	13 J	10 J	<3	<0.5	<2	<3	<1	<0.0094	<1	<3	<1	<1	0	no	8762273
MW 15	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<6	<3	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762274
MW 16	<0.5	<0.5	<0.5	<0.5	9	<5	<6	<3	<2	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762272
Rinsate Blank	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<6	<3	<0.5	<2	<3	<1	<0.0094	<1	<3	<1	<1	0	no	8762275
RW 1	<0.5	<0.5	<0.5	<0.5	1	10 J	<6	<3	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762276
Trip Blank	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<6	<3	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	0	no	8762282
GAC Effluent	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<6	4 J	<0.5	<2	<3	<1	<0.0095	<1	<3	<1	<1	5 J	no	8762281
Class IIA GWQS	1	600	700	1,000	70	100	6,000	300	5	-	**300 now 40**	700	0.03	-	400	100		100/500		
Ground Water Screening Level for VI	20	330,000	700	8,600	580	-	21,000,000	2,500,000	26,000	16,000	-	-	0.4	-	900,000	-	-			

Red & bold numbers exceed groundwater standard.
MTBE: Methyl tertiary butyl ether
TBA: Teriary butyl alcohol
TIC: Tentatively Identifiable Compound
Cumene = iosbropylbutylene
TMB: Trimethylbenzene
VI: Vapor Intrusion
: Detection Level above standard.

Table 5
Summary of Semi Volatile Organics Analysis of Groundwater Samples
Collected December 2016
North Brunswick Gulf - North Brunswick, NJ

Well Number	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Anthracene (ug/l)	Benzo(a) anthracene (ug/l)	Benzo(a) pryene (ug/l)	Benzo(b) fluoranthene (ug/l)	Benzo(g,h,i) perylene (ug/l)	Benzo(K) fluoranthene (ug/l)	1,1-Biphenol (ug/l)	Bis (2-ethylhexyl) phalate (ug/l)	Chrysene (ug/l)	Carbazol (ug/l)	Dibenz(a,h) anthracene (ug/l)	Fluoranthene (ug/l)	Fluorene (ug/l)	Indeno(1,2,3-cd) pryene (ug/l)	1-Methyl naphthalene (ug/l)	2-Methyl naphthalene (ug/l)	Naphthalene (ug/l)	Phenanthrene (ug/l)	Pryene (ug/l)	Total SVOC TICs (ug/l)	SVOC TIC over 100 ug/l
MW 1	0.17	0.17	0.032 J	**0.15**	**0.18**	**0.40**	0.31	0.13	<0.5	<2	0.33	<0.5	0.053	0.39	0.19	0.22	**21**	18	47	0.24	0.40	**750 J**	yes
MW 2	0.053	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	0.011 J	0.031 J	<0.010	5	4	6	<0.030	0.013 J	**810 J**	yes
MWA is MW 2 Duplicate	0.099	<0.010	<0.010	0.011 J	<0.010	0.013 J	0.015 J	<0.010	<0.5	<2	0.013 J	<0.5	<0.010	0.014 J	0.062	<0.010	**8**	9	11	0.033 J	0.018 J	**1,200 J**	yes
MW 3	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	<0.030	<0.030	<0.010	100 JB	no
MW 4	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	0.039 J	<0.030	<0.010	6 JB	no
MW 5	1	0.3 J	0.050 J	0.025 J	<0.010	0.012 J	0.013 J	<0.010	2	<2	0.021 J	<0.5	<0.010	0.044 J	0.6	<0.010	**100**	**120**	39	0.17	0.046 J	**3,300 J**	yes
MW 6	0.11	0.019 J	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	0.046 J	<0.010	**9**	4	11	<0.030	0.013 J	**580 J**	yes
MW 7	0.18	0.18	0.090	0.012 J	0.011 J	0.023 J	0.035 J	<0.010	1	<2	0.026 J	0.9 J	<0.010	0.14	0.053	0.015 J	**58**	**97**	**420**	0.32	0.096	**5,000 J**	yes
MW 8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	<0.030	<0.030	<0.010	12 J	no
MW 9	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	0.049 J	<0.030	<0.010	5 JB	no
MW 10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	<0.030	<0.030	<0.010	0	no
MW 11	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
MW 12	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	<0.030	<0.030	<0.010	46 JB	no
MW 13	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	0.037 J	<0.030	<0.010	5 JB	no
MW 14	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	0.033 J	<0.030	<0.010	37 JB	no
MW 15	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	0.045 J	<0.030	<0.010	21 J	no
MW 16	<0.1	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	0.014 J	<0.010	<0.010	<0.1	<0.1	0.053 J	<0.030	<0.010	6 JB	no
Rinsate Blank	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	<2	<0.010	<0.5	<0.010	<0.010	<0.010	<0.010	<0.1	<0.1	0.061	<0.030	<0.010	7 JB	no
RW 1	<0.010	<0.010	<0.010	<0.010	0.015 J	0.028 J	0.024 J	0.011 J	<0.5	<2	0.020 J	<0.5	<0.010	0.015 J	<0.010	0.016 J	<0.1	<0.1	0.082	<0.030	0.017 J	17 JB	no
Trip Blank	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
GAC Effluent	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.5	**40**	<0.010	<0.5	<0.010	<0.010	0.017 J	<0.010	0.1 J	0.2 J	0.24	0.033 J	<0.010	12 JB	no
Ground Water Screening Level for VI	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300	-	-		
Class IIA GWQS	400	400	2,000	0.1	0.1	0.2	100	0.5	-	3	5		0.3	300	300	0.2	5	30	300	100	200	100/500	

Bold & red numbers exceed groundwater standard.
TIC: Tentatively Identifiable Compound

Table 6
Summary of TAL Metal Analysis of Groundwater Samples
Collected December 2016
North Brunswick Gulf - North Brunswick, NJ

Well Number	Aluminum (mg/l)	Antimony (mg/l)	Arsenic (mg/l)	Barium (mg/l)	Beryllium (mg/l)	Cadmium (mg/l)	Calcium (mg/l)	Chromium	Cobalt (mg/l)	Copper (mg/l)	Iron (mg/l)	Lead (mg/l)	Magnesium (mg/l)	Manganese (mg/l)	Mercury (mg/l)	Nickel (mg/l)	Potassium (mg/l)	Sodium (mg/l)	Thallium (mg/l)	Vanadium (mg/l)	Zinc (mg/l)
MW 1	**2.46**	0.0027	**0.0132**	**26.8**	<0.00011	0.0027	121	0.0107 J	<0.0019	0.0580	**26.8**	**0.0206**	30.0	**0.485**	<0.000050	0.0049 J	4.85	**144**	<0.00016	0.0112	0.467
MW 2	**2.66**	0.00080 J	**0.0038**	0.218	0.00078	**0.0390**	21.0	0.0044 J	0.0450	0.0209	**11.1**	**0.0091**	9.12	**0.333**	<0.000050	0.0620	1.90	**238**	<0.00016	0.0050 J	1.07
MWA = MW 2 Duplicate	**4.14**	0.00094 J	**0.0058**	0.232	0.00082	**0.0402**	21.6	0.0053 J	0.0459	0.0234	**11.9**	**0.0116**	9.49	**0.349**	<0.000050	0.0625	2.26	**254**	0.00019 J	0.0085	1.08
MW 3	**0.869**	0.0017	**0.0081**	0.135	**0.0039**	**0.0062**	26.0	0.0018 J	**0.161**	0.0147	**4.20**	**0.0079**	21.6	**0.276**	<0.000050	**0.193**	2.51	**78.9**	0.00033 J	0.0023 J	0.829
MW 3 Duplicate	**0.796**	0.0018	**0.0082**	0.136	**0.0040**	**0.0068**	25.9	0.0018 J	**0.162**	0.0147	**4.14**	**0.0085**	21.5	**0.276**	<0.000050	**0.195**	2.60	**79.4**	0.00036 J	0.0019 J	0.835
MW 4	**2.30**	<0.00048	**0.0071**	0.0772	0.00070	0.00021 J	63.7	0.0057 J	0.0764	0.0106	**6.25**	0.0024	26.8	**0.557**	<0.000050	0.0547	4.19	42.0	<0.00016	0.0145	0.0303
MW 5	**5.92**	<0.00048	**0.0358**	0.127	0.00059	0.00034 J	11.1	0.0145 J	0.0105	0.0082 J	**65.5**	**0.0069**	6.32	**0.820**	0.000055 J	0.0138	1.31	33.1	<0.00016	0.0432	0.0396
MW 6	**1.05**	0.0015	**0.0148**	0.141	<0.00011	0.00033 J	113	0.0021 J	<0.0019	0.0329	**44.0**	**0.0261**	31.3	**0.653**	0.000067 J	<0.0028	4.03	**143**	<0.00016	0.0052	0.0130 J
MW 7	**2.47**	0.00048 J	**0.0242**	0.124	0.00016 J	0.0016	32.6	0.0082 J	0.0281	0.0219	**46.8**	**0.0064**	13.8	**0.793**	<0.000050	0.0453	5.18	34.8	<0.00016	0.0120	0.0764
MW 8	**1.46**	0.0022	**0.0283**	0.0595	0.00041 J	0.00090	14.9	0.0031 J	0.0139	0.253	**35.8**	**0.0117**	2.65	**0.249**	<0.000050	0.0285	2.62	10.8	<0.00016	0.0147	0.241
MW 9	**5.68**	<0.00048	**0.0105**	0.0234	**0.0058**	0.0014	17.4	0.0067 J	**0.127**	**1.51**	**18.0**	**0.0056**	15.1	**0.165**	<0.000050	**0.190**	1.10	14.9	<0.00016	0.0097	0.548
MW 10	**1.51**	0.00057 J	0.0027	0.153	0.00094	0.00086	19.5	0.0034 J	0.0190	0.0095 J	**2.08**	0.0036	7.12	0.0381	<0.000050	0.0327	0.755	22.0	<0.00016	0.0036 J	0.164
MW 11	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MW 12	**0.293**	<0.00048	0.0018 J	0.126	0.00030 J	0.00040 J	7.67	<0.0018	0.0157	0.0077 J	**2.39**	0.00062 J	3.30	**0.498**	<0.000050	0.0252	2.25	8.48	<0.00016	<0.0016	0.0420
MW 13	**0.617**	<0.00048	0.0017 J	0.186	**0.0011**	0.00028 J	12.8	<0.0018	0.0427	0.0257	**2.24**	0.0011	14.4	**0.300**	<0.000050	0.0496	1.70	**54.3**	<0.00016	0.0020 J	0.132
MW 14	**5.78**	<0.00048	**0.0506**	0.782	**0.0064**	**0.0183**	56.1	0.0042 J	**0.125**	0.0982	**57.6**	**0.0334**	19.6	**0.567**	<0.000050	**0.159**	8.65	**592**	0.0018	0.0106	1.08
MW 15	**3.67**	<0.00048	0.0030	0.242	**0.0045**	0.0029	47.4	0.0040 J	**0.120**	0.0129	**1.94**	0.0085	33.2	**1.28**	<0.000050	0.0743	1.76	**254**	<0.00016	0.0036 J	0.318
MW 16	**2.23**	<0.00048	0.0015 J	0.0626	0.00061	0.00027 J	32.1	0.0026 J	0.0207	<0.0041	**1.27**	**0.0067**	5.87	0.0222	<0.000050	0.0436	1.95	41.2	0.00044 J	0.0019 J	0.0462
Rinsate Blank	<0.0868	<0.00048	<0.00068	<0.0011	<0.00011	<0.00019	<0.0382	<0.0018	<0.0019	<0.0041	<0.0747	<0.000090	<0.0190	<0.0018	<0.000050	<0.0028	<0.160	0.179 J	<0.00016	<0.0016	<0.0054
RW 1	**0.793**	0.0030	0.0016 J	0.110	<0.00011	<0.00019	167	0.0053 J	0.0037 J	0.0232	**5.52**	**0.0066**	33.8	**0.153**	<0.000050	0.0074 J	4.31	**76.3**	<0.00016	0.0017 J	0.0917
Trip Blank	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
GAC Effluent	<0.0868	<0.00085 J	**0.0077**	0.0028 J	<0.00011	<0.00019	2.51	<0.0018	<0.0019	<0.0041	<0.0747	0.00047 J	7.68	0.0056	<0.000050	<0.0028	906	**211**	<0.00016	<0.0016	<0.0054
Class IIA GWQS	0.2	0.006	0.003	6	0.001	0.004	-	0.07	0.1	1.3	0.3	0.005	-	0.05	0.002	0.1	-	50	0.002	-	2

Bold & red numbers exceed standard J: estimated value

Note: Aluminum, iron, manganese, sodium and zinc are secondary contaminants and are not a concern.

Table 7:
Summary of Soil Analytical Results for Samples Collected on 4/27 and 28/17

Sample I.D. Sample Depth Sample Date	P 1 7-7.5' 4/27/17	P 2 4.5-5' 4/27/17	P 2 9-10' 4/27/17	P 3 4.5-5' 4/27/17	P 3 15.5-16' 4/27/17	P 4 8-8.5' 4/27/17	P 4 14-14.5' 4/27/17	P 5 10' 4/27/17	P 6 10' 4/27/17	P 39 15' 4/27/17	MS 15' 4/27/17	MSD 15' 4/27/17	P 45 5.5-6' 4/27/17	P 45 12-12.5' 4/27/17	P 43 1' 4/27/17	P 43 2' 4/27/17	P 43 6' 4/27/17	Field Blank 4/27/17	P 6 Temp Well 4/27/17				RDC Standard	NRDC Standard	Default IGW Screening Level	Soil Cleanup Standard	Soil Ecological Screening Level	Ground Water Standard	Ground Water Screening Level for Vapor Intrusion
Lab ID	JC42109- 1	JC42109-2	JC42109-3	JC42109-4	JC42109-5	JC42109-6	JC42109-7	JC42109-8	JC42109-9	JC42109- 10	JC42109-10D	JC42109-10S	JC42109- 11	JC42109- 12	JC42109- 14	JC42109- 15	JC42109- 16	JC42109- 13	JC42109- 17										
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	ug/l					mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	ug/l
Volatile Organics																														
Benzene	-	-	-	-	-	-	-	-	-	0.009	-	-	<0.00011	0.0021	6.160 **N**	1.180	0.892 **a**	<0.14	0.35 J					2	5	0.005		0.255	1	20
Toluene	-	-	-	-	-	-	-	-	-	0.00018 J	-	-	<0.00011	<0.00012	102 **b**	0.361	0.0297 **a**	<0.23	<0.23					6,300	91,000	7		200	600	330,000
Ethyl benzene	-	-	-	-	-	-	-	-	-	0.00017 J	-	-	<0.00013	<0.00015	285 **N b**	8.0	3.21 **a**	<0.20	0.37 J					7,800	110,000	13		5.16	700	700
Xylenes	-	-	-	-	-	-	-	-	-	0.0014	-	-	0.00021 J	<0.0002	2790 **N b**	42.8 **b**	2.75 **a**	<0.21	<0.21					12,000	170,000	19		10	1,000	8,600
MTBE: Methyl Tertiary Butyl Ether	-	-	-	-	-	-	-	-	-	<0.00022	-	-	<0.00023	0.014	<0.032	<0.019	<0.013 **a**	<0.34	<0.34					110	320	0.2		-	70	580
TBA:Tertiary Butyl Alcohol	-	-	-	-	-	-	-	-	-	0.0089	-	-	<0.0027	0.0172 J	<0.360	<0.220	<0.150 **a**	<3	<3					1,400	11,000	0.3		-	100	
EDC:1,2 -Dichloroethane	-	-	-	-	-	-	-	-	-	<0.00014	-	-	<0.00015	<0.00017	<0.020	<0.012	<0.0084 **a**	<0.39	<0.39					0.9	3	0.005		21.2	2	3
EDB: 1,2 -tDibromoethane	-	-	-	-	-	-	-	-	-	<0.0002	-	-	<0.00021	<0.00024	<0.029	<0.018	<0.012 **a**	<0.22	<0.22					0.008	0.3	0.005		-	0.03	0.4
Acetone	-	-	-	-	-	-	-	-	-	0.0109	-	-	0.0209	0.0092 J	<0.600	<0.360	<0.250 **a**	<5	<5					70,000	-	19		-	6,000	21,000,000
2-Butanone	-	-	-	-	-	-	-	-	-	<0.0015	-	-	<0.0016	<0.0017	<0.210	<0.130	<0.087 **a**	<1.9	<1.9					3,100	44,000	0.9		-	300	2,500,000
Carbon disulfide	-	-	-	-	-	-	-	-	-	0.00021 J	-	-	<0.00015	<0.00017	<0.020	<0.012	<0.0084 **a**	<0.33	<0.33					7,800	110,000	6		-	700	1,500
Chloroform	-	-	-	-	-	-	-	-	-	<0.0002	-	-	<0.00021	0.00025 J	<0.029	<0.017	<0.012 **a**	<0.23	<0.23					0.6	2	0.4		1.19	70	70
Cyclohexane	-	-	-	-	-	-	-	-	-	<0.00046	-	-	<0.00048	<0.00053	11.1	0.461	1.61 **a**	<0.73	<0.73					-	-	-		-	-	16,000
1,2 Dichlorobenzene	-	-	-	-	-	-	-	-	-	<0.00014	-	-	<0.00015	<0.00017	<0.02	<0.012	<0.0084 **a**	<0.23	<0.23					5,300	59,000	17		2.96	600	6,800
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	<0.00011	-	-	<0.00012	<0.00013	<0.016	<0.010	<0.0068 **a**	<0.19	<0.19					5,300.0	59,000	19		37.7	600	
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-	<0.00013	-	-	<0.00014	<0.00015	<0.018	<0.011	<0.0075 **a**	<0.21	<0.21					5.0	13	2		0.546	75	75
1,1 Dichloroethane (1,1-DCA)	-	-	-	-	-	-	-	-	-	<0.00016	-	-	<0.00017	<0.00018	<0.022	<0.014	<0.0092 **a**	<0.21	<0.21					8.0	24	0.2		-	50	50
cis-1,2 Dichloroethene	-	-	-	-	-	-	-	-	-	<0.00037	-	-	<0.00039	<0.00043	<0.052	<0.032	<0.022 **a**	<0.31	<0.31					230	560	0.3		-	70	
trans-1,2-Dichloroethene	-	-	-	-	-	-	-	-	-	<0.00013	-	-	<0.00014	<0.00015	<0.019	<0.011	<0.0078 **a**	<0.36	<0.36					300	720	0.6		0.784	100	520
2-Hexanone	-	-	-	-	-	-	-	-	-	<0.0012	-	-	<0.0012	<0.0014	<0.170	<0.100	<0.068 **a**	<1.5	<1.5					-	-	-		-	300	
Isopropylbenzene	-	-	-	-	-	-	-	-	-	0.00060 J	-	-	<0.00014	0.00051 J	56.1 b	1.13	2.18 **a**	<0.16	0.86 J					-	-	-		-	700	
Methyl Acetate	-	-	-	-	-	-	-	-	-	<0.0017	-	-	<0.0018	<0.002	<0.240	<0.150	<0.100 **a**	<1.5	<1.5					78,000.0	-	22		-	7,000	
Methylene Chloride	-	-	-	-	-	-	-	-	-	<0.00084	-	-	<0.00089	<0.00098	<0.120	<0.073	<0.049 **a**	<1.0	<1.0					46	230	0.01		4.05	3	920
Methylcyclohexane	-	-	-	-	-	-	-	-	-	<0.00042	-	-	<0.00045	<0.00049	80.9 **b**	1.88	7.36 **a**	<0.78	<0.78					-	-	-		-	-	
4-Methyl-2-pentanone	-	-	-	-	-	-	-	-	-	<0.00071	-	-	<0.00075	<0.00083	<0.100	<0.062	<0.042 **a**	<1.2	<1.2					-	-	-		-	-	900,000
Naphthalene	-	-	-	-	-	-	-	-	-	0.00092 J	-	-	<0.00089	<0.00098	152 **N b**	4.04	2.69 **a**	<1	<1					6	17	25		0.0994	300	300
Tetrachloroethene (PCE)	-	-	-	-	-	-	-	-	-	<0.00023	-	-	<0.00025	<0.00028	<0.034	<0.020	<0.014 **a**	<0.23	<0.23					43	1.500	0.005		9.92	1	31
VOC TICs	-	-	-	-	-	-	-	-	-	0	-	-	0	0	177 J	26.9 J	85.9 J **a**	0	66.5 J										100/500	
Total Alkanes	-	-	-	-	-	-	-	-	-	0	-	-	0	0	688 J	26.7 J	94.2 J **a**	0	0									-	100	
Total TICs & Alkanes	-	-	-	-	-	-	-	-	-	0	-	-	0	0	865 J	53.6 J	180.1 J **a**	0	66.5 J									-	500	
Petroleum Hydrocarbons																														
EPH (C9-C28)	<3.8	<3.9	<3.8	1,670	<3.6	189	<3.8	<4.5	<3.8	-	-	-	-	-	-	-	-	-	-							-	5,100		-	
EPH (>C28-C40)	<3.8	<3.9	<3.8	66.2	<3.6	<3.9	<3.8	<4.5	<3.8	-	-	-	-	-	-	-	-	-	-							-	5,100		-	
Total EPH (C9-C40)	<3.8	<3.9	<3.8	1,740	<3.6	189	<3.8	<4.5	<3.8	-	-	-	-	-	-	-	-	-	-							-	5,100		-	
% Solids	88.6	87.3	81.4	84.4	86.4	84.6	90.1			89.3	-	-	88.1	79.8	77.7	75.3	87.4	-	-											
SVOCs																														
naphthalene	-	-	-	<0.022	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					6	17	25			300	
2-methylnaphthalene	-	-	-	<0.039	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					230	2,400	8			30	
Metals																														
Lead										2.3			23.3	12.3	37.7	19.6	8.8	<3						400	800	90		40.5	5	
Organic Content																														
TOC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
Comment																														
In undeveoned area															yes															
in unsaturated zone per average DTW as of 4/4/17	no	yes	no	yes	no	no	no	no	no	no			yes	no	yes	yes	no													

6.160: Exceeds direct contact standard
102 Exceeds default impact to ground water screening level
8 Exceeds ecological soil screening level
<3.60 Detection level above standard

TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
DTW: Denth to water

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water

Samples collected in saturated zone should not be compared to IGW standards
Ecological screening levels should only be compared to samples collected in the upper 1 foot of the soil column in undeveoped areas.

a: Dilution due to high concentration of target compounds.
b: Result is from run 2
N: Also above ecological soil screening level for samples at or above 1 foot
J: Estimated value

Sample I.D. Sample Depth Sample Date	P 37 3' 4/28/17	P 37 7' 4/28/17	P 38 3' 4/28/17	P 38 8' 4/28/17	P 38 13' 4/28/17	P 38 18' 4/28/17	P 32 4.5' 4/28/17	P 32 15' 4/28/17	P 36 6' 4/28/17	P 36 12' 4/28/17	P 35 5.5-6' 4/28/17	P 35 7-7.5' 4/28/17	P 34 16' 4/28/17	P 33 4.5' 4/28/17	P 33 15' 4/28/17	P 44 3' 4/28/17	P 44 7-7.5' 4/28/17	MS 7-7.5' 4/28/17	MSD 7-7.5' 4/28/17	P 17 4' 4/28/17	P 17 9' 4/28/17	Field Blank 4/28/17	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Cleanup Standard	Soil Ecological Screening Level	Ground Water Standard	Ground Water Screening Levels for Vapor Intrusion
Lab ID	JC42231-1	JC42231-2	JC42231-3	JC42231-4	JC42231-5	JC42231-6	JC42231-7	JC42231-8	JC42231-9	JC42231-10	JC42231-11	JC42231-12	JC42231-13	JC42231-14	JC42231-15	JC42231- 16	JC42231- 17			JC42231-19	JC42231- 20	JC42231- 18							
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	ug/l
Volatile Organics																													
Benzene	**0.0155**	0.00077	**0.119 a**	0.582 **c**	1.860	1.100 **d**	<0.000095	<0.00010	0.0018	<0.00013	**0.0998**	0.0501	0.0022	<0.00014	0.0012	6.260	0.0033			2.710	1.760	<0.14	2	5	0.005		0.255	1	20
Toluene	0.0015	<0.00011	0.0278 J **a**	0.0679 J **c**	8.900	0.0101	<0.000099	<0.00011	<0.00011	<0.00014	0.0769	0.0242	<0.00011	<0.00014	0.00043 J	2.670	0.00044 J			1.370	9.090	<0.23	6,300	91,000	7		200	600	330,000
Ethyl benzene	0.0313	0.00027 J	0.504 **a**	3.6 **c**	31 **d**	0.0785	<0.00012	<0.00013	0.00041 J	<0.00017	0.176	0.118	0.0012	<0.00017	<0.00015	165 **d**	0.0519 **c**			55.3 **d**	10.8	<0.20	7,800	110,000	13		5.16	700	700
Xylenes	0.0148	0.00028 J	0.213 **a**	2.140 **c**	119 **d**	0.0480	<0.00016	0.00019 J	0.00071 J	<0.00022	1.260 **d**	0.343	0.00049 J	0.00033 J	<0.00021	948 **d**	0.360			316 **d**	68.300 **d**	<0.21	12,000	170,000	19		10	1,000	8,600
MTBE: Methyl Tertiary Butyl Ether	0.0026	0.00046 J	<0.027 **a**	<0.029 **c**	0.0403 J	0.0965	<0.00021	0.0050	0.0020	0.0513	0.0401	0.0461	0.461 **d**	0.00080 J	0.545 **d**	<0.033	0.0048			<0.028	<0.029	<0.34	110	320	0.2		-	70	580
TBA:Tertiary Butyl Alcohol	0.0944	0.0153 J	<0.310 **a**	<0.330 **c**	<0.320	0.181	<0.0024	0.00087 J	0.0315	0.0414	0.0504	0.0844	0.461	0.0728	0.797	<0.380	0.0479			<0.320	<0.330	<3	1,400	11,000	0.3		-	100	
EDC:1,2 -Dichloroethane	<0.00017	<0.00012	<0.017 **a**	<0.019 **c**	<0.018	<0.00015	<0.00013	<0.00015	<0.00016	0.00032 J	<0.00016	<0.00015	<0.00015	<0.00020	<0.00018	<0.021	<0.00019			<0.018	<0.019	<0.39	0.9	3	0.005		21.2	2	3
EDB: 1,2 -tDibromoethane	<0.00024	<0.00021	<0.025 **a**	<0.026 **c**	<0.025	<0.00021	<0.00019	<0.00021	<0.00022	<0.00027	<0.00022	<0.00021	<0.00021	<0.00028	<0.00025	<0.030	<0.00027			<0.026	<0.026	<0.22	0.008	0.3	0.005		-	0.03	0.4
Acetone	0.0855	0.0126	<0.510 **a**	<0.540 **c**	<0.520	0.0666	0.0098	0.0121	<0.0046	<0.0055	<0.0045	0.0473	0.0733	0.0109	0.0798	<0.620	0.0172			<0.530	<0.550	<5	70,000	-	19		-	6,000	21,000,000
2- Butanone	0.0093 J	<0.0015	<0.180 **a**	<0.190 **c**	<0.180	0.0214	<0.0014	<0.0015	<0.0016	<0.0020	<0.0016	0.0150	0.0095	<0.0020	0.0101	<0.220	<0.0020			<0.190	<0.190	<1.9	3,100	44,000	0.9		-	300	2,500,000
Carbon disulfide	0.00024 J	<0.00014	<0.017 **a**	<0.018 **c**	<0.018	0.0049	<0.00012	<0.00014	0.00051 J	<0.00019	0.00033 J	0.00022 J	0.0043	<0.00020	0.0062	<0.021	0.00045 J			<0.018	<0.019	<0.33	7,800	110,000	6		-	700	1,500
Chloroform	<0.00024	<0.00020	<0.024 **a**	<0.026 **c**	<0.025	<0.00021	<0.00019	<0.00020	<0.00022	<0.00026	<0.00022	<0.00021	<0.00020	<0.00027	<0.00024	<0.030	<0.00027			<0.025	<0.026	<0.23	0.6	2	0.4		1.19	70	70
Cyclohexane	0.0156	<0.00046	0.0819 **a**	0.624 **c**	3.900	0.0048	<0.00043	<0.00046	0.0098	<0.00061	0.0141	0.0119	0.00051 J	<0.00063	<0.00056	9.330	<0.00062			2.800	0.965	<0.73	-	-	-		-	-	16,000
1,2 Dichlorobenzene	<0.00017	<0.00015	<0.017 **a**	<0.019 **c**	<0.018	<0.00015	<0.00014	<0.00015	<0.00016	<0.00019	<0.00016	<0.00015	<0.00015	<0.00020	<0.00018	<0.021	<0.00019			<0.018	<0.019	<0.23	5,300	59,000	17		2.96	600	6,800
1,3-Dichlorobenzene	<0.00014	<0.00012	<0.014 **a**	<0.015 **c**	<0.014	<0.00012	<0.00011	<0.00012	<0.00013	<0.00015	<0.00012	<0.00012	<0.00012	<0.00016	<0.00014	<0.017	<0.00016			<0.014	<0.015	<0.19	5,300.0	59,000	19		37.7	600	
1,4-Dichlorobenzene	<0.00015	<0.00013	<0.016 **a**	<0.017 **c**	<0.016	<0.00014	<0.00012	<0.00013	<0.00014	<0.00017	<0.00014	<0.00013	<0.00013	<0.00018	<0.00016	<0.019	<0.00017			<0.016	<0.017	<0.21	5.0	13	2		0.546	75	75
1,1 Dichloroethane	<0.00019	<0.00016	<0.019 **a**	<0.020 **c**	<0.020	<0.00017	<0.00015	<0.00016	<0.00017	<0.00021	<0.00017	<0.00016	<0.00016	<0.00022	<0.00019	<0.023	<0.00021			<0.020	<0.020	<0.21	8.0	24	0.2		-	50	50
cis-1,2 Dichloroethene	<0.00043	<0.00037	<0.044 **a**	<0.047 **c**	<0.046	<0.00039	<0.00035	<0.00037	<0.00040	<0.00049	<0.00040	<0.00038	<0.00037	<0.00050	<0.00045	<0.054	<0.00050			<0.046	<0.048	<0.31	230	560	0.3		-	70	
trans-1,2-Dichloroethene	<0.00016	<0.00013	<0.016 **a**	<0.017 **c**	<0.017	<0.00014	<0.00013	<0.00013	<0.00014	<0.00018	<0.00014	<0.00014	<0.00013	<0.00018	<0.00016	<0.020	<0.00018			<0.017	<0.017	<0.36	300.0	720	0.6		0.784	100	520
2-Hexanone	<0.0014	<0.0012	<0.140 **a**	<0.150 **c**	<0.150	<0.0012	<0.0011	<0.0012	<0.0013	<0.0015	<0.0013	<0.0012	<0.0012	<0.0016	<0.0014	<0.170	<0.0016			<0.150	<0.150	<1.5	-	-	-		-	300	
Isopropylbenzene	0.0417	0.00064 J	0.283 **a**	2.180 **c**	12.400	0.0111	<0.00012	0.00052 J	0.0045	<0.00017	0.0214	0.0211	0.0015 J	<0.00018	0.0022	42.400 **d**	0.0270			9.110	1.700	<0.16	-	-	-		-	700	
Methyl Acetate	<0.002	<0.0017	<0.210 **a**	<0.220 **c**	<0.210	<0.0018	<0.0016	<0.0017	<0.0019	<0.0023	<0.0018	<0.0018	<0.0017	<0.0023	<0.0021	<0.250	<0.0023			<0.210	<0.220	<1.5	78,000.0	NA	78,000.0				
Methylene Chloride	<0.00099	<0.00085	<0.100 **a**	<0.110 **c**	<0.100	<0.00089	<0.00079	<0.00085	<0.00091	<0.0011	<0.00091	<0.00087	<0.00085	<0.0012	<0.00010	<0.120	<0.0011			<0.110	<0.110	<1.0	34 now 46	97 now 230	0.01		4.05	3	920
Methylcyclohexane	0.0987	0.00065 J	0.434 **a**	3.090 **c**	19.500	0.0074	<0.00040	<0.00043	0.0468	<0.00056	0.0322	0.0389	0.00071 J	<0.00058	<0.00052	58.100 **d**	0.0028			14.400	3.480	<0.78	-	-	-		-	-	
4-Methyl-2-pentanone	<0.00084	<0.00072	<0.086 **a**	<0.092 **c**	<0.089	<0.00075	<0.00067	<0.00072	<0.00078	<0.00094	<0.00077	<0.00074	<0.00072	<0.00098	<0.00087	<0.110	<0.00096			<0.090	<0.093	<1.2	-	-	-		-	300	900,000
Naphthalene	0.0640	<0.00085	1.050 **a**	3.430 **c**	24.4 **d**	0.0243	<0.00079	<0.00085	0.0053	<0.0011	0.104	0.113	0.0012 J	<0.0012	<0.0010	96.7 **d**	0.0483			23.8 **d**	-	<0.21	6	17	25		0.0994	300	300
Tetrachloroethene (PCE)	<0.00028	<0.00024	<0.029 **a**	<0.030 **c**	<0.029	<0.00025	<0.00022	<0.00024	<0.00026	<0.00031	<0.00026	<0.00025	<0.00024	<0.00032	<0.00029	<0.035	<0.00032			<0.030	<0.031	<0.23	2 now 43	5 now 1500	0.005		9.92	1	31
VOC TICs	1.199 J	0.0063 J	11.020 J	36.800 J	68.000 J	0.211 J	0	0	0.590 J	0.010 J	0.355 J	0.475 J	0.0404 J	0	0.0329 J	80 J	0.597 J			40.100 J	33.900 J	0						100/500	
Total Alkanes	0.220 J	0.0056 J	7.980 J	39.900 J	279.500 J	0.229 J	0	0	0.388 J	0	0.414 J	0.399 J	0.0821 J	0	0.0619 J	414 J	0			414.500 J	151.900 J	0						100	
Total TICs & Alkanes	1.419 J	0.0119 J	19 J	76.7 J	347.5 J	0.44 J	0	0	0.978 J	0.010 J	0.747 J	0.0874 J	0.1225 J	0	0.0948 J	494 J	0.597 J			454.6 J	185.8 J	0						500	
Petroleum Hydrocarbons																													
EPH (C9-C28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5280 d**	1,270	-				-	5,100		-	
EPH (>C28-C40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,910	1,010	-				-	5,100		-	
Total EPH (C9-C40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**7,190 d**	2,280	-				-	5,100		-	
% Solids	86.9	91.8	88.9	82.5	84.5	85.6	87.6	86.7	84.2	82	87.3	89.6	89.3	85.1	78.5	81	86.3			81.6	84.5	-							
Metals																													
Lead	8.6	3	11.3 **b**	14.2	13.7	19.8	5.7	2.5	9.6	8.9	8.1	5.8	15.1	10.8	31.0	78.6	6.6			27	11.7	<3.0	400	800	90		0.0537	5	
Organic Content																													
TOC: Total Organic Carbon	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
Comment																													
In undeveloped area																													
in unsaturated zone per average DTW as of 4/4/17	yes	no	yes	no	no	no	yes	no	yes	no	yes	no	no	yes	no	yes	no			yes	no								

6.260: Exceeds direct contact standard
0.0155 Exceeds default impact to ground water screening level
<0.380 Detection level above standard

TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
DTW: Depth to water

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water

Samples collected in saturated zone should not be compared to IGW standards
Ecological screening levels should only be compared to samples collected in the upper 1 foot of the soil column in undeveoped areas.

J: Estimated value

a: Dilution reouired due to matrix interference
b: Elevated detection limit due to dilution required for high interfering element
c: Dilution due to high concentration of target compounds
d: Result is from run 2

Table 8:
Summary of Soil Analytical Results for Samples Collected on 5/8/17 and 5/9/17

Sample I.D.	P 12	P 12	P 12	P 13	P 13	P 13	P 14	P 14	P 15	P 15	P 16	P 16	P 19	P 19	P 40	P 40	P 41	P 41	P 42	P 42	P 21	P 20	P 8	P 8	Field Blank								Ground Water Screening Levels for Vapor Intrusion
Sample Depth	0-6"	5'	6.5'	0-6"	4'	6'	0-6"	5'	0-6"	5'	0-6"	4'	5'	16'	6'	15'	5'	10'	6'	8'	5'	5'	6'	12'	5/8/17	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Cleanup Standard	Soil Ecological Screening Level	Ground Water Standard		
Sample Date	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17	5/8/17									
Lab ID	JC42929-1	JC42929-2	JC42929-3	JC42929-4	JC42929-5	JC42929-6	JC42929-7	JC42929-8	JC42929-9	JC42929-10			JC42929-13	JC42929-14	JC42929-15	JC42929-16	JC42929-17	JC42929-18	JC42929-19	JC42929-20	JC42929-21	JC42929-22R	JC42929-24	JC42929-25	JC42929-23									
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l		ug/l
Volatiles																																	
Benzene	-	-	-	-	-	-	-	-	-	-	-	-	<0.00012	-	0.0011	0.943 d	**0.016**	1.56	<0.00012	0.0022	-	<0.00012	0.00045	0.253	<0.14								
Toluene	-	-	-	-	-	-	-	-	-	-	-	-	0.00022 J	1.92 d	<0.00012	0.104	0.00081 J	23.3 d	0.0012	0.00064 J	-	<0.00013	0.00021 J	0.389	<0.23	6,300	91,000	7		200	600	330,000		
Ethylbenzene	-	-	-	-	-	-	-	-	-	-	-	-	<0.00015	-	<0.00014	0.104	0.0388	27.20	0.0013	0.00073 J	-	<0.00015	<0.00013	2.410	<0.20	7,800	110,000	13		5.16	700	700		
Xylenes	-	-	-	-	-	-	-	-	-	-	-	-	0.00049 J	-	0.00050 J	2.78 d	0.0231	134 d	0.0072	0.0042	-	<0.00020	0.0032	6.11	<0.21	12,000	170,000	19		10	1,000	8,600		
MTBE: Methyl Tertiary Butyl Ether	-	-	-	-	-	-	-	-	-	-	-	-	<0.00026	-	<0.00025	<0.00026	<0.00023	<0.026	<0.00027	0.0015	-	<0.00027	<0.00024	0.027	<0.34	110	320	0.2		-	70	580		
TBA:Tertiary Butyl Alcohol	-	-	-	-	-	-	-	-	-	-	-	-	<0.003	-	<0.0029	0.221	<0.0026	<0.300	<0.0031	0.0034 J	-	<0.0031	<0.0027	<0.310	<3	1,400	11,000	0.3		-	100			
EDC:1,2-Dichloroethane	-	-	-	-	-	-	-	-	-	-	-	-	<0.00017	-	<0.00016	0.0196	<0.00015	<0.017	<0.00017	<0.00016	-	<0.00017	<0.00015	<0.017	<0.39	0.9	3	0.005		21.2	2	3		
EDB: 1,2 -Dibromoethane	-	-	-	-	-	-	-	-	-	-	-	-	<0.00024	-	<0.00025	<0.00024	<0.00021	<0.0240	<0.00024	<0.00023	-	<0.00024	<0.00022	<0.025	<0.22	0.008	0.3	0.005		-	-	0.03	0.4	
Acetone	-	-	-	-	-	-	-	-	-	-	-	-	0.034	-	<0.0048	0.0447	0.0508	<0.490	<0.0050	<0.0047	-	0.007 J	0.045	<0.510	<5	70,000	-	19		-	-	6,000	21,000,000	
2-Butanone	-	-	-	-	-	-	-	-	-	-	-	-	0.0049 J	-	<0.0017	0.0224	0.0060 J	<0.170	<0.0018	<0.0017	-	<0.0018	0.0039 J	<0.180	<1.9	3,100	44,000	0.9		-	300	2,500,000		
Carbon disulfide	-	-	-	-	-	-	-	-	-	-	-	-	<0.00017	-	<0.00016	<0.00017	<0.00015	<0.0170	<0.00017	<0.00016	-	<0.00017	0.00021 J	<0.017	<0.33	7,800	110,000	6		-	700	1,500		
Chloroform	-	-	-	-	-	-	-	-	-	-	-	-	<0.00024	-	<0.00023	<0.00023	<0.00020	<0.024	<0.00024	<0.00023	-	<0.00024	<0.00021	<0.024	<0.23	0.6	2	0.4		1.19	70	70		
Cyclohexane	-	-	-	-	-	-	-	-	-	-	-	-	<0.00054	-	<0.00052	0.042	0.004	2.880	<0.00055	<0.00052	-	<0.00055	0.003	<0.056	<0.73	-	-	-		-	-	16,000		
1,2-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	<0.00017	-	<0.00016	<0.00017	<0.00015	<0.0170	<0.00017	<0.00016	-	<0.00017	<0.00015	<0.017	<0.23	5,300	59,000	17		2.96	600	6,800		
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	<0.00014	-	<0.00013	<0.00013	<0.00016	<0.014	<0.00014	<0.00013	-	<0.00014	<0.00012	<0.014	<0.19	5,300	59,000	19		37.7	600			
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	-	-	<0.00015	-	<0.00015	<0.00015	<0.00017	<0.015	<0.00015	<0.00015	-	<0.00015	<0.00014	<0.016	<0.21	5.0	13	2		0.546	75	75		
1,1- Dichloroethane	-	-	-	-	-	-	-	-	-	-	-	-	<0.00019	-	<0.00018	<0.00018	<0.00018	<0.018	<0.00019	<0.00018	-	<0.00019	<0.00017	<0.019	<0.21	8.0	24	0.2		-	50	50		
cis-1,2 Dichloroethene	-	-	-	-	-	-	-	-	-	-	-	-	<0.00043	-	<0.00042	<0.00043	<0.00019	<0.043	<0.00044	<0.00042	-	<0.00044	<0.00039	<0.045	<0.31	230	560	0.3		-	70			
trans-1,2-Dichloroethene	-	-	-	-	-	-	-	-	-	-	-	-	<0.00016	-	<0.00015	<0.00015	<0.00020	<0.016	<0.00016	<0.00015	-	<0.00016	<0.00014	<0.016	<0.36	300	720	0.6		0.784	100	520		
2-Hexanone	-	-	-	-	-	-	-	-	-	-	-	-	<0.0014	-	<0.0013	<0.0014	<0.00021	<0.140	<0.0014	<0.0013	-	<0.0014	0.003 J	<0.140	<1.5	-	-	-		-	300			
Isopropylbenzene	-	-	-	-	-	-	-	-	-	-	-	-	0.00021 J	-	<0.00015	0.0098	0.0064	4.73	0.00023 J	0.00019 J	-	0.00023 J	0.00024 J	1.87	<0.16	-	-	-		-	700			
Methyl Acetate	-	-	-	-	-	-	-	-	-	-	-	-	<0.0020	-	<0.0019	<0.0020	<0.00022	<0.200	<0.0021	<0.0019	-	<0.0021	<0.0018	<0.210	<1.5	78,000	-	22		-	-	7,000		
Methylene Chloride	-	-	-	-	-	-	-	-	-	-	-	-	<0.00099	-	<0.00095	0.0020 J	<0.00023	<0.099	<0.0010	<0.00095	-	<0.001	0.0012 J	<0.100	<1.0	46	230	0.01		4.05	3	920		
Methylcyclohexane	-	-	-	-	-	-	-	-	-	-	-	-	<0.00050	-	0.0010 J	0.0045	0.0091	10.5	<0.00051	<0.00048	-	<0.00051	0.0098	6.06	<0.78	-	-	-		-	-			
4-Methyl-2-pentanone	-	-	-	-	-	-	-	-	-	-	-	-	<0.00084	-	<0.00081	0.0019 J	<0.00072	<0.084	<0.00086	<0.00081	-	<0.00086	<0.00077	<0.086	<1.2	-	-	-		-	-	900,000		
Naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	<0.00099	-	<0.00095	0.0199	0.0144	**9.1**	<0.0010	<0.00095	-	<0.001	<0.00090	2.31	<1	6	17	25		0.0994	300	300		
Tetrachloroethene (PCE)	-	-	-	-	-	-	-	-	-	-	-	-	<0.00028	-	<0.00027	<0.00027	<0.00026	<0.024	<0.00024	<0.00023	-	<0.00028	<0.00025	<0.029	<0.23	43	1,500	0.005		9.92	1	31		
VOC TICs	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0.0066 J	0.350 J	0.290 J	61.7 J	0	0	-	0	0.0616 J	68.600 J	0						100/500		
Total Alkanes	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0.0173 J	0.110 J	0.107 J	112.500 J	0	0	-	0	0.1661 J	140.0 J	0						100		
Total TICs & Alkanes	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0.0239 J	0.46 J	0.397 J	174.2 J	0	0	-	0	0.3322 J	208.6 J	0						500		
Petroleum Hydrocarbons																																	
EPH (C9-C28)	-	-	-	-	-	-	-	-	-	-	-	-	<4.1	<4.1	-	-	<4.0	-	-	-	<3.6	54.7	<3.8	62.4	-	5,100		-	5,100	-			
EPH (>C28-C40)	-	-	-	-	-	-	-	-	-	-	-	-	19	<4.1	-	-	35.9	-	-	-	<3.6	160	<3.8	38.9	-	5,100		-	5,100	-			
Total EPH (C9-C40)	-	-	-	-	-	-	-	-	-	-	-	-	19	<4.1	-	-	35.9	-	-	-	<3.6	215	<3.8	101	-	5,100		-	5,100	-			
% Solids	90.2	78.5	83.5	88.6	84.2	84.2	79.1	83.3	80.6	79.4	82.5	84.4	82.8	83.8	81.9	85.4	87.5	87.8	82.7	90.9	92	82.7	86.7	86.1	-								
SVOCs																																	
naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	17	25		0.0994	300			
2-methylnaphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	230	2,400	8		3.24	30			
Metals																																	
Lead	**50.9**	25.5	9.5	**14.6**	**529**	49.9	7.8	55	**112 N**	11.2	6.2	14.9	-	-	8.9	5.5	15.7	9.3	10.7	5.2	-	-	6.8	10.5	<3	400	800	90		0.0537	5			
Organic Content																																	
TOC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1520	-	-	-	-	-	-	-	-								
Comment																																	
in unsaturated zone per average DTW as of 4/4/17	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	no	yes	no	yes	no	yes	yes	yes	no									
in undeveloped area	yes			yes			yes		yes																								

0.016	Exceeds default impact to ground water screening level	TICs: Tentatively Identifiable Compounds	RDC: Residential direct contact	Samples collected in saturated zone should not be compared to IGW standards	
50.9	Exceeds ecological soil screening level	SVOCs: Semi volatile organic compounds	NRDC: Non-residential direct contact	Ecological screening levels should only be compared to samples collected in the upper 1 foot of the soil column in undeveloped areas.	d: Result is from run 2
<0.0240	Detection level above standard	EPH: Extractable petroleum hydrocarbons	IGW: Impact to ground water		J: Estimated value
9.1: Exceeds residential direct contact standard		DTW: Depth to water			

Sample I.D.	P 7	P 7	P 9	P 9	P 10	P 10	P 11	P 11	P 18	P 18	P 30	P 30	P 30	P 30	MS	MSD	P 46	P 31	P 31	P 25	P 26	P 27	P 29	P 28	P 22	P 24	P 23	Field Blank					Ground Water Screening Levels for Vapor Intrusion
Sample Depth	0-6"	9'	0-1'	6'	0-1'	3'	0-1'	8'	4-4.5'	6-7'	6.5-7'	8'	3'	21'	17-18'	17-18'	6-6.5'	6.5'	9'	5-5.5'	3.5'	3.5'	3.5'	3.5'	0-6"	0-6""	0-6""						
Sample Date	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17	5/9/17					
Lab ID	JC42929-26	JC42929-27	JC42929-28	JC42929-29	JC42929-30 & 30 R	JC42929-31 & 31 R	JC42929-32	JC42929-33	JC42929-34&34R	JC42929-35	JC42929-36	JC42929-37	JC42929-38	JC42929-39			JC42929-40	JC42929-41	JC42929-42	JC42929-43	JC42929-44	JC42929-45	JC42929-46	JC42929-47	JC42929-49 & 49 R	JC42929-50	JC42929-51	JC42929-48					
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg	mg/kg	ug/l	ug/l
Volatiles																																	
Benzene	-	-	-	-	0.000221 J	**0.0433**	-	-	<0.013	-	0.0103	**2.33**	0.159	0.0332	-	-	0.0016	<0.00011	<0.017 a	-	-	-	-	<0.14	<0.00012 G	-	-	<0.00047 G					
Toluene	-	-	-	-	0.00022 J	0.0246	-	-	0.0158 J	-	0.00019 J	9.16	<0.00015	<0.00014	-	-	0.0014	0.00039 J	0.228 a	-	-	-	-	<0.23	0.00018 J	-	-	<0.00048 G					
Ethylbenzene	-	-	-	-	<0.00017	0.111	-	-	1.09	-	0.026	24.1 d	0.00024 J	<0.00019	-	-	0.0011	0.0011	0.207 a	-	-	-	-	<0.20	<0.00017	-	-	0.00099 J G C					
Xylenes	-	-	-	-	0.0015	0.415	-	-	3.17	-	0.0023	137 d	0.0012	0.00049 J	-	-	0.022	0.0453	3.34 a	-	-	-	-	<0.21	<0.00020	-	-	0.0033 J G C					
MTBE: Methyl Tertiary Butyl Ether	-	-	-	-	<0.00010	0.0025	-	-	<0.028	-	0.00087 J	<0.029	0.0068	0.0011	-	-	0.00090 J	<0.00023	<0.038 a	-	-	-	-	<0.34	<0.00028	-	-	<0.001 G					
TBA:Tertiary Butyl Alcohol	-	-	-	-	<0.0034	<0.0029	-	-	<0.320	-	-	<0.340	0.181	0.497	-	-	0.0086 J	<0.0027	<0.430 a	-	-	-	-	<3	<0.0030	-	-	<0.012 G					
EDC:1,2-Dichloroethane	-	-	-	-	<0.00019	<0.00016	-	-	<0.018	-	<0.00015	<0.019	<0.00020	<0.00019	-	-	<0.00017	<0.00015	<0.024 a	-	-	-	-	<0.39	<0.00017	-	-	<0.00067 G					
EDB: 1,2 -Dibromoethane	-	-	-	-	<0.00027	<0.00023	-	-	<0.025	-	<0.00022	<0.027	<0.00029	<0.00027	-	-	<0.00024	<0.00021	<0.034 a	-	-	-	-	<0.22	0.008	0.3	0.005	<0.00099 G					
Acetone	-	-	-	-	0.0656	<0.0047	-	-	<0.520	-	0.0313	<0.560	0.0606	0.0931	-	-	0.0064 J	0.019	<0.710 a	-	-	-	-	<5	0.00449	0.0536 G	-	-	70,000	-	19	-	6,000	21,000,000
2-Butanone	-	-	-	-	0.0075 J	0.02999	-	-	<0.180	-	<0.0016	<0.200	0.0258	0.0442	-	-	<0.0018	<0.0015	<0.250 a	-	-	-	-	<1.9	<0.0017	<0.00069 G	-	-	3,100	44,000	0.9	-	300	2,500,000
Carbon disulfide	-	-	-	-	<0.00019	0.00029 J	-	-	<0.018	-	<0.00015	<0.019	<0.00020	<0.00019	-	-	<0.00017	<0.00015	<0.024 a	-	-	-	-	<0.33	0.00072 J	<0.00067 G	-	-	7,800	110,000	6	-	700	1,500
Chloroform	-	-	-	-	<0.00027	<0.00022	-	-	<0.025	-	<0.00022	<0.026	<0.00028	<0.00027	-	-	<0.00024	<0.00021	<0.034 a	-	-	-	-	<0.23	<0.00023	0.0055 J G	-	-	0.6	2	0.4	1.19	70	70
Cyclohexane	-	-	-	-	<0.00061	0.0194	-	-	<0.057	-	<0.00049	2.5	0.003	0.0043	-	-	<0.00054	<0.00048	<0.078 a	-	-	-	-	<0.73	<0.00053	<0.0022 G	-	-	-	-	-	-	-	16,000
1,2-Dichlorobenzene	-	-	-	-	<0.00019	0.0014	-	-	<0.018	-	<0.00015	<0.019	<0.00020	<0.00019	-	-	<0.00017	<0.00015	<0.024 a	-	-	-	-	<0.23	<0.00017	<0.00067 G	-	-	5,300	59,000	17	2.96	600	6,800
1,3-Dichlorobenzene	-	-	-	-	<0.00015	0.00022 J	-	-	<0.014	-	<0.00012	<0.015	<0.00016	<0.00016	-	-	<0.00014	<0.00012	<0.019 a	-	-	-	-	<0.19	<0.00013	<0.00054 G	-	-	5,300.0	59,000	19	37.7	600	
1,4-Dichlorobenzene	-	-	-	-	<0.00017	0.00079 J	-	-	<0.016	-	<0.00014	<0.017	<0.00018	<0.00017	-	-	<0.00015	<0.00013	<0.022 a	-	-	-	-	0.21	<0.00015	<0.00060 G	-	-	5.0	13	2	0.546	75	75
1,1- Dichloroethane	-	-	-	-	<0.00021	0.0014	-	-	<0.020	-	<0.00017	<0.021	<0.00022	<0.00021	-	-	<0.00019	<0.00016	<0.027 a	-	-	-	-	<0.21	<0.00018	<0.00074 G	-	-	8.0	24	0.2	-	50	50
cis-1,2 Dichloroethene	-	-	-	-	<0.00049	0.0391	-	-	<0.046	-	<0.00040	<0.049	<0.00052	<0.00050	-	-	<0.00044	<0.00039	<0.062 a	-	-	-	-	<0.31	<0.00043	<0.0017 G	-	-	230	560	0.3	-	70	
trans-1,2-Dichloroethene	-	-	-	-	<0.00018	0.00044 J	-	-	<0.017	-	<0.00014	<0.018	<0.00019	<0.00018	-	-	<0.00016	<0.00014	<0.022 a	-	-	-	-	<0.36	<0.00015	<0.00062 G	-	-	300.0	720	0.6	0.784	100	520
2-Hexanone	-	-	-	-	<0.0016	<0.0013	-	-	<0.150	-	<0.0013	<0.150	<0.0017	<0.0016	-	-	<0.0014	<0.0012	<0.200 a	-	-	-	-	<1.5	<0.0014	<0.0055 G	-	-	-	-	-	-	300	
Isopropylbenzene	-	-	-	-	<0.00017	0.016	-	-	0.381	-	0.0038	5.65	0.00038 J	<0.00017	-	-	<0.00052 J	0.0031	0.0518 J a	-	-	-	-	<0.16	<0.00015	<0.00061 G	-	-	-	-	-	-	700	
Methyl Acetate	-	-	-	-	<0.0023	<0.0019	-	-	0.335 J	-	<0.0018	<0.230	<0.0024	<0.0023	-	-	<0.0020	<0.0018	<0.290 a	-	-	-	-	<1.5	<0.0020	<0.0080 G	-	-	78,000.0	-	22	-	-	7,000
Methylene Chloride	-	-	-	-	<0.0011	<0.00094	-	-	<0.100	-	<0.00091	<0.110	<0.0012	<0.0011	-	-	<0.0010	<0.00088	<0.140 a	-	-	-	-	<1.0	<0.0009	<0.0039 G	-	-	34 now 46	97 now 230	0.01	4.05	3	920
Methylcyclohexane	-	-	-	-	<0.00057	0.0597	-	-	<0.053	-	0.0012 J	12	0.00089 J	<0.00057	-	-	<0.00050	0.0068	0.0924 J a	-	-	-	-	<0.78	<0.00049	<0.002 G	-	-	-	-	-	-	-	
4-Methyl-2-pentanone	-	-	-	-	0.0017 J	<0.00080	-	-	<0.089	-	<0.00077	<0.094	<0.0010	<0.00096	-	-	<0.00085	<0.00075	<0.120 a	-	-	-	-	<1.2	<0.00083	<0.0033 G	-	-	-	-	-	-	-	900,000
Naphthalene	-	-	-	-	<0.001	0.129	-	-	**9.45**	-	0.0083	**12.4**	<0.0012	<0.0011	-	-	0.0012 J	0.0266	0.789 a	-	-	-	-	-	<000998	0.0203 G C	-	-	6	17	25	0.0994	300	300
Tetrachloroethene (PCE)	-	-	-	-	0.00045 J	0.00029 J	-	-	<0.029	-	<0.00025	<0.031	<0.00034	<0.00032	-	-	<0.00028	<0.00025	<0.040 a	-	-	-	-	<0.27	<0.00027	<0.0011 G	-	-	2 now 43	5 now 1500	0.005	9.92	1	31
VOC TICs	-	-	-	-	0.0365 J	0.367 J	-	-	0.695 J	-	0.2418 J	70.400 J	0.2579 J	0.1151 J	-	-	0.0595 J	0.388 J	13.850 J a	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-
Total Alkanes	-	-	-	-	0	0.684 J	-	-	52.80 J	-	0	187 J	0.480 J	0.094 J	-	-	0	0.157 J	2.680 J	-	-	-	-	0	0	0	-	-	-	-	-	-	100	
Total TICs & Alkanes	-	-	-	-	0.0365 J	1.051 J	-	-	52.80 J	-	0.2418 J	257.4 J	0.7379 J	0.2093 J	-	-	0.0595 J	0.545 J	16.53 J a	-	-	-	-	0	0	0	-	-	-	-	-	-	500	
Petroleum Hydrocarbons																																	
EPH (C9-C28)	36.6	<3.8	1490 d	<3.6	**4,190 d**	**6,490 d**	495	195	117	<3.6	-	-	-	-	-	-	<3.6	-	-	-	-	-	-	925	-	241	110	-			-	-	
EPH (>C28-C40)	90.5	<3.8	731	18.9	**2,410 d**	3,710 d	251	<3.5	83.3	<3.6	-	-	-	-	-	-	20.0	-	731	-	-	-	-	**1,800**	447	264	-			-	-	
Total EPH (C9-C40)	127	<3.8	2220 d	18.9	**6,600 d**	**10,200 d M**	746	195	200	<3.6	-	-	-	-	-	-	20.0	-	731	-	-	-	-	**2,730**	688	374	-			-	-	
% Solids	89.9	87.5	91.4	85.6	89	87.2	92.1	89.7	82	89.8	89.1	82.7	78.8	74.6	-	-	85.1	90.2	76	83.4	85.1	80.7	81.9	82.6	39.6	45.5	53.2						
SVOCs																																	
naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2-methylnaphthalene	-	-	-	-	-	4.04 d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Metals																																	
Lead	-	-	-	-	-	-	-	-	-	-	11.5	8	36.8	18.9	-	-	12.9	20.3	10.7	13.6	**220**	7.7	46.3	39.3	-			<3	400	800	90	11	5
Organic Content																																	
TOC	-	-	-	1450	-	-	-	-	-	-	-	-	-	-	-	-	848 K	-	-	-	-	-	-	-	-	-	-	-					
Comment																																	
In undeveloped area																																	
In unsaturated zone per averaeae depth to water as of 4/4/17	yes	no	yes	yes	yes	yes	yes	no	yes	no	no	no	no	no			yes	yes	no	no	yes	yes	yes	yes	yes	yes	yes						
9.45: Exceeds direct contact standard																																	

0.0433	Exceeds default impact to ground water screening level	TICs: Tentatively Identifiable Compounds	RDC: Residential direct contact	Samples collected in saturated zone should not be compared to IGW standards	
4,190	Exceeds ecological soil screening level	SVOCs: Semi volatile organic compounds	NRDC: Non-residential direct contact	Ecological screening levels should only be compared to samples collected in the upper 1 foot of the soil column in undeveloped areas.	a: Dilution required due to matrix interference
<0.013	Detection level above standard	EPH: Extractable petroleum hydrocarbons	IGW: Impact to ground water		d: result is from run 2
		DTW: Depth to water			G: Sample analyzed out of BFB time and reported as a confirmation run
					C: The result of this compound is from carry-over
					K: Multiple injections indicate possible sample non-homogeneity
					M: FBH phase residual product level of 0.100 inches

J: Estimated value

Table 9:
Summary of Soil Analytical Results for Samples Collected in April and May 2017
Analyzed for SVOCs, Petroleum Hydrocarbons, TAL Metals and PCBs

Sample I.D. Sample Depth Sample Date	P 10 0-1' 5/9/17	P 10 3' 5/9/17	P 17 4' 4/28/17	P 17 9' 4/28/17	P 18 4-4.5' 5/9/17	P 20 5' 5/8/17	P 22 0-6" 5/9/17	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Ecological Screening Level
Lab ID	**JC42929- 30 R**	**JC42929- 31 R**	**JC42231-19**	**JC42231-20**	**JC42929-34R**	**JC42929-22R**	**JC42929-49 R**				
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**				
Semi Volatiles											
Acenaphthene	0.921 **X**	0.140 **X**	0.126	0.0169 J	<0.026	<0.014 **X**	<0.058 **Y**	3,400	37,000	110	20
Acenaphthylene	0.0756 **X**	0.0754 **X**	<0.020	<0.019	<0.023	<0.020 **X**	<0.085 **Y**	-	300,000		682
Anthracene	2.580 **X**	0.238 **X**	0.0519	<0.023	<0.023	<0.024 **X**	0.142 J **Y**	17,000	30,000	2,400	1,480
Benzo(a)anthracene	**8.080 X d N**	0.569 **X**	0.0699	0.0174 J	<0.032	<0.011 **X**	**0.704 Y**	5	17	0.8	5.21
Benzo(a)pyrene	**9.340 X d N**	**0.453 X**	0.0525	<0.017	<0.040	<0.018 **X**	**0.924 Y**	0.5	2	0.2	1.52
Benzo(b)fluoranthene	**11.3 d X**	0.600 **X**	0.0697	0.0169 J	<0.049	<0.017 **X**	1.32 **Y**	5	17	2	59.8
Benzo(g,h,i)perylene	7.260 **X d**	0.402 **X**	0.0365 J	<0.019	<0.062	<0.020 **X**	0.946 **Y**	380,000	30,000	NA	119
Benzo(k)fluoranthene	3.220 **X**	0.190 **X**	0.0204 J	<0.017	<0.049	<0.018 **X**	0.449 **Y**	45	170	25	148
1,1'-Biphenyl	0.0414 J **X**	0.174 **X**	0.408	0.0640 J	-	<0.0054 **X**	<0.023 **Y**	61	240	140	60
Carbazole	1.840 **X**	0.0801 **X**	0.0470 J	<0.0054	-	<0.0057 **X**	0.117 J **Y**	24	96	NA	
Chrysene	**8.130 X d**	0.598 **X**	0.0643	<0.012	<0.034	<0.012 **X**	0.904 **Y**	450	1,700	80	4.73
bis(2-Ethylhexyl)phthalate	**1.050 X**	0.857 **X**	0.341	0.149	-	<0.0092 **X**	0.512 **Y**	35	140	1,200	0.925
Dibenzo(a,h)anthranthcene	**1.480 X**	0.0701 **X**	<0.018	<0.019	<0.040	<0.017 **X**	0.177 **Y**	0.5	2	0.8	18.4
Dibenzofuran	0.408 **X**	0.102 **X**	<0.016	<0.015	-	<0.016 **X**	<0.068 **Y**				-
Fluoranthene	13.7 **X d**	1.080 **X**	0.176	0.0284 J	<0.023	<0.018 **X**	1.43 **Y**	2,300	24,000	1,300	122
Fluorene	0.633 **X**	0.258 **X**	0.173	0.0248 J	<0.029	<0.018 **X**	<0.077 **Y**	2,300	24,000	170	122
Indeno(1,2,3-cd)pyrene	**7.310 X d**	0.296 **X**	0.0349 J	<0.017	<0.060	<0.018 **X**	0.907 **Y**	5	17	7	109
2-Methylnaphthalene	0.112 **X**	4.040 **X d**	**23.3 d**	3.570	-	<0.019 **X**	<0.038 **Y**	230	2,400	8	3.24
Naphthalene	**0.245 X**	1.740 **X**	**23.8 d**	3.530	**9.45**	<0.020 **X**	<0.047 **Y**	6	17	25	0.0994
Phenanthrene	10.3 **X d**	1.230 **X**	0.267	0.044	<0.023	<0.021 **X**	0.597 **Y**	NA	300,000	NA	45.7
Pyrene	20.3 **X d**	0.866 **X**	0.145	0.0265 J	<0.031	<0.022 **X**	1.6 **Y**	1,700	18,000	840	78.5
Total TIC, Semi-Volatile	18.44 J **X**	26.5 J **X**	83.0 J	49.5 J	-	0.850 J **X**	33.6 J **Y**				
Total Alkanes	1.790 J **X**	21.3 J **X**	24.3 J	11.90 J	-	0 **X**	134.6 J **Y**				
Total TICs & Alkanes	20.23 J **X**	47.8 J **X**	107.3 J	61.4 J	-	0.850 J **X**	168.2 J **Y**				
Petroleum Hydrocarbons											
EPH (C9-C28)	4,190 **d**	**6,490 d**	**5,280 d**	1,270	117	54.7	925	5,100			
EPH (>C28-C40)	2,610 **d**	3,710 **d**	1,910	1,010	83.3	160	**1,800**	5,100			
Total EPH (C9-C40)	**6,790 d**	**10,200 d M**	**7,190 d**	2,280	200	215	**2,730**	5,100			
PCBs											
Aroclor 1016	<0.030	<0.030	<0.030	<0.030	-	<0.031	<0.059	0.2	1		0.371
Aroclor 1221	<0.016	<0.016	<0.016	<0.016	-	<0.017	<0.032	0.2	1		0.371
Aroclor 1232	<0.023	<0.023	<0.023	<0.023	-	<0.024	<0.046	0.2	1		0.371
Aroclor 1242	<0.019	<0.019	<0.019	<0.019	-	<0.020	<0.037	0.2	1		0.371
Aroclor 1248	<0.022	<0.022	<0.022	<0.022	-	<0.023	<0.044	0.2	1		0.371
Aroclor 1254	<0.017	<0.017	<0.017	<0.017	-	<0.018	<0.034	0.2	1		0.371
Aroclor 1260	<0.027	<0.027	<0.027	<0.028	-	<0.029	<0.055	0.2	1		0.371
Aroclor 1268	<0.016	<0.016	<0.016	<0.017	-	<0.017	<0.033	0.2	1		0.371
Aroclor 1262	<0.019	<0.019	<0.019	<0.020	-	<0.020	<0.039	0.2	1		0.371
								0.2	1		0.371
Metals											
Aluminum	**19,100 N**	**9,990 T**	**12,400 T**	16,500	-	**26,800**	**9,880 T**	78,000	-	6,000	50
Antimony	<4.4 **a**	<2.2	<2.4	<2.3	-	<2.5	<2.0	31	450	6	0.27
Arsenic	<2.2	7.4	7	4.9	-	5.2	2.7	19 *	19 *	19 *	9.9
Barium	80.2	57.7	45.8	74.2	-	79.7	75.9	16,000	59,000	2,100	283
Beryllium	0.33	0.62	**0.88**	0.39	-	0.59	0.27	16	140	0.7	10
Cadmium	**1.3**	<0.55	<0.59	<0.59	-	<0.62	**0.79**	78	78	2	0.36
Calcium	13,200	<550	1,100	<590	-	827	11,100	-	-	-	-
Chromium	**50.7**	27.6	25.2	24.5	-	28.5	**26.5**	-	-	-	0.4
Cobalt	**18.3 a**	5.5	7.6	<5.9	-	<6.2	6.1	1,600	590	90	0.14
Copper	**139**	17.1	21.8	15.8	-	16.8	**458**	3,100	45,000	11,000	5.4
Iron	28,300	25,000	28,300	17,200	-	19,300	13,000	-	-	-	-
Lead	**241 N**	**190**	27	11.7	-	16.2	**54.4**	400	800	90	0.0537
Magnesium	12,200	857	1,170	1,380	-	1,370	3,560	-	-	-	-
Manganese	**393 N**	63.9	**72.7**	42.1	-	27.3	**242**	11,000	5,900	65	220
Mercury	<0.035	**0.29**	0.043	<0.038	-	<0.039	0.1	23	65	0.1	0.00051
Nickel	**38.3**	10.9	20.7	9.7	-	10	**16.5**	1,600	23,000	48	13.6
Potassium	<1,100	1,670	<1,200	<1,200	-	<1,200	1,030	-	-	-	-
Selenium	**<2.2**	<2.2	<2.4	<2.3	-	<2.5	<2.0	390	5,700	11	0.0276
Silver	<1.1 **a**	<0.55	<0.59	<0.59	-	<0.62	<0.50	390	5,700	1	2
Sodium	1,780	<1,100	<1,200	<1,200	-	<1,200	<1,000	-	-	-	-
Thallium	**<2.2 a**	<1.1	<1.2	<1.2	-	<1.2	<1.0	-	-	3	1
Vanadium	**73.9**	28.2	37.2	39.4	-	48.7	26.3	78	1,100	NA	2
Zinc	**572**	65.3	59.2	35.5	-	37.6	**241**	23,000	110,000	930	6.62
Comment											
In undeveloped area	yes						yes				

J: Estimated value
TICs: Tentatively Identifiable Compounds
RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water
EPH: Extractable petrolium hydrocarbons
7.190: Exceeds direct contact standard.

0.88	Exceeds default impact to ground water screening level
1.3	Exceeds ecological soil screening level
<0.038	Detection level above standard
2,610	EPH above ecological screening level of 1, 700 mg/kg in upper 1 foot of soil that could potentially impact a sensitive natural resource

a: Elevated detection level due to dilution required for high interfering element.
d: Result from run 2
N: Aslo exceeds ecological soil screening level

T: Concentration above a standard but not above background
X: Sample extracted out of hold time
Y: Sample extracted out of holding time. Elevated detection level due to bad sample matrix and reduced volume of sample extracted
Samples collected in saturated zone should not be compared to IGW standards
Ecological soil screening levels should only be compared to samples collected in the upper 1 feet of the soil column in undeveloped areas.
M: Exceeds EPH residual product level of 8,100 mg/kg

Table 10
Summary of Seep Sample Analyzed for Volatile Organics and Lead
Collected May 11, 2017
North Brunswick Gulf - North Brunswick, NJ

Sample ID	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	TBA (ug/l)	Acetone (ug/l)	2-Butanone (ug/l)	1,2 Dichloroethane (ug/l)	Chloroethane (ug/l)	Cyclohexane (ug/l)	2-Hexanone (ug/l)	Cumene (ug/l)	Ethylene dibromide (ug/l)	Methylclyclohexane (ug/l)	4-Methyl-2-pentanone	1,2,4-TMB (ug/l)	1,3,5 TMB (ug/l)	Total VOC TICs (ug/l)	VOC Alkanes (ug/l)	VOC TIC over 100 ug/l	Lead (ug/l)
Seep	<0.14	<0.23	<0.20	<0.21	<0.34	<3	<5	<1.9	<0.39	<0.44	<0.73	<1.5	<0.16	<0.0064	<0.78	<1.2	<0.26	NA	0	0	no	3.2
Trip Blank	<0.14	<0.23	<0.20	<0.21	<0.34	<3	<5	<1.9	<0.39	<0.44	<0.73	<1.5	<0.16	<0.0066	<0.78	<1.2	<0.26	NA	0	0	no	-
Class IIA GWQS	1	600	700	1,000	70	100	6,000	300	2	5	-	300	700	0.03	-	400	100		100/500	100		5
Surface Water Standards	0.15 hc	1,300 h	530	-	70 h	-	-	-	0.29 hc	-	-	-	-	-	-	-	-	-	-		-	5 hT
Ground Water Screening Level for VI	20	330,000	700	8,600	580	-	21,000,000	2,500,000	3	26,000	16,000	-	-	0.4	-	900,000	-	-	-		-	-

No compound exceed groundwater or surface water standard.
MTBE: Methyl tertiary butyl ether
TBA: Teriary butyl alcohol
TIC: Tentatively Identifiable Compound
Cumene = iosbropylbutylene

TMB: Trimethylbenzene
VI: Vapor Intrusion
: Detection Level above standard.

Note: 1,2 dichloroethane (EDC) not detected in any ground water sample
h: Humane health noncarcinogen
T: Total recoverable criteria
Note: Seep samples analyzed 18 minutes out of hold time.

Table 11: Summary of Soil Analytical Reports for Samples Collected 10/3/17

Sample I.D. Sample Depth Sample Date	P 49 4.5-5' 10/3/17	P 50 4-4.5' 10/3/17	P 56 3-3.5' 10/3/17	P 57 3.5-4' 10/3/17	P 76 0-1' 10/3/17	P 76 4-4.5' 10/3/17	P 65 1' 10/3/17	P 65 3.5' 10/3/17	P 65 6.5' 10/3/17	P 53 4-4.5' 10/3/17	P 74 6-6.5' 10/3/17	P 75 5.5-6' 10/3/17	P 71 0-0.5' 10/3/17	P 71 1.5-2' 10/3/17	P 71 6-6.5' 10/3/17	P 71 9-9.5' 10/3/17	P 52 0-0.5' 10/3/17	P 52 7-8' 10/3/17	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Cleanup Standard	Soil Ecological Screening Level
Lab ID	JC52345-1	JC52345-2	JC52345-3	JC52345-4	JC52345-5	JC52345-6	JC52345-7	JC52345-8	JC52345-9	JC52345-10	JC52345-11	JC52345-12	JC52345-13	JC52345-14	JC52345-15	JC52345-16	JC52345-17	JC52345-18					
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organics																							
Benzene	<0.000085	<0.000092	<0.000092	<0.00011						<0.000069							**<0.016 f**	<0.00010	2	5	0.005		0.255
Toluene	<0.00044	<0.00047	<0.00047	<0.00054						<0.00035							<0.082 **f**	<0.00053	6,300	91,000	7		200
Ethyl benzene	<0.00023	<0.00025	<0.00025	<0.00029						<0.00019							<0.043 **f**	<0.00028	7,800	110,000	13		5.16
Xylenes	<0.00020	<0.00022	<0.00022	<0.00025						<0.00016							<0.038 **f**	<0.00024	12,000	170,000	19		10
MTBE	0.00086 J	<0.00037	<0.00037	<0.00042						<0.00028							<0.064 **f**	<0.00041	110	320	0.2		-
TBA	<0.0046	<0.0050	0.0087 J	<0.0057						<0.0037							**<0.870 f**	<0.0056	1,400	11,000	0.3		-
EDC	<0.00014	<0.00016	<0.00016	<0.00018						<0.00012							**<0.027 f**	<0.00017	0.9	3	0.005		21.2
EDB	<0.00020	<0.00021	<0.00021	<0.00023						<0.00016							**<0.037 f b**	<0.00024	0.008	0.3	0.005		-
Acetone	<0.0051	0.0189	0.0065 J	<0.0063						0.0085							<0.960 **f**	<0.0062	70,000	-	19		-
Bromomethane	<0.00056	<0.00060	<0.00061	<0.00069						<0.00045							**<0.110 f**	<0.00068	25	59	0.04		-
2-Butanone	<0.0042	<0.0045	<0.0045	<0.0052						<0.0034							<0.780 **f**	<0.005	3,100	44,000	0.9		-
Carbon disulfide	<0.00049	<0.00053	<0.00053	<0.00060						<0.00039							<0.092 **f**	<0.00059	7,800	110,000	6		-
Chloroethane	<0.00072	<0.00078	<0.00078	<0.00089						<0.00058							<0.140 **f**	<0.00087	220	1,100	-		-
Chloroform	<0.00026	<0.00028	<0.00028	<0.00032						<0.00021							<0.048 **f**	<0.00031	0.6	2	0.4		1.19
Chloromethane	<0.00079	<0.00085	<0.00085	<0.00097						<0.00064							<0.150 **f**	<0.00095	4.0	12	-		-
Cyclohexane	<0.00027	<0.00030	<0.00030	<0.00034						<0.00022							<0.051 **f**	<0.00033	-	-	-		-
1,2-Dibromo-3-chloropropane	<0.00054	<0.00058	<0.00058	<0.00067						<0.00043							**<0.1 f b**	<0.00065	0.08	0.20	0.005		-
1,2 Dichlorobenzene	<0.00041	<0.00044	<0.00045	<0.00051						<0.00033							<0.077 **f**	<0.00050	5,300	59,000	17		2.96
1,3-Dichlorobenzene	<0.00023	<0.00025	<0.00025	<0.00028						<0.00019							<0.043 **f**	<0.00028	5,300.0	59,000	19		37.7
1,4-Dichlorobenzene	<0.00038	<0.00041	<0.00041	<0.00047						<0.00031							<0.072 **f**	<0.00046	5.0	13	2		0.546
1,1 Dichloroethane (1,1-DCA)	<0.00021	<0.00022	<0.00022	<0.00026						<0.00017							<0.039 **f**	<0.00025	8.0	24	0.2		-
Dichlorodifluoromethane	<0.00048 **a**	<0.00052 **a**	<0.00053 **a**	<0.00060 **a**						<0.00039 **a**							<0.091 **f**	<0.00059 **a**	490	230,000	39		-
cis-1,2 Dichloroethene	<0.00032	<0.00035	<0.00035	<0.00040						<0.00026							<0.060 **f**	<0.00039	230	560	0.3		-
trans-1,2-Dichloroethene	<0.00047	<0.00050	<0.00050	<0.00058						<0.00038							<0.088 **f**	<0.00056	300	720	0.6		0.784
trans-1,3-Dichloropropene	<0.00019	<0.00020	<0.00020	<0.00023						<0.00015							<0.036 **f**	<0.00023	2	7	0.005		-
2-Hexanone	<0.0022	<0.0024	<0.0024	<0.0028						<0.0018							<0.420 **f**	<0.0027	-	-	-		-
Isopropylbenzene	<0.00020	<0.00021	<0.00021	<0.00025						<0.00016							0.759	<0.00024	-	-	-		-
Methyl Acetate	<0.0020	<0.0022	0.0046	<0.0025						<0.0016							<0.380 **f**	<0.0024	78,000.0	-	22		-
Methylene Chloride	<0.0020	<0.0022	<0.0022	<0.0025						<0.0016							**<0.380 f**	<0.0024	46	230	0.01		4.05
Methylcyclohexane	<0.00044	<0.00047	<0.00047	<0.00054						<0.00035							<0.082 **f**	<0.00053	-	-	-		-
4-Methyl-2-pentanone	<0.0014	<0.0016	<0.0016	<0.0018						<0.0012							<0.270 **f**	<0.0017	-	-	-		-
Naphthalene	<0.0016	<0.0017	<0.0017	<0.002						<0.0013							**<0.300 f c**	<0.0019	6	17	25		0.0994
Tetrachloroethene (PCE)	<0.00051	<0.00055	<0.00055	<0.00063						<0.00041							**<0.096 f**	**<0.00061**	43	1,500	0.005		9.92
1,2,3-Trichlorobenzene	<0.00080	<0.00086	<0.00086	<0.00099						<0.00065							<0.150 **f c**	<0.00096	-	-	-		20
1,2,4-Trichlorobenzene	<0.00080	<0.00086	<0.00086	<0.00099						<0.00065							<0.150 **f c**	<0.00096	73	820	7		20
1,1,2-Trichloroethane	<0.00033	<0.00036	<0.00036	<0.00042						<0.00027							**<0.063 f b**	<0.00040	2	6	0.02		28.6
Trichlorofluoromethane	<0.00038 **a**	<0.00041 **a**	<0.00041 **a**	<0.00047 **a**						<0.00031 **a**							<0.072 **f**	<0.00046 **a**	23,000	340,000	34		-
Vinyl chloride	<0.00061 **a**	<0.00066 **a**	<0.00066 **a**	<0.00076 **a**						<0.00049 **a**							<0.110 **f**	<0.00074 **a**	1	2	0.005		0.646
VOC TICs	0	0	0	0						0							29.610 **f**	0					-
Total Alkanes	0.0051 J	0.0085 J	0	0						0							0	0					-
Total TICs & Alkanes	0.0051 J	0.0085 J	0	0						0							26.610 **f**	0					-
Petroleum Hydrocarbons																							
EPH (C9-C28)													218	13.3							-	5,100	
EPH (>C28-C40)													185	22.4							-	5,100	
Total EPH (C9-C40)													402	35.7							-	5,100	1,700
PAHs																							
Acenaphthene															<0.012	<0.013			3,400	37,000	110		20
Acenaphthylene															<0.018	<0.020			-	300,000			682
Anthracene															<0.022	<0.024			17,000	30,000	2,400		1,480
Benzo(a)anthracene															<0.010	<0.011			5	17	0.8		5.21
Benzo(a)pyrene															<0.016	<0.018			0.5	2	0.2		1.52
Benzo(b)fluoranthene															<0.016	<0.017			6	17	2		59.8
Benzo(e,h,i)perylene															<0.018	<0.019			380,000	30,000	NA		119
Benzo(k)fluoranthene															<0.017	<0.018			45	170	25		148
Chrysene															<0.011	<0.012			450	1,700	80		4.73
Dibenzo(a,h)anthracene															<0.016	<0.017			0.5	2	0.8		18.4
Fluoranthene															<0.016	<0.017			2,300	24,000	1,300		122
Fluorene															<0.016	<0.018			2,300	24,000	170		122
Indeno(1,2,3-cd)pyrene															<0.017	<0.018			5	17	7		109
Naphthalene															<0.010	<0.011			6	17	25		0.0994
Phenanthrene															<0.012	<0.013			NA	300,000	NA		45.7
Pyrene															<0.011	<0.012			1,700	18,000	840		78.5
Metals																							
Aluminum										**13,700 T**	**10,500 T**	**3500 T**							78,000	-	6,000		50
Antimony											<2.2								31	450	6		0.27
Arsenic											3.7								19 *	19 *	19 *		9.9
Barium											37.5								16,000	59,000	2,100		283
Beryllium											0.67								16	140	0.7		10
Cadmium											<0.56								78	78	2		0.36
Calcium											<560								-	-	-		-
Chromium											18.4								-	-	-		0.4
Cobalt											7.8								1,600	590	90		0.14
Copper											15.2								3,100	45,000	11,000		5.4
Iron											10,900								-	-	-		-
Lead					**31**	39.8	**165 N**	13.9	20.6		9.2								400	800	90		0.0537
Magnesium											1,580								-	-	-		-
Manganese										17	36.4								11,000	5,900	65		220
Mercury											<0.036								23	65	0.1		0.00051
Nickel											10.6								1,600	23,000	48		13.6
Potassium											<1,100								-	-	-		-
Selenium											<2.2								390	5,700	11		0.0276
Silver											<0.56								390	5,700	1		2
Sodium											<1,100								-	-	-		-
Thallium											<1.1								-	-	3		1
Vanadium											25.3								78	1,100	NA		2
Zinc											40.3								23,000	110,000	930		6.62
Comment																							
in unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	no					
In undeveoped area					yes		yes						yes				yes						
% Solids	87.1	86.6	87.7	84.3	80.3	83.2	87	86.6	79	89.1	87.8	80.8	88.7	93.3	91.8	81.3	94.4	92.6					

DTW: Depth to water
J: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -0Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
PAHs: Polycyclic aromatic hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water

Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screening levels should only be compared to samples collected in the upper 1 foot of the soil column in undeveloped areas.
Note: Only compouns detcted at site are listed in table.

a: Associated CCV outside of control limits high, sample was ND.
b: This compound in BS is outside in house QC limits bias high.
c: Assocaited CCV and BS outside of control limits high, sample was ND.
f: Dilution due to high concentration of non-target compound.

165 Exceeds default impact to ground water screening level
31 Exceeds ecological soil screening level
<0.016 Detection level above standard

T: Concentration above a standard but not above background

N: Also above ecological soil screening level

Table 11 (continued): Summary of Soil Samples Collected October 3, 2017

Sample I.D. Sample Depth Sample Date	P 70 0-0.5' 10/3/17	P 70 1.5-2' 10/3/17	P 70 3.5-4' 10/3/17	P 70 6.5-7' 10/3/17	P 73 3' 10/3/17	P 64 6-6.5' 10/3/17	P 64 6' 10/3/17	P 64 1' 10/3/17	P 64 5.5-6' 10/3/17	P 64 8' 10/3/17	P 67 0-0.5' 10/3/17	P 67 1.5-2' 10/3/17	P 69 0.5-1' 10/3/17	P 69 1-1.5' 10/3/17	P 54 0-0.5' 10/3/17	P 54 0.5-1' 10/3/17	P 55 0-4' 10/3/17	Field Blank 10/3/17	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Cleanup Standard	Soil Ecological Screening Level
Lab ID	JC52345-19	JC52345-20	JC52345-21	JC52345-22	JC52345-23	JC52345-24	JC52345-25	JC52345-26	JC52345-27	JC52345-28	JC52345-29	JC52345-30	JC52345-31	JC52345-32	JC52345-34	JC52345-35	JC52345-36	JC52345-33					
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organics	0-																						
Benzene			**33.8 k**			**0.146 q**									<0.00024	<0.00024	<0.00017	<0.17	2	5	0.005		0.255
Toluene			**11.4 k**			1.070 **q**									<0.0012	<0.0012	<0.00087	<0.25	6,300	91,000	7		200
Ethyl benzene			**786 k**			6.76 **q**									<0.00066	<0.00066	<0.00046	<0.22	7,800	110,000	13		5.16
Xylenes			**3.140 k**			**38 q**									<0.00057	<0.00057	<0.00040	<0.22	12,000	170,000	19		10
MTBE			**<33 k**			<0.044 **q**									<0.00097	<0.00097	<0.00068	<0.25	110	320	0.2		-
TBA			**<45 k**			**<0.590 q**									<0.013	<0.013	<0.0092	<7.0	1,400	11,000	0.3		-
EDC			**<1.4 k**			**<0.018 q**									<0.00041	<0.00041	<0.00029	0.20	0.9	3	0.005		21.2
EDB			**<1.9 k**			**<0.025 q**									<0.00056	<0.00056	<0.00039	NA	0.008	0.3	0.005		-
Acetone			**<50.0 k a**			<0.660 **q a**									0.0274	<0.015	0.0174	<5	70,000	-	19		-
Bromomethane			**<0.072 k**			**<0.072 q**									<0.0016	<0.0016	<0.0011	<1.4	25	59	0.04		-
2- Butanone			**<40.0 k**			**<0.540 q**									<0.012	<0.012	<0.0083	<4.8	3,100	44,000	0.9		-
Carbon disulfide			<4.7 **k**			<0.063 **q**									<0.0014	<0.0014	<0.00097	<0.23	7,800	110,000	6		-
Chloroethane			<7.0 **k**			<0.093 **q**									<0.0021	<0.0021	<0.0014	<0.59	220	1,100	-		-
Chloroform			**<2.5 k**			<0.033 **q**									<0.00074	<0.00074	<0.00052	<0.29	0.6	2	0.4		1.19
Chloromethane			<0.1 **k**			<0.1 **q**									<0.0022	<0.0022	<0.0016	<0.53	4.0	12	-		-
Cyclohexane			71.700 **k**			0.548 **q**									<0.00078	<0.00078	<0.00055	<0.63	-	-	-		-
1,2-Dibromo-3-chloropropane			**<5.2 k**			**<0.069 q**									<0.0015	<0.0015	<0.0011	<0.69	0.08	0.20	0.005		-
1,2 Dichlorobenzene			<4.0 **k**			<0.053 **q**									<0.0012	<0.0012	<0.00082	<0.50	5,300	59,000	17		2.96
1,3-Dichlorobenzene			<2.2 **k**			<0.029 **q**									<0.00065	<0.00065	<0.00046	<0.50	5,300.0	59,000	19		37.7
1,4-Dichlorobenzene			**<3.7 k**			<0.049 **q**									<0.0011	<0.0011	<0.00076	<0.50	5.0	13	2		0.546
1,1 Dichloroethane			**<2.0 k**			<0.027 **q**									<0.00059	<0.00059	<0.00041	<0.21	8.0	24	0.2		-
Dichlorodifluoromethane			<4.7 **k**			<0.062 **q**									<0.0014 **a**	<0.0014 **a**	<0.00097 **a**	<1.9	490	230,000	39		-
cis-1,2 Dichloroethene			**<3.1 k**			<0.041 **q**									<0.00092	<0.00092	<0.00064	<0.50	230	560	0.3		-
trans-1,2-Dichloroethene			**<4.5 k**			<0.060 **q**									<0.0013	<0.0013	<0.00093	<0.40	300	720	0.6		0.784
trans-1,3-Dichloropropene			**<1.8 k**			**<0.024 q**									<0.00054	<0.00054	<0.00038	<0.22	2	7	0.005		-
2-Hexanone			<22 **k**			<0.290 **q**									<0.0064	<0.0064	<0.0045	<3.3	-	-	-		-
Isopropylbenzene			226 **k**			1.410 **q**									<0.00056	<0.00056	0.0015 J	<0.25	-	-	-		-
Methyl Acetate			<20 **k**			<0.260 **q**									<0.0058	<0.0058	<0.0040	<3.1	78,000.0	-	22		-
Methylene Chloride			**<19 k**			**<0.260 q**									<0.0057	<0.0057	<0.0040	<1.0	46	230	0.01		4.05
Methylcyclohexane			417 **k**			3.180 **q**									<0.0012	<0.0012	<0.00087	<1.8	-	-	-		-
4-Methyl-2-pentanone			<14 **k**			<0.180 **q**									<0.0041	<0.0041	<0.0029	<3.0	-	-	-		-
Naphthalene			**535 k**			2.98 **q**									<0.0046	<0.0046	<0.0032	<1.1	6	17	25		0.0994
Tetrachloroethene (PCE)			**<4.9 k**			**<0.065 q**									<0.0015	<0.0015	<0.0010	<0.50	43	1,500	0.005		9.92
1,2,3-Trichlorobenzene			<7.7 **k**			<0.100 **q**									<0.0023	<0.0023	<0.0016	<0.50	-	-	-		20
1,2,4-Trichlorobenzene			**<7.7 k**			<0.100 **q**									<0.0023	<0.0023	<0.0016	<0.50	73	820	7		20
1,1,2-Trichloroethane			**<3.2 k**			**<0.043 q**									<0.00096	<0.00096	<0.00067	<0.24	2	6	0.02		28.6
Trichlorofluoromethane			<4.7 **k**			<0.049 **q**									<0.0011 **a**	<0.0011 **a**	<0.00077 **a**	<0.60	23,000	340,000.0	34		-
Vinyl chloride			**<5.9 k**			**<0.079 q**									<0.0017 **a**	<0.0017 **a**	<0.0012 **a**	<0.62	1	2	0.005		0.646
VOC TICs			15,920 J **k**			95 J **q**									0	0	0	0					-
Total Alkanes			1,300 J **k**			30.2 J **q**									0	0	0	0					-
Total TICs & Alkanes			17,220 J **k**			125.2 J **q**									0	0	0	0					-
Petroleum Hydrocarbons																							
EPH (C9-C28)	32.9	21.3					147			27.7			219	262								5,100	
EPH (>C28-C40)	32.9	32.1					<6.9			<6.7			349	454								5,100	
Total EPH (C9-C40)	65.8	53.4					147			27.7			568	716								5,100	1,700
SVOCs																							
2-Methylnaphthalene			3.58	0.0189 J				**12.3 r**											230	2,400	8		3.24
PAHs																							
Acenaphthene			0.0708	<0.013										0.135 J		0.0622	0.0234 J		3,400	37,000	110		20
Acenaphthylene			<0.021	<0.019										<0.025		0.0477	0.0379 J		-	300,000	-		882
Anthracene			0.0419 J	<0.023										0.416		0.174	0.0695		17,000	30,000	2,400		1,480
Benzo(a)anthracene			0.0684 **d**	<0.011										**2.030**		**1.040 d**	0.279 d		5	17	0.8		5.21
Benzo(a)pyrene			0.073 **d**	<0.017										**2.1 N**		**1.70 N d**	**0.436 d**		0.5	2	0.2		1.52
Benzo(b)fluoranthene			0.0732 **d**	<0.017										**2.44**		1.87 **d**	0.488 d		5	17	2		59.8
Benzo(g,h,i)perylene			0.0496 **d**	<0.019										1.59		1.4 d	0.348 d		380.000	30.000	NA		119
Benzo(k)fluoranthene			0.0333 J **d**	<0.018										0.742		0.717 d	0.198 **d**		45	170	25		148
Chrysene			0.0727 **d**	<0.012										2.22		1.3 d	0.356 d		450	1,700	80		4.73
Dibenzo(a,h)anthracene			<0.018	<0.017										0.34		0.282 d	0.0725 **d**		0.5	2	0.8		18.4
Fluoranthene			0.122	<0.017										4.1		1.19	0.375		2,300	24,000	1,300		122
Fluorene			0.0493	<0.017										0.0893 J		0.0422 J	<0.018		2,300	24,000	170		122
Indeno(1,2,3-cd)pyrene			0.0422 **d**	<0.018										1.3		1.3 d	0.316 **d**		5	17	7		109
Naphthalene			3.58	0.0189 J										<0.025		0.0415 J	0.0237 J		6	17	25		0.0994
Phenanthrene			0.15	<0.013										1.79		0.744	0.216		NA	300.000	NA		45.7
Pyrene			0.341 **d**	<0.012										3.99		2.61 d	0.842 d		1,700	18,000	840		78.5
Metals																							
Aluminum					**17,700**				**14300 T**				**12,600 T**	**14,700 T**	**9,020 T**	**12,700 T**	**10,800 T**		78,000	-	6,000		50
Antimony					<2.4								<2.3	<2.1	<2	<2	<2.3		31	450	6		0.27
Arsenic					8.3								3.3	4.7	2.8	3	3.8		19 *	19 *	19 *		9.9
Barium					52.1								68.9	91.7	59.8	90	99.4		16,000	59,000	2,100		283
Beryllium					0.43				0.38				0.44	0.57	0.38	0.54	**0.74**		16	140	0.7		10
Cadmium					<0.59								**1.1**	1.6	**1.3**	**1.8**	**0.87**		78	78	2		0.36
Calcium					1,760								7,480	9,080	5,390	8,240	5,730		-	-	-		-
Chromium					24.8								**34.8**	44	19.5	**27.3**	16		-	-	-		0.4
Cobalt					<5.9								10	12.2	<4.9	7.3	6.3		1,600	590	90		0.14
Copper					11.4								**239**	276	**59.7**	**86.6**	**44.4**		3,100	45,000	11,000		5.4
Iron					20,400								18,500	24,800	8,900	14,200	11,100		-	-	-		-
Lead					13.2						35.6	19.2	**63.9**	**99.4**	**45.4**	**68.6**	**56.8**		400	800	90		0.0537
Magnesium					1,390								4,700	5,710	2,550	3,760	1,980		-	-	-		-
Manganese					34.8				74.7				**508 N**	**650**	**90.1**	**162**	**168**		11.000	5,900	65		220
Mercury					<0.037								**0.14 N**	**0.13**	**0.67 N**	**0.13**	0.091		23	65	0.1		0.00051
Nickel					8.5								**27.9**	28.7	15.8	**23.9**	15.6		1,600	23,000	48		13.6
Potassium					<1,200								<1,200	1,140	<990	<1,000	<1,200		-	-	-		-
Selenium					<2.4								<2.3	<2.1	<2.0	<2.0	<2.3		390	5,700	11		0.0276
Silver					<0.59								<0.58	<0.53	<0.49	<0.50	<0.58		390	5,700	1		2
Sodium					<1,200								<1,200	<1,100	<990	<1,000	<1,200		-	-	-		-
Thallium					<1.2								**<1.2**	<1.1	<0.99	<1.0	**<1.2**		-	-	3		1
Vanadium					36.7								39.2	45.3	20.8	30	23.9		78	1,100	NA		2
Zinc					31.1								**348**	440	**190**	**266**	**184**		23.000	110.000	930		6.62
Comment																							
in unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	no	yes	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	yes	yes						
In undeveloped area	yes							no			yes		yes		yes	yes	yes						
% Solids	91.4	94	75.1	86.7	81.8	87.3	90.9	91.8	87.5	91	94.7	94.4	83.1	79.4	75.7	75.7	84.7						

DTW: Depth to water
J: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -0Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water

Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screenine levels should only be compared to samples collected in the upper 1 foot of the soil column in undeveloped areas.
Note: Only compouns detcted at site are listed in table.

a: Associated CCV outside of control limits high, sample was ND.
b: This compound in BS is outside in house QC limits bias high.
c: Associated CCV and BS outside of control limits high, sample was ND.
d: Estimated value, due to corresponding internal standard failing low.

r: result is from run 2.
q: Dilution due to high concentration of target compounds.
k: Dilution due to high concentration of target and non-target compounds.

33.8: Exceeds direct contact standard
0.146: Exceeds default impact to around water screenino level
<1.2: Detection level above standard
348: Exceeds ecological soil screening level
T: Concentration above a standard but not above background
N: Also exceeds ecological soil screening level

Table 12: Summary of Soil Analytical Reports for Samples Collected 10/4/17

Sample I.D. Sample Depth Sample Date	P 51 2.5-3' 10/4/17	P 51 3.5-4' 10/4/17	P 63 3-3.5' 10/4/17	P 63 7-7.5' 10/4/17	P 48 1-1.5' 10/4/17	P 48 7.5-8' 10/4/17	P 48 20' 10/4/17	P 47 6-6.5' 10/4/17	P 58 0-0.5' 10/4/17	P 58 1.5-2' 10/4/17	P 58 6-6.5' 10/4/17	P 58 18-18.5' 10/4/17	P 59 0-0.5' 10/4/17	P 59 1.5-2' 10/4/17	P 59 4.5-5' 10/4/17	P 59 9.5-10' 10/4/17	P 60 0-0.5' 10/4/17	P 60 1.5-2' 10/4/17	P 60 7.5-8' 10/4/17	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Cleanup Standard	Soil ecological screening Level				Sedimet ecological screening Level
Lab ID	JC52433-1	JC52433-2	JC52433-3	JC52433-4	JC52433-5	JC52433-6	JC52433-7	JC52433-8	JC52433-9	JC52433-10	JC52433-11	JC52433-12	JC52433-14	JC52433-15	JC52433-16	JC52433-17	JC52433-18	JC52433-19	JC52433-20									
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg				mg/kg
Volatile Organics																												
Benzene	<0.240 f	<0.077			0.0027	<0.00012	0.0346	<0.00011									<0.00014	**0.0427**		2	5	0.005		0.255				0.142
Toluene	<1.2 f	<0.400			0.0046	<0.00059	0.00071 J	<0.00057									<0.00073	0.0029		6,300	91,000	7		200				1.220
Ethyl benzene	32.6 f	22.1			0.0033	<0.00031	<0.00030	<0.00030									0.00045 J	0.0358		7,800	110,000	13		5.16				0.175
Xylenes	617 f	187			0.0145	<0.00027	0.0058	<0.00026									0.0011 J	0.157		12,000	170,000	19		10				0.433
MTBE	<0.960 f	<0.310			<0.00041	<0.00046	0.0962	<0.00044									<0.00057	<0.00047		110	320	0.2		-				-
TBA	<13.0 f	<4.2			<0.0056	<0.0063	0.0691	<0.0060									<0.0077	<0.0063		1,400	11,000	0.3		-				-
EDC	<0.410 f	<0.130			<0.00017	<0.00020	<0.00019	<0.00019									<0.00024	<0.00020		0.9	3	0.005		21.2				0.26
EDB	**<0.550 f**	**<0.180**			<0.00024	<0.00027	<0.00026	<0.00025									<0.00033	<0.00027		0.008	0.3	0.005		-				-
Acetone	<14 f	<4.6			<0.0062	<0.0070	0.0156	<0.0066									<0.0085	0.0213		70,000	-	19		-				-
Bromomethane	<1.6 f a	<0.510 a			0.0011 J	<0.00076	<0.00073	<0.00073									<0.00093	<0.00077		25	59	0.04		-				-
2-Butanone	<12 f	<3.8			<0.0050	<0.0057	<0.0055	<0.0054									<0.0070	<0.0057		3,100	44,000	0.9		-				-
Carbon disulfide	<1.4 f	<0.440			<0.00059	<0.00066	0.0021	<0.00063									<0.00081	<0.00067		7,800	110,000	6		-				-
Chloroethane	<2.0 f a	<0.650 a			<0.00087	<0.00098	<0.00094	<0.00093									<0.0012	<0.00098		220	1,100	-		-				-
Chloroform	**<8.730 f**	<0.230			<0.00031	<0.00035	<0.00034	<0.00033									<0.00043	<0.00035		0.6	2	0.4		1.19				0.121
Chloromethane	<0.2.2 f	<0.710			<0.00095 e	<0.0011 e	<0.0010 e	<0.0010 e									<0.0013 e	<0.0011 e		4.0	12	-		-				-
Cyclohexane	<0.770 f	<0.250			<0.00033	<0.00037	0.00075 J	<0.00036									<0.00046	0.018		-	-	-		-				-
1,2-Dibromo-3-chloropropane	**<1.5 f**	**<0.490**			<0.00065	<0.00073	<0.00070	<0.00070									<0.00090	<0.00073		0.08	0.20	0.005		-				-
1,2 Dichlorobenzene	<1.2 f	<0.370			<0.00050	<0.00056	<0.00054	<0.00053									<0.00069	<0.00056		5,300	59,000	17		2.96				0.294
1,3-Dichlorobenzene	<0.650 f	<0.210			<0.00028	<0.00031	<0.00030	<0.00030									<0.00038	<0.00031		5,300.0	59,000	19		37.7				1.315
1,4-Dichlorobenzene	<1.1 f	<0.350			<0.00046	<0.00052	<0.00050	<0.00050									<0.00064	<0.00052		5.0	13	2		0.546				0.318
1,1 Dichloroethane (1,1-DCA)	<0.580 f	<0.190			<0.00025	<0.00028	<0.00027	<0.00027									<0.00034	<0.00028		8.0	24	0.2		-				-
Dichlorodifluoromethane	<1.4 f a	<0.440 a			<0.00056	<0.00066	<0.00063	<0.00063									<0.00081 e	<0.00066		490	230,000	39		-				-
cis-1,2 Dichloroethene	<0.910 f	<0.290			<0.00039	<0.00044	<0.00042	<0.00042									<0.00053	<0.00044		230	560	0.3		-				-
trans-1,2-Dichloroethene	<1.3 f	<0.420			<0.00056	<0.00063	<0.00061	<0.00060									<0.00078	<0.00064		300	720	0.6		0.784				0.654
trans-1,3-Dichloropropene	<0.530 f e	<0.170 e			<0.00023	<0.00026	<0.00025	<0.00025									<0.00032	<0.00026		2	7	0.005		-				-
2-Hexanone	<6.3 f	<2.0			<0.0027	<0.0030	<0.0029	<0.0029									<0.0037	<0.0030		-	-	-		-				-
Isopropylbenzene	15.3 f	12.3			<0.00024	<0.00027	0.0012 J	<0.00026									<0.00033	0.0034		-	-	-		-				-
Methyl Acetate	<5.7 f	<1.8			0.0051	<0.0027	<0.0026	<0.0026									<0.0034	<0.0028		78,000.0	-	22		-				-
Methylene Chloride	<5.6 f	<1.8			<0.0024	<0.0027	<0.0026	<0.0026									<0.0033	<0.0027		46	230	0.01		4.05				0.159
Methylcyclohexane	11.4 f	13.7			0.00081 J	<0.00059	0.00062 J	<0.00057									<0.00073	0.0577		-	-	-		-				-
4-Methyl-2-pentanone	<4.1 f	<1.3			<0.0017	<0.0020	<0.0019	<0.0019									<0.0024	<0.0020		-	-	-		-				-
Naphthalene	**32.5** f	**25.8**			<0.0019	<0.0022	<0.0021	<0.0021									<0.0027	<0.0022		6	17	25		0.0994				0.176
Tetrachloroethene (PCE)	5.85 f	1.200 J			<0.00061	<0.00069	<0.00067	<0.00066									<0.00085	<0.00069		43	1,500	0.005		9.92				0.990
1,2,3-Trichlorobenzene	<2.3 f	<0.720			<0.00096	<0.0011	<0.0010	<0.0010									<0.0013	<0.0011		-	-	-		20				-
1,2,4-Trichlorobenzene	<2.3 f	<0.720			<0.00096	<0.0011	<0.0010	<0.0010									<0.0013	<0.0011		73	820	7		20				5.062
1,1,2-Trichloroethane	<0.950 f	<0.300			<0.00040	<0.00046	<0.00044	<0.00043									<0.00056	<0.00046		2	6	0.02		28.6				0.518
Trichlorofluoromethane	<1.1 f a	<0.350 a			<0.00046	<0.00052	<0.00050	<0.00050									<0.00064 e	<0.00052		23,000	340,000.0	34		-				-
Vinyl chloride	**<1.700 f a**	<0.550 a			<0.00073	<0.00083	<0.00080	<0.00079									<0.0010	<0.00083		1	2	0.005		0.646				0.202
VOC TICs	3,920 J f	1,194 J			0.01	0	0.0056 J	0									0	0.109 J						-				
Total Alkanes	140 J f	267 J			0	0	0.0345 J	0									0	0.750 J						-				
Total TICs & Alkanes		1,461 J			0.01	0	0.0401 J	0									0	0.859 J						-				
Petroleum Hydrocarbons																												
EPH (C9-C28)			12.1	20.9												106	290	<4	548 z			-	5,100				
EPH (>C28-C40)			<3.6	<3.7												28.8	427	<4	126 z			-	5,100				
Total EPH (C9-C40)			12.1	20.9												135	717	<4	673 z			-	5,100	1,700			
SVOCs																												
2-methylnaphthalene			0.371																	230	2,400	8		3.24				0.0202
PAHs																												
Acenaphthene									27.9 s	0.194	<0.013	<0.013	3.9 s	<0.013	0.0556	<0.023				3,400	37,000	110		20				0.00671
Acenaphthylene									1.33 s	<0.017	<0.019	<0.018	0.578 s	0.0249 J	<0.019	<0.020				-	300,000			682				0.00587
Anthracene									72.7 s	0.399	<0.023	<0.022	11.4 s	0.0641	0.0348 J	<0.020				17,000	30,000	2,400		1,480				0.0572
Benzo(a)anthracene									**233 N z**	0.653	<0.010	<0.010	**50.9 N z**	0.186	0.0367 J	<0.029				5	17	0.8		5.21				0.108
Benzo(a)pyrene									**236 N z**	0.705	<0.017	<0.017	**62.4 N z**	0.195	0.0276 J	<0.035				0.5	2	0.2		1.52				0.15
Benzo(b)fluoranthene									**281 N z**	0.689	<0.016	<0.016	**76.1 N z**	0.221	0.0301 J	<0.044				5	17	2		59.8				10.4
Benzo(g,h,i)perylene									**167 z**	0.545	<0.018	<0.018	52.4 z	0.136	0.0666	<0.055				380,000	30,000	NA		119				0.17
Benzo(k)fluoranthene									**65.3 x**	0.269	<0.017	<0.017	**28.1 z**	0.0967	<0.018	<0.044				45	170	25		148				0.24
Chrysene									**249 N z**	0.651	<0.012	<0.011	**53.1 z**	0.211	0.0499	<0.030				450	1,700	80		4.73				0.166
Dibenzo(a,h)anthracene									**48.1 N**	0.0935	<0.016	<0.016	**11.1 z**	0.0334 J	<0.017	<0.035				0.5	2	0.8		18.4				0.033
Fluoranthene									**643 z**	1.86	0.0161 J	<0.016	**127 z**	0.332	0.0774	0.065 J				2,300	24,000	1,300		122				0.423
Fluorene									21.6 s	0.157	<0.017	<0.017	2.55 s	0.0189 J	0.0539	<0.026				2,300	24,000	170		122				0.0774
Indeno(1,2,3-cd)pyrene									**136 N z**	0.438	<0.017	<0.017	**42.2 z**	0.14	0.0325 J	<0.053				5	17	7		109				0.2
Naphthalene									**14.8 N**	**0.256**	<0.010	<0.010	**0.627 s**	<0.010	**18.1 z**	2.08				6	17	25		0.0994				0.176
Phenanthrene									**423 z**	1.66	<0.012	<0.012	**51.8 z**	0.225	0.136	<0.020				NA	300,000	NA		45.7				0.204
Pyrene									**575 z**	1.76	0.0163 J	<0.012	**101 z**	0.417	0.104	0.0598 J				1,700	18,000	840		78.5				0.195
Metals																												
Aluminum	5,160 T		7,570 T										13,100 T	**18,300 N**						78,000	-	6,000		50				25,000
Antimony													<2.1	<2.3						31	450	6		0.27				3
Arsenic													2.4	6.4						19 *	19 *	19 *		9.9				6
Barium													71.4	**445**						16,000	59,000	2,100		283				-
Beryllium			0.46										0.36	**1.3**						16	140	0.7		10				-
Cadmium													**0.55**	0.74						78	78	2		0.36				0.6
Calcium													12,800	3,260						-	-	-		-				-
Chromium													**43.8**	33.5						-	-	-		0.4				26
Cobalt													**10.6**	14						1,600	590	90		0.14				50
Copper													**101**	77.3						3,100	45,000	11,000		5.4				16
Iron													24,300	36,500						-	-	-		-				-
Lead									**343 N**	18.4 c	9		44.1	**337**	**469**					400	800	90		0.0537				31
Magnesium													8,270	8,060						-	-	-		-				-
Manganese	**256**		395										**351 N**	**372**	40.4					11,000	5,900	65		220				630
Mercury											<0.034		<0.034	**0.33**	**<0.037**					23	65	0.1		0.00051				0.174
Nickel													**26.9**	38.7						1,600	23,000	48		13.6				16
Potassium													<1,000	2,930						-	-	-		-				-
Selenium													**<2.1**	<2.3						390	5,700	11		0.0276				-
Silver													<0.51	**<1.2 c**						390	5,700	1		2				0.5
Sodium													2,750	<1,200						-	-	-		-				-
Thallium													<1.0	1.2						-	-	3		1				-
Vanadium													**53.2**	45.9						78	1,100	NA		2				-
Zinc													**228**	**1,200**						23,000	110,000	930		6.62				120
Comment																												
In unsaturated zone per average DTW as of 4/4/17	no	no	yes	no	yes	no	no	yes	yes	yes	yes	no	yes	yes	yes	no	yes	yes	no									
In undeveloped area above 1 foot									yes				yes				yes											
% Solids	89.9	70.7	85.5	88.6	88.3	79.4	76	94.7	93.3	96.1	88.4	90.7	93.4	87.8	85.7	88.9	96.4	84.9	80									

DTW: Depth to water
I: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -0Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
PAHs: Polycyclic aromatic hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Inmact to ground water

Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screening levels should only be compared to samples collected in the upper 1 foot of the soil column in undeveloped areas.
Note: Only compouns detcted at site are listed in table.
Note: Ecological soil screening level for lead in grassy area is 11 & in stoned areas it is 40.5 mg/kg
a: Associated CCV outside of control limits high, sample was ND.

c: Elevated detection limit due to dilution required for high interfering element.
f: Dilution due to high concentration of non-target compounds.
e: Associated CCV outside of control limits low.
s: Elevated detection limit due to high final volume of viscious extract. Dilution required due to the viscosity of extract matrix. z:Result is from run 2

32.5 : Exceeds direct contact standard
0.0427
228
<2.1

T: Concentration above a standard but not above background
P: Also exceeds impact to groundwater screening level
N: Also exceeds ecological soil screening level.

Table 12 (continued): Summary of Samples Collected October 4, 2017

Sample I.D. Sample Depth Sample Date	P 61 0-0.5' 10/4/17	P 61 1.5-2' 10/4/17	P 61 4-4.5' 10/4/17	P 61 12.5-13' 10/4/17	P 62 0-0.5' 10/4/17	P 62 1.5-2' 10/4/17	P 62 6-6.5' 10/4/17	P 62 5.5-6' 10/4/17	P 62 8-8.5' 10/4/17	P 66 0-0.5' 10/4/17	P 66 1.5-2' 10/4/17	P 66 6-6.5' 10/4/17	P 66 13.5-14' 10/4/17	P 68 0-0.5' 10/4/17	P 68 1.5-2" 10/4/17	P 68 6-6.5' 10/4/17	P 68 7.5-8' 10/4/17	P 72 1-2' 10/4/17	P 72 3.5-4' 10/4/17	P 72 6.5-7' 10/4/17	P 48 GW 10/4/17	Field Blank 10/4/17	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Cleanup Standard	Soil Ecological Screening Level	Ground Water Standard	Ground Water Screening Levels for Vapor Intrusion
Lab ID	JC52433-21	JC52433-22	JC52433-23	JC52433-24	JC52433-26	JC52433-27	JC52433-28	JC52433-29	JC52433-30	JC52433-31	JC52433-32	JC52433-33	JC52433-34	JC52433-35	JC52433-36	JC52433-37	JC52433-38	JC52433-39	JC52433-40	JC52433-41	JC52433-13	JC52433-25								
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	ug/l	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l		
Volatile Organics																														
Benzene																					**44.4**	<0.17	2	5	0.005		0.255	1	20	
Toluene																					1.3	<0.25	6,300	91,000	7		200	600	330,000	
Ethyl benzene																					8.6	<0.22	7,800	110,000	13		5.16	700	700	
Xylenes																					55	<0.22	12,000	170,000	19		10	1,000	8,600	
MTBE																					**80.4**	<0.25	110	320	0.2		-	70	580	
TBA																					**136**	<7	1,400	11,000	0.3		-	100		
EDC																					<0.20	<0.20	0.9	3	0.005		21.2	2	3	
EDB																					<0.21	<0.21	0.008	0.3	0.005		-	0.03	0.4	
Acetone																					11.2	<5	70,000	-	19		-	6,000		
Bromomethane																							25	59	0.04		-			
2- Butanone																					<4.8	<4.8	3,100	44,000	0.9		-	300	2,500,000	
Carbon disulfide																					<0.23	<0.23	7,800	110,000	6		-	700	1,500	
Chloroethane																							220	1,100	-		-			
Chloroform																					<0.29	<0.29	0.6	2	0.4		1.19	70	70	
Chloromethane																							4.0	12	-		-			
Cyclohexane																					3.3 J	<0.63	-	-	-		-	-	16,000	
1,2-Dibromo-3-chloropropane																					<0.69	<0.69	0.08	0.20	0.005		-			
1,2 Dichlorobenzene																					<0.50	<0.50	5,300	59,000	17		2.96	600	6,800	
1,3-Dichlorobenzene																					<0.50	<0.50	5,300.0	59,000	19		37.7	600		
1,4-Dichlorobenzene																					<0.50	<0.50	5.0	13	2		0.546	75	75	
1,1 Dichloroethane (1,1-DCA)																					<0.21	<0.21	8.0	24	0.2		-	50	50	
Dichlorodifluoromethane																					<1.9	<1.9	490	230,000	39		-			
cis-1,2 Dichloroethene																					<0.50	<0.50	230	560	0.3		-	70		
trans-1,2-Dichloroethene																					<0.40	<0.40	300	720	0.6		0.784	100	520	
trans-1,3-Dichloropropene																							2	7	0.005		-			
2-Hexanone																					<3.3	<3.3	-	-	-		-	300		
Isopropylbenzene																					27	<0.25	-	-	-		-	700		
Methyl Acetate																					<3.1	<3.1	78,000.0	-	22		-	7,000		
Methylene Chloride																					<1.0	<1.0	46	230	0.01		4.05	3	920	
Methylcyclohexane																					<1.8	<1.8	-	-	-		-	-		
4-Methyl-2-pentanone																					<3.0	<3.0	-	-	-		-	-	900,000	
Naphthalene																					6.2	<1.1	6	17	25		0.0994	300	300	
Tetrachloroethene (PCE)																					<0.50	<0.50	43	1,500	0.005		9.92	1	31	
1,2,3-Trichlorobenzene																					<0.50	<0.50	-	-	-		20			
1,2,4-Trichlorobenzene																					<0.50	<0.50	73	820	7		20			
1,1,2-Trichloroethane																					<0.24	<0.24	2	6	0.02		28.6			
Trichlorofluoromethane																					<0.60	<0.60	23,000	340,000.0	34		-			
Vinyl chloride																					<0.62	<0.62	1	2	0.005		0.646			
VOC TICs																					705 J	0					-	100/500		
Total Alkanes																					58 J	0					-	100		
Total TICs & Alkanes																					763 J	0					-	500		
Petroleum Hydrocarbons																														
EPH (C9-C28)									<3.6	62.6	90.6									184					-	5,100		-		
EPH (>C28-C40)									<3.6	131	81.9									58.5					-	5,100		-		
Total EPH (C9-C40)									<3.6	194	172									243					-	5,100	1,700	-		
SVOCs																														
2-methylnaphthalene								<0.0085															230	2,400	8		3.24			
PAHs																														
Acenaphthene	0.713	0.0378 J **d**	<0.013	<0.012								<0.012	<0.014	<0.011	<0.012	<0.012	<0.011		0.331 **d**	<0.028			3,400	37,000	110		20			
Acenaphthylene	0.0749	<0.036 **d**	<0.019	<0.018								<0.017	<0.020	<0.016	<0.017	<0.018	<0.017		<0.090 **d**	<0.025			-	300,000			682			
Anthracene	2.2	0.0828 **d**	0.0233 J	<0.021								<0.021	<0.024	<0.020	<0.021	<0.021	<0.020		0.62 **d**	<0.025			17,000	30,000	2,400		1.480			
Benzo(a)anthracene	**8.36 N z**	0.175 **d**	0.0468	<0.0099								<0.0096	<0.011	0.0226 J	<0.0097	<0.0099	<0.0094		**1 d**	<0.034			5	17	0.8		5.21			
Benzo(a)pyrene	**9.43 N z**	**0.221 d**	0.045	<0.016								<0.015	<0.018	0.0260 J	<0.016	<0.016	<0.015		**0.747 d**	<0.043			0.5	2	0.2		1.52			
Benzo(b)fluoranthene	**12.1 z**	0.367 **d**	0.0628	<0.015								<0.015	<0.017	0.0349	<0.015	<0.015	<0.015		1 **d**	<0.052			5	17	2		59.8			
Benzo(g,h,i)perylene	8.06 z	0.298 **d**	0.0475	<0.017								<0.017	<0.020	0.0291 J	<0.017	<0.017	<0.017		0.959 **d**	<0.065			380,000	30,000	NA		119			
Benzo(k)fluoranthene	4.5 z	0.111 **d**	0.0222 J	<0.016								<0.016	<0.018	<0.015	<0.016	<0.016	<0.016		0.378 **d**	<0.052			45	170	25		148			
Chrysene	**9.28 z**	0.246 **d**	0.0617	<0.011								<0.011	<0.012	0.0243 J	<0.011	<0.011	<0.010		1.06 **d**	<0.036			450	1,700	80		4.73			
Dibenzo(a,h)anthracene	**2.85**	0.0448 J **d**	<0.017	<0.015								<0.015	<0.017	<0.014	<0.015	<0.015	<0.015		0.179 J **d**	<0.043			0.5	2	0.8		18.4			
Fluoranthene	16.3 z	0.344 **d**	0.0931	<0.016								<0.015	<0.018	0.033	<0.015	<0.016	<0.015		1.65 **d**	0.0703 J			2,300	24,000	1,300		122			
Fluorene	0.148	0.035 J **d**	0.0210 J	<0.016								<0.016	<0.018	<0.015	<0.016	<0.016	<0.015		0.673 **d**	<0.031			2,300	24,000	170		122			
Indeno(1,2,3-cd)pyrene	**8.24 z**	0.242 **d**	0.0310 J	<0.016								<0.016	<0.019	0.0241 J	<0.016	<0.016	<0.016		0.603 **d**	<0.064			5	17	7		109			
Naphthalene	**0.145**	0.0359 J **d**	0.229	0.0159 J								<0.0096	<0.011	<0.0091	<0.0096	0.119	1.8		3.86 **d**	1.9			6	17	25		0.0994			
Phenanthrene	9.31 z	0.275 **d**	0.102	<0.012								<0.011	<0.013	0.0211 J	<0.011	<0.012	0.0173 J		2.51 **d**	0.142 J			NA	300,000	NA		45.7			
Pyrene	18.8 z	0.494 **d**	0.148	<0.011								<0.011	<0.013	0.0447	<0.011	<0.011	0.0173 J		2.89 **d**	0.0659 J			1,700	18,000	840		78.5			
Metals																														
Aluminum	**16,500 T**	**5360 T**								**16300 T**	**12800 T**			**19,600 N**	2,090	4,350							78,000	-	6,000		50	200		
Antimony	<2.0	<2.1								<2.2	<2.3			<2.1	<2.2	<2.2							31	450	6		0.27	6		
Arsenic	2.3	6.3								2.5	7.6			<2.1	<2.2	<2.2							19 *	19 *	19 *		9.9	3		
Barium	39	37.3								50.6	154			39.4	<22	<22							16,000	59,000	2,100		283	6,000		
Beryllium	**0.21**	**0.25**						0.38		0.39	**1**			0.37	0.26	0.23							16	140	0.7		10	1		
Cadmium	<0.50	<0.54								**0.56**	<0.57			**<0.53**	<0.55	<0.54							78	78	2		0.36	4		
Calcium	9,540	<540								11,600	4,040			10,700	<550	<540							-	-	-		-			
Chromium	**62.2**	14								**41.8**	28.1			**54.1**	11.2	13.7							-	-	-		0.4	70		
Cobalt	**12.4**	<5.4								**15.2**	12.2			**17.1**	<5.5	<5.4							1,600	590	90		0.14	100		
Copper	**129**	16.2								**78.8**	48.4			**91**	2.8	9.9							3,100	45,000	11,000		5.4	1,300		
Iron	24,600	7,200								21,400	29,700			25,400	10,100	5,910							-	-	-		-	300		
Lead	**79.9**	88.7			**13.7**	6.1	28.1			33.8	**226**	9		15.7	3.4	4.7			**555**				400	800	90		0.0537	5		
Magnesium	7,690	<540								8,360	5,890			10,000	<550	<540							-	-	-		-			
Manganese	**277 N**	17.6								**381 N**	**1,380**			**415 N**	31.9	6.6							11,000	5,900	65		220	50		
Mercury	<0.032	<0.032	<0.037							**<0.032**	**0.3**			**<0.033**	<0.032	<0.033		**0.5**					23	65	0.1		0.00051	2		
Nickel	**31.9**	<4.3								**34.1**	31.8			**36.4**	<4.4	<4.3							1,600	23,000	48		13.6	100		
Potassium	<1,000	<1,100								<1,100	2,300			<1,100	<1,100	<1,100							-	-	-		-			
Selenium	**<2**	<2.1								**<2.2**	<2.3			**<2.1**	<2.2	<2.2							390	5,700	11		0.0276	40		
Silver	<0.50	<0.54								<0.56	<0.57			<0.53	<0.55	<0.54							390	5,700	1		2	40		
Sodium	1,680	<1,100								1,410	<1,100			1,760	<1,100	<1,100							-	-	-		-	<1,000		
Thallium	<1.0	<1.1								**<1.1**	<2.3 c			**<1.1**	<1.1	<1.1							-	-	3		1	2		
Vanadium	**59.8**	35								**66.8**	40.7			**74.7**	19.5	25.8							78	1,100	NA		2			
Zinc	**109**	22.2								**139**	597			**63.2**	<11	<11							23,000	110,000	930		6.62	2,000		
Comment																														
in unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	no	yes	yes	yes	yes	no	yes	yes	yes	no	yes	yes	yes	no	yes	yes	no										
In undeveloped area above 1 foot	yes				yes					yes				yes																
% Solids	95.4	91.3	82.3	90	96.9	94.2	86.4	85.4	89.6	92.6	91.2	91.2	79.2	94.9	94.9	89.9	91.2	84.1	90.6	79.9										

DTW: Depth to water
J: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
PAHs: Polycyclic aromatic hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water

Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screening levels should only be compared to samples collected in the upper 1 f0ot of the soil column in undeveloped areas.
Note: Only compounds detected at site are listed in table.

a: Associated CCV outside of control limits high, sample was ND.

z: Result from run 2

d: Dilution reauired due to matrix interference

0.221 Exceeds default impact to ground water screening level
9.28 Exceeds ecological soil screening level
<0.50 Detection level above standard
44.4 Exceeds ground water standard
T: Concentration above a standard but not above background

N: Also exceeds ecological soil screening level.

Table 13: Summary of Soil Analytical Reports for Samples Collected 2/20/18

Sample I.D. Sample Depth Sample Date	P 78 2.5' 2/20/18	P 79 2-2.5' 2/20/18	P 80 0-0.5' 2/20/18	P 81 2-2.5' 2/20/18	P 82 0-0.5' 2/20/18	P 82 1.5-2' 2/20/18	P 82 5.5-6' 2/20/18	P 83 4.5' 2/20/18	P 84 0-0.5' 2/20/18	P 84 0.5-1' 2/20/18	P 85 0-0.5' 2/20/18	P 85 1.5-2' 2/20/18	P 85 3.5-4' 2/20/18	P 86 0-0.5' 2/20/18	P 86 1.5-2' 2/20/18	P 87 4.5-5' 2/20/18	P 87 6-6.5' 2/20/18	P 88 0-0.5' 2/20/18	P 88 1.5-2' 2/20/18	P 88 3-3.5' 2/20/18	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Cleanup Standard	Soil ecological screening Level	
Lab ID	JC61097-1	JC61097-2	JC61097-3	JC61097-4	JC61097-5	JC61097-6	JC61097-7	JC61097-8	JC61097-9	JC61097-10	JC61097-11	JC61097-12	JC61097-13	JC61097-14	JC61097-15	JC61097-16	JC61097-17	JC61097-18	JC61097-19	JC61097-20						
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
Volatile Organics																										
Benzene	<0.00011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5	0.005	-	0.255	
Toluene	<0.00058	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,300	91,000	7	-	200	
Ethyl benzene	<0.00031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,800	110,000	13	-	5.16	
Xylenes	<0.00027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12,000	170,000	19	-	10	
MTBE	<0.00045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	320	0.2	-	-	
TBA	<0.0061	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,400	11,000	0.3	-	-	
EDC	<0.00019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	3	0.005	-	21.2	
EDB	<0.00026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.008	0.3	0.005	-	-	
Acetone	<0.0068	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70,000	-	19	-	-	
Bromomethane	<0.00074	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	59	0.04	-	-	
2-Butanone	<0.0055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,100	44,000	0.9	-	-	
Carbon disulfide	<0.00065	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,800	110,000	6	-	-	
Chloroethane	<0.00096	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	220	1,100	-	-	-	
Chloroform	<0.00034	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	2	0.4	-	1.19	
Chloromethane	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	12	-	-	-	
Cyclohexane	<0.00036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1,2-Dibromo-3-chloropropane	<0.00071	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.08	0.20	0.005	-	-	
1,2 Dichlorobenzene	<0.00055	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,300	59,000	17	-	2.96	
1,3-Dichlorobenzene	<0.00030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,300.0	59,000	19	-	37.7	
1,4-Dichlorobenzene	<0.00051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.0	13	2	-	0.546	
1,1 Dichloroethane (1,1-DCA)	<0.00027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0	24	0.2	-	-	
Dichlorodifluoromethane	<0.00064	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	490	230,000	39	-	-	
cis-1,2 Dichloroethene	<0.00043	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	230	560	0.3	-	-	
trans-1,2-Dichloroethene	<0.00062 [b]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300	720	0.6	-	0.784	
trans-1,3-Dichloropropene	<0.00025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	7	0.005	-	-	
2-Hexanone	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Isopropylbenzene	<0.00026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Methyl Acetate	<0.0027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	78,000.0	-	22	-	-	
Methylene Chloride	<0.0027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	230	0.01	-	4.05	
Methylcyclohexane	<0.00058	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4-Methyl-2-pentanone	<0.0019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Naphthalene	<0.0021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	17	25	-	0.0994	
1,1,1- Trichloroethane	<0.00062 [b]																									
Tetrachloroethene (PCE)	<0.00068	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	1,500	0.005	-	9.92	
1,2,3-Trichlorobenzene	<0.0011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	
1,2,4-Trichlorobenzene	<0.0011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	820	7	-	20	
1,1,2-Trichloroethane	<0.00045	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	6	0.02	-	28.6	
Trichlorofluoromethane	<0.00051	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23,000	340,000.0	34	-	-	
Vinyl chloride	<0.00081	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	0.005	-	0.646	
VOC TICs	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Alkanes	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total TICs & Alkanes	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Petroleum Hydrocarbons																										
EPH (C9-C28)	-	-	-	-	-	-	-	-	-	-	65.4	44.6	-	-	-	-	-	-	-	-	-	-	-	5,100	-	
EPH (>C28-C40)	-	-	-	-	-	-	-	-	-	-	209	34.6	-	-	-	-	-	-	-	-	-	-	-	5,100	-	
Total EPH (C9-C40)	-	-	-	-	-	-	-	-	-	-	274	79.2	-	-	-	-	-	-	-	-	-	-	-	5,100	1,700	
SVOCs																										Background
2-methylnaphthalene																					230	2,400	8	-	3.24	
PAHs																										
Acenaphthene	-	-	<0.030	-	-	-	-	-	0.129	<0.013	0.155	0.428	-	-	-	-	-	-	-	-	3,400	37,000	110	-	20	
Acenaphthylene	-	-	<0.043	-	-	-	-	-	0.0327 J	<0.019	0.0235 J	<0.019	-	-	-	-	-	-	-	-	-	300,000		-	682	
Anthracene	-	-	<0.052	-	-	-	-	-	0.272	<0.023	0.453	0.895	-	-	-	-	-	-	-	-	17,000	30,000	2,400	-	1,480	
Benzo(a)anthracene	-	-	0.138	-	-	-	-	-	**1.5**	0.0519	**2.21**	**1.6**	-	-	-	-	-	-	-	-	5	17	0.8	-	5.21	
Benzo(a)pyrene	-	-	0.133	-	-	-	-	-	**1.61 N**	0.0494	**2.6 N**	**1.78**	-	-	-	-	-	-	-	-	0.5	2	0.2	-	1.52	0.71
Benzo(b)fluoranthene	-	-	0.185	-	-	-	-	-	**2.15**	0.07	**3.1**	1.89	-	-	-	-	-	-	-	-	5	17	2	-	59.8	
Benzo(g,h,i)perylene	-	-	0.115	-	-	-	-	-	1.48	0.0499	2.11	1.27	-	-	-	-	-	-	-	-	380,000	30,000	NA	-	119	
Benzo(k)fluoranthene	-	-	0.0743 J	-	-	-	-	-	0.586	0.0203 J	1.11	0.599	-	-	-	-	-	-	-	-	45	170	25	-	148	
Chrysene	-	-	0.15	-	-	-	-	-	1.53	0.0525	2.11	1.38	-	-	-	-	-	-	-	-	450	1,700	80	-	4.73	
Dibenzo(a,h)anthracene	-	-	<0.038	-	-	-	-	-	0.273	<0.016	0.412	0.235	-	-	-	-	-	-	-	-	0.5	2	0.8	-	18.4	
Fluoranthene	-	-	0.254	-	-	-	-	-	3.38	0.0751	4.65	3.94	-	-	-	-	-	-	-	-	2,300	24,000	1,300	-	122	
Fluorene	-	-	<0.039	-	-	-	-	-	0.0911	<0.017	0.118	0.374	-	-	-	-	-	-	-	-	2,300	24,000	170	-	122	
Indeno(1,2,3-cd)pyrene	-	-	0.0901	-	-	-	-	-	1.2	0.0383	2.2	1.35	-	-	-	-	-	-	-	-	5	17	7	-	109	
Naphthalene	-	<0.011	<0.024	-	-	-	-	-	0.0241 J	<0.010	0.0357 J	0.44	-	-	-	-	-	-	-	-	6	17	25	-	0.0994	
Phenanthrene	-	-	0.0993	-	-	-	-	-	1.59	0.0426	1.98	2.93	-	-	-	-	-	-	-	-	NA	300,000	NA	-	45.7	
Pyrene	-	-	0.259	-	-	-	-	-	3.3	0.0885	3.86	3.26	-	-	-	-	-	-	-	-	1,700	18,000	840	-	78.5	
Metals																										Background
Aluminum	-	-	-	-	**11400 T**	**9330 T**	**6600 T**	**6660 T**	-	-	**16000 T**	**10200 T**	**9890 T**	-	-	**15800 T**	-	-	-	-	78,000	-	6,000	-	50	17,700
Antimony	-	-	-	-	<2.7	<2.5	<2.3	-	-	-	<2.3	<6.8 [c]	<7.0 [c]	-	-	-	-	-	-	-	31	450	6	-	0.27	
Arsenic	-	-	-	-	8.1	3	**20.5**	-	-	-	<2.3	16.0 [c]	11.4 [c]	-	-	-	-	-	-	-	19 *	19 *	19 *	-	9.9	
Barium	-	-	-	-	37.3	47.3	<23	-	-	-	**401**	<23	<23	-	-	-	-	-	-	-	16,000	59,000	2,100	-	283	
Beryllium	-	-	-	-	0.56	0.33	0.39	-	-	-	**1.9**	**1.2**	**1**	-	-	-	-	-	-	-	16	140	0.7	-	10	1
Cadmium	-	-	-	-	**<0.67**	<0.63	<0.59	-	-	-	**<0.58**	<0.57	<0.58	-	-	-	-	-	-	-	78	78	2	-	0.36	-
Calcium	-	-	-	-	1230	<630	<590	-	-	-	60900 [c]	877	<580	-	-	-	-	-	-	-	-	-	-	-	-	
Chromium	-	-	-	-	**21.5 T**	9.5	18.8	-	-	-	**20.1 [c] T**	37.3	58.4	-	-	-	-	-	-	-	-	-	-	-	0.4	25.5
Cobalt	-	-	-	-	**<6.7 T**	<6.3	<5.9	-	-	-	**<5.8 T**	<5.7	<5.8	-	-	-	-	-	-	-	1,600	590	90	-	0.14	9
Copper	-	-	-	-	**27.5 T**	8.9	29.2	-	-	-	21.3	<8.5 [c]	<8.7 [c]	-	-	-	-	-	-	-	3,100	45,000	11,000	-	5.4	53.1
Iron	-	-	-	-	20600	5240	13500	-	-	-	8380	51800	46700	-	-	-	-	-	-	-	-	-	-	-	-	
Lead	-	-	-	-	**40.4 T**	22	16.9	-	-	-	**24.7 T**	18.6 [c]	<7.0 [c]	25.7 [c] **T**	3.7	-	**147**	-	-	-	400	800	90	-	0.0537	233
Magnesium	-	-	-	-	1230	<630	<590	-	-	-	25500	1020	843	-	-	-	-	-	-	-	-	-	-	-	-	
Manganese	-	-	29.8	-	55.6	16.6	12.7	-	-	-	**2040 [c] N**	56.9 [c]	18.2 [c]	-	-	-	-	-	-	-	11,000	5,900	65	-	220	617
Mercury	-	-	**0.064 T**	-	**0.042 T**	0.045	<0.038	-	-	-	**<0.038 T**	<0.037	<0.034	-	-	-	-	**0.093**	<0.030	<0.034	23	65	0.1	-	0.00051	0.07
Nickel	-	-	-	-	7.3	<5.1	<4.7	-	-	-	13.3	7	4.7	-	-	-	-	-	-	-	1,600	23,000	48	-	13.6	17.6
Potassium	-	-	-	-	1450	<1300	<1200	-	-	-	2360	2360	2330	-	-	-	-	-	-	-	-	-	-	-	-	
Selenium	-	-	-	-	**<2.7**	<2.5	<2.3	-	-	-	**<2.3**	<6.8 [c]	<7.0 [c]	-	-	-	-	-	-	-	390	5,700	11	-	0.0276	
Silver	-	-	-	-	<0.67	<0.63	<0.59	-	-	-	**<1.7 [c]**	**<1.7 [c]**	**<1.7 [c]**	-	-	-	-	-	-	-	390	5,700	1	-	2	
Sodium	-	-	-	-	<1300	<1300	<1200	-	-	-	<1200	<1100	<1200	-	-	-	-	-	-	-	-	-	-	-	-	
Thallium	-	-	-	-	**<1.3**	<1.3	<1.2	-	-	-	**<3.5 [c]**	**<3.4 [c]**	**<3.5 [c]**	-	-	-	-	-	-	-	-	-	3	-	1	
Vanadium	-	-	-	-	35.8 **T**	15.5	46.1	-	-	-	36.2 **T**	50.2	49.5	-	-	-	-	-	-	-	78	1,100	NA	-	2	37.2
Zinc	-	-	-	-	54.9 **T**	23.5	10.1	-	-	-	92.2 **T**	71.6	29.7	-	-	58.5	-	-	-	-	23,000	110,000	930	-	6.62	122
Comment																										
In unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes						
In undeveloped area above 1 ft			yes		yes				yes	yes	yes			yes				yes								
% Solids	77.3	86.8	75.9	-	76.7	80.8	84.5	81.8	84.2	87.3	81.8	89.8	87.8	86.9	90.1	86.3	84.6	88.3	86.6	89.2						

DTW: Depth to water
J: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -0Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
PAHs: Polycyclic aromatic hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Inmact to ground water
*: Based on natural background per NJDEP

Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screening levels should only be compared to samples collected in the upper 1 foot of the soil column in undeveloped areas.
Note: Only compouns detcted at site are listed in table.
Note: P 81: 2-2.5ft sample not anayzed no % solid bottle

b: Associated CCV outside of control limits high, sample was ND
c: Elevated detection limit due to dilution required for high interfering element.

20.5 : Exceeds direct contact standard
Exceeds default impact to ground water screening level
Exceeds ecological soil screening level
Detection level above standard

T: Concentration or detction level above a standard but not above background

N: Also exceeds ecological soil screening level.

Table 13 (continued): Summary of Soil Analytical Reports for Samples Collected 2/20/18

Sample I.D. Sample Depth Sample Date	P 89 3.5-4' 2/20/18	P 91 0-0.5' 2/20/18	P 91 1.5-2' 2/20/18	P 91 5-5.5' 2/20/18	P 92 0-0.5' 2/20/18	P 92 1.5-2' 2/20/18	P 92 6-6.5' 2/20/18	P 93 1' 2/20/18	P 93 2.5-3' 2/20/18	P 94 4-4.5' 2/20/18	Field Rinsate 2/20/18	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Cleanup Standard	Soil Ecological Screening Level	Ground Water Standard	Ground Water Screening Levels for Vapor Intrusion	
Lab ID	JC61097-21	JC61097-22	JC61097-23	JC61097-24	JC61097-25	JC61097-26	JC61097-27	JC61097-28	JC61097-29	JC61097-31	JC61097-30								
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l		
Volatile Organics															-				
Benzene	-	-	-	-	-	-	-	-	-	-	<0.17	2	5	0.005	-	0.255	1	20	
Toluene	-	-	-	-	-	-	-	-	-	-	<0.25	6,300	91,000	7	-	200	600	330,000	
Ethyl benzene	-	-	-	-	-	-	-	-	-	-	<0.22	7,800	110,000	13	-	5.16	700	700	
Xylenes	-	-	-	-	-	-	-	-	-	-	<0.22	12,000	170,000	19	-	10	1,000	8,600	
MTBE	-	-	-	-	-	-	-	-	-	-	<0.25	110	320	0.2	-	-	70	580	
TBA	-	-	-	-	-	-	-	-	-	-	<7	1,400	11,000	0.3	-	-	100	-	
EDC	-	-	-	-	-	-	-	-	-	-	<0.2	0.9	3	0.005	-	21.2	2	3	
EDB	-	-	-	-	-	-	-	-	-	-	<0.021	0.008	0.3	0.005	-	-	0.03	0.4	
Acetone	-	-	-	-	-	-	-	-	-	-	<5.0 [a]	70,000	-	19	-	-	6,000	-	
Bromomethane	-	-	-	-	-	-	-	-	-	-	<1.4	25	59	0.04	-	-	-	-	
2- Butanone	-	-	-	-	-	-	-	-	-	-	>4.8	3,100	44,000	0.9	-	-	300	2,500,000	
Carbon disulfide	-	-	-	-	-	-	-	-	-	-	<0.50	7,800	110,000	6	-	-	700	1,500	
Chloroethane	-	-	-	-	-	-	-	-	-	-	<0.59	220	1,100	-	-	-	5	-	
Chloroform	-	-	-	-	-	-	-	-	-	-	<0.29	0.6	2	0.4	-	1.19	70	70	
Chloromethane	-	-	-	-	-	-	-	-	-	-	<0.53	4.0	12	-	-	-	-	-	
Cyclohexane	-	-	-	-	-	-	-	-	-	-	<0.63	-	-	-	-	-	-	16,000	
1,2-Dibromo-3-chloropropane	-	-	-	-	-	-	-	-	-	-	<0.69	0.08	0.20	0.005	-	-	-	-	
1,2 Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	<0.50	5,300	59,000	17	-	2.96	600	6,800	
1,3-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	<0.50	5,300.0	59,000	19	-	37.7	600	-	
1,4-Dichlorobenzene	-	-	-	-	-	-	-	-	-	-	<0.50	5.0	13	2	-	0.546	75	75	
1,1 Dichloroethane (1,1-DCA)	-	-	-	-	-	-	-	-	-	-	<0.21	8.0	24	0.2	-	-	50	50	
Dichlorodifluoromethane	-	-	-	-	-	-	-	-	-	-	<1.9	490	230,000	39	-	-	-	-	
cis-1,2 Dichloroethene	-	-	-	-	-	-	-	-	-	-	<0.50	230	560	0.3	-	-	70	-	
trans-1,2-Dichloroethene	-	-	-	-	-	-	-	-	-	-	<0.40	300	720	0.6	-	0.784	100	520	
trans-1,3-Dichloropropene	-	-	-	-	-	-	-	-	-	-	<0.22	2	7	0.005	-	-	-	-	
2-Hexanone	-	-	-	-	-	-	-	-	-	-	<3.3	-	-	-	-	-	40	-	
Isopropylbenzene	-	-	-	-	-	-	-	-	-	-	<0.25	-	-	-	-	-	700	-	
Methyl Acetate	-	-	-	-	-	-	-	-	-	-	<3.1	78,000.0	-	22	-	-	7,000	-	
Methylene Chloride	-	-	-	-	-	-	-	-	-	-	<1.0	46	230	0.01	-	4.05	3	920	
Methylcyclohexane	-	-	-	-	-	-	-	-	-	-	<1.8	-	-	-	-	-	-	-	
4-Methyl-2-pentanone	-	-	-	-	-	-	-	-	-	-	<3.0	-	-	-	-	-	-	900,000	
Naphthalene	-	-	-	-	-	-	-	-	-	-	<1.1	6	17	25	-	0.0994	300	300	
Tetrachloroethene (PCE)	-	-	-	-	-	-	-	-	-	-	<0.50	43	1,500	0.005	-	9.92	1	31	
1,2,3-Trichlorobenzene	-	-	-	-	-	-	-	-	-	-	<0.50 [b]	-	-	-	-	20	-	-	
1,2,4-Trichlorobenzene	-	-	-	-	-	-	-	-	-	-	<0.50 [b]	73	820	7	-	20	-	-	
1,1,2-Trichloroethane	-	-	-	-	-	-	-	-	-	-	<0.24	2	6	0.02	-	28.6	-	-	
Trichlorofluoromethane	-	-	-	-	-	-	-	-	-	-	<0.60	23,000	340,000.0	34	-	-	-	-	
Vinyl chloride	-	-	-	-	-	-	-	-	-	-	<0.62	1	2	0.005	-	0.646	-	-	
VOC TICs	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	100/500	-	
Total Alkanes	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	100	-	
Total TICs & Alkanes	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	500	-	
Petroleum Hydrocarbons																			
EPH (C9-C28)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,100	-	-	-	
EPH (>C28-C40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,100	-	-	-	
Total EPH (C9-C40)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,100	1,700	-	-	
SVOCs																			
2-methylnaphthalene	-	-	-	-	-	-	-	-	-	**25.5**	-	230	2,400	8	-	3.24	30	-	
PAHs																			
Acenaphthene	-	-	-	-	-	-	-	-	-	-	-	3,400	37,000	110	-	20	400	-	
Acenaphthylene	-	-	-	-	-	-	-	-	-	-	-	-	300,000		-	682	100	-	
Anthracene	-	-	-	-	-	-	-	-	-	-	-	17,000	30,000	2,400	-	1,480	2,000	-	
Benzo(a)anthracene	-	-	-	-	-	-	-	-	-	-	-	5	17	0.8	-	5.21	0.1	-	
Benzo(a)pyrene	-	-	-	-	-	-	-	-	-	-	-	0.5	2	0.2	-	1.52	0.1	-	
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	5	17	2	-	59.8	0.2	-	
Benzo(e,h,i)perylene	-	-	-	-	-	-	-	-	-	-	-	380,000	30,000	NA	-	119	100	-	
Benzo(k,l)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	45	170	25	-	148	0.5	-	
Chrysene	-	-	-	-	-	-	-	-	-	-	-	450	1,700	80	-	4.73	5	-	
Dibenzo(a,h)anthracene	-	-	-	-	-	-	-	-	-	-	-	0.5	2	0.8	-	18.4	0.3	-	
Fluoranthene	-	-	-	-	-	-	-	-	-	-	-	2,300	24,000	1,300	-	122	300	-	
Fluorene	-	-	-	-	-	-	-	-	-	-	-	2,300	24,000	170	-	122	300	-	
Indeno(1,2,3-cd)pyrene	-	-	-	-	-	-	-	-	-	-	-	5	17	7	-	109	0.2	-	
Naphthalene	-	-	-	-	-	-	-	-	-	-	-	6	17	25	-	0.0994	300	-	
Phenanthrene	-	-	-	-	-	-	-	-	-	-	-	NA	300,000	NA	-	45.7	100	-	
Pyrene	-	-	-	-	-	-	-	-	-	-	-	1,700	18,000	840	-	78.5	200	-	
Metals												-	-	-	-	-			**Background**
Aluminum	-	-	-	-	**23500 N**	3110	**20000**	-	-	-	-	78,000	-	6,000	-	50	200	-	17,700
Antimony	-	-	-	-	<2.2	<2.3	<2.5	-	-	-	-	31	450	6	-	0.27	6	-	
Arsenic	-	-	-	-	2.6	3.5	3.7	-	-	-	-	19 *	19 *	19 *	-	9.9	3	-	
Barium	-	-	-	-	57.2	<23	57.4	-	-	-	-	16,000	59,000	2,100	-	283	6,000	-	
Beryllium	-	-	-	-	0.38	0.31	0.56	-	-	0.3	-	16	140	0.7	-	10	1	-	
Cadmium	-	-	-	-	<0.56	<0.57	<0.61	-	-	-	-	78	78	2	-	0.36	4	-	
Calcium	-	-	-	-	11200	<570	<610	-	-	-	-	-	-	-	-	-	-	-	
Chromium	-	-	-	-	**68.5**	7.2	26.7	-	-	-	-	-	-	-	-	0.4	70	-	25.5
Cobalt	-	-	-	-	**18**	<5.7	<6.1	-	-	-	-	1,600	590	90	-	0.14	100	-	9
Copper	-	-	-	-	**273**	3.3	7.9	-	-	-	-	3,100	45,000	11,000	-	5.4	1,300	-	53.1
Iron	-	-	-	-	29900	13100	16400	-	-	-	-	-	-	-	-	-	300	-	
Lead	8.2	-	-	-	16.7 **T**	5.5	15.4	85.8	**209**	-	-	400	800	90	-	0.0537	5	-	233
Magnesium	-	-	-	-	12500	<570	1330	-	-	-	-	-	-	-	-	-	-	-	
Manganese	-	-	-	-	**432 T**	54.1	35.1	-	-	38	-	11,000	5,900	65	-	220	50	-	617
Mercury	<0.036	<0.034	**0.75**	0.046	<0.036	<0.035	<0.037	-	-	-	-	23	65	0.1	-	0.00051	2	-	0.07
Nickel	-	-	-	-	**36.8**	<4.5	8.1	-	-	-	-	1,600	23,000	48	-	13.6	100	-	17.6
Potassium	-	-	-	-	1760	<1100	<1200	-	-	-	-	-	-	-	-	-	-	-	
Selenium	-	-	-	-	**<2.2**	<2.3	<2.5	-	-	-	-	390	5,700	11	-	0.0276	40	-	
Silver	-	-	-	-	<0.56	<0.57	<0.61	-	-	-	-	390	5,700	1	-	2	40	-	
Sodium	-	-	-	-	1730	<1100	<1200	-	-	-	-	-	-	-	-	-	50,000	-	
Thallium	-	-	-	-	**<1.1**	<1.1	<1.2	-	-	-	-	-	-	3	-	1	2	-	
Vanadium	-	-	-	-	**80**	17.9	35.1	-	-	-	-	78	1,100	NA	-	2	60	-	37.2
Zinc	-	-	-	-	77.9 **T**	8.9	27	-	-	-	-	23,000	110,000	930	-	6.62	2,000	-	122
Comment																			
In unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	NA								
In undeveloped area above 1 ft		yes			yes			no											
% Solids	88.6	89.2	85.5	79.1	85.7	86.7	80.8	85.5	80.3	85	-	-	-	-	-	-	-	-	

DTW: Depth to water
J: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -0Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
PAHs: Polycyclic aromatic hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water
a: Associated CCV outside of control limits low
b: Associated CCV outside of control limits high, sample was ND

Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screening levels should only be compared to samples collected in the upper 1 ft of the soil column in undeveloped areas.
Note: Only compounds detcted at site are listed in table.
Note: Ecological soil screening level for lead in grassy area is 11 & in stoned areas it is 40.5 mg/kg

80 : Exceeds direct contact standard

Exceeds default impact to ground water screening level
Exceeds ecological soil screening level
Detection level above standard
Exceeds ground water standard

T: Concentration or detection level above a standard but not above background

N: Also exceeds ecological soil screening level.

Table 14: Summary of Soil Analytical Reports for Samples Collected 2/21/18

Sample I.D. Sample Depth Sample Date	P 77 0-0.5' 2/21/18	P 77 1.5-2' 2/21/18	P 77 2-2.5' 2/21/18	P 77 2-2.5' 2/21/18	P 77 10.5-11 2/21/18	P 96 2-2.5' 2/21/18	P 96 4.5-5' 2/21/18	P 95 0.5-1' 2/21/18	P 95 5.5-6' 2/21/18	P 90 3.5-4' 2/21/18	P 90 3.5-4' 2/21/18	P 90 5.5-6' 2/21/18	P 90 10.10.5' 2/21/18	P 99 2/21/18	P 100 2/21/18	P 98 2/21/18	P 97 2/21/18	Field Rinsate 2/21/18	Trip 2/21/18	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil Cleanup Standard	Soil ecological screening Level	Ground Water Standard	Ground Water Screening Levels for Vapor Intrusion	
Lab ID	JC61183-1	JC61183-2	JC61183-3	JC61183-4	JC61183-5	JC61183-6	JC61183-7	JC61183-9	JC61183-10	JC61183-11	JC61183-12	JC61183-13	JC61183-14	JC61183-17	JC61183-118	JC61183-8	JC61183-15	JC61183-16	JC61183-19								
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	ug/l	ug/l	ug/l	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l	ug/l	
Volatile Organics																											
Benzene	-	-	<0.00011	-	0.0184	-	-	-	-	-	-	-	-	<0.00010	<0.00012	<0.17	<0.17	<0.17	<0.17	2	5	0.005	-	0.255	1	20	
Toluene	-	-	<0.00057	-	<0.00049	-	-	-	-	-	-	-	-	<0.00052	<0.00061	<0.25	<0.25	<0.25	<0.25	6,300	91,000	7	-	200	600	330,000	
Ethyl benzene	-	-	<0.00030	-	<0.00026	-	-	-	-	-	-	-	-	<0.00028	<0.00032	0.23 J	0.33 J	<0.22	<0.22	7,800	110,000	13	-	5.16	700	700	
Xylenes	-	-	<0.00026	-	<0.00022	-	-	-	-	-	-	-	-	<0.00024	<0.00028	1.1	3	<0.22	<0.22	12,000	170,000	19	-	10	1,000	8,600	
MTBE	-	-	<0.00044	-	0.00055 J	-	-	-	-	-	-	-	-	<0.00041	<0.00048	<0.25	0.93 J	<0.25	<0.25	110	320	0.2	-	-	70	580	
TBA	-	-	<0.0060	-	0.0100 J	-	-	-	-	-	-	-	-	<0.0055	<0.0064	<7.0	<7.0	<7.0	<7.0	1,400	11,000	0.3	-	-	100	-	
EDC	-	-	<0.00019	-	0.0014	-	-	-	-	-	-	-	-	<0.00017	<0.00020	<0.20	<0.20	<0.20	<0.20	0.9	3	0.005	-	21.2	2	3	
EDB	-	-	<0.00025	-	<0.00022	-	-	-	-	-	-	-	-	<0.00023	<0.00027	<0.0038	<0.0040	<0.0036	<0.0037	0.008	0.3	0.005	-	-	0.03	0.4	
Acetone	-	-	0.0127	-	0.0117	-	-	-	-	-	-	-	-	<0.0061	<0.0071 [b]	<5.0 [a]	<5.0 [a]	<5.0 [a]	<5.0 [a]	70,000	-	19	-	-	6,000	-	
Bromomethane	-	-	<0.00073	-	<0.00063	-	-	-	-	-	-	-	-	<0.00067	<0.00078	<1.4	<1.4	<1.4	<1.4	25	59	0.04	-	-	-	-	
2-Butanone	-	-	<0.0054	-	<0.0047 [a]	-	-	-	-	-	-	-	-	<0.0050	<0.0058	<4.8 [a]	<4.8 [a]	<4.8 [a]	<4.8 [a]	3,100	44,000	0.9	-	-	300	2,500,000	
Carbon disulfide	-	-	<0.00063	-	<0.00055	-	-	-	-	-	-	-	-	<0.00058	<0.00068	<0.50	<0.50	<0.50	<0.50	7,800	110,000	6	-	-	700	1,500	
Chloroethane	-	-	<0.00094	-	<0.00081	-	-	-	-	-	-	-	-	<.00086	<0.0010	<0.59	<0.59	<0.59	<0.59	220	1,100	-	-	-	5	-	
Chloroform	-	-	<0.00033	-	<0.00029	-	-	-	-	-	-	-	-	<0.00031	<0.00036	<0.29	<0.29	<0.29	<0.29	0.6	2	0.4	-	1.19	70	70	
Chloromethane	-	-	<0.0010 [b]	-	<0.00088	-	-	-	-	-	-	-	-	<0.00094 [b]	<0.0011	<0.53	<0.53	<0.53	<0.53	4.0	12	-	-	-	-	-	
Cyclohexane	-	-	<0.00036	-	0.00063 J	-	-	-	-	-	-	-	-	<0.00033	<0.00038	<0.63	<0.63	<0.63	<0.63	-	-	-	-	-	-	16,000	
1,2-Dibromo-3-chloropropane	-	-	<0.00070	-	<0.00060	-	-	-	-	-	-	-	-	<0.00064	<0.00075					0.08	0.20	0.005	-	-	-	-	
1,2 Dichlorobenzene	-	-	<0.00053	-	<0.00046	-	-	-	-	-	-	-	-	<0.00049	<0.00057	<0.50	<0.50	<0.50	<0.50	5,300	59,000	17	-	2.96	600	6,800	
1,3-Dichlorobenzene	-	-	<0.00030	-	<0.00026	-	-	-	-	-	-	-	-	<0.00027	<0.00032	<0.50	<0.50	<0.50	<0.50	5,300.0	59,000	19	-	37.7	600	-	
1,4-Dichlorobenzene	-	-	<0.00050	-	<0.00043	-	-	-	-	-	-	-	-	<0.00046	<0.00053	<0.50	<0.50	<0.50	<0.50	5.0	13	2	-	0.546	75	75	
1,1 Dichloroethane (1,1-DCA)	-	-	<0.00027	-	<0.00023	-	-	-	-	-	-	-	-	<0.00025	<0.00029	<0.21	<0.21	<0.21	<0.21	8.0	24	0.2	-	-	50	50	
Dichlorodifluoromethane	-	-	<0.00063	-	<0.00054	-	-	-	-	-	-	-	-	<0.00058	<0.00068 [a]	<1.9	<1.9	<1.9	<1.9	490	230,000	39	-	-	-	-	
cis-1,2 Dichloroethene	-	-	<0.00042	-	<0.00036	-	-	-	-	-	-	-	-	<0.00038	<0.000445	<0.50	<0.50	<0.50	<0.50	230	560	0.3	-	-	70	-	
trans-1,2-Dichloroethene	-	-	<0.00061	-	<0.00052	-	-	-	-	-	-	-	-	<0.00056	<0.00065	<0.40	<0.40	<0.40	<0.40	300	720	0.6	-	0.784	100	520	
trans-1,3-Dichloropropene	-	-	<0.00025	-	<0.00021	-	-	-	-	-	-	-	-	<0.00023	<0.00026	<0.22	<0.22	<0.22	<0.22	2	7	0.005	-	-	-	-	
2-Hexanone	-	-	<0.0029	-	<0.0025	-	-	-	-	-	-	-	-	<0.0027	<0.0031	<3.3 [a]	<3.3 [a]	<3.3 [a]	<3.3 [a]	-	-	-	-	-	300	-	
Isopropylbenzene	-	-	<0.00026	-	<0.00022	-	-	-	-	-	-	-	-	<0.00024	<0.00028	<0.25	0.38 J	<0.25	<0.25	-	-	-	-	-	700	-	
Methyl Acetate	-	-	<0.0026	-	<0.0023	-	-	-	-	-	-	-	-	<0.0024	<0.0028 [a]	<3.1	<3.1	<3.1	<3.1	78,000.0	-	22	-	-	7,000	-	
Methylene Chloride	-	-	0.0045 J	-	0.0037 J	-	-	-	-	-	-	-	-	0.0052	<0.0028	<1.0	<1.0	<1.0	<1.0	46	230	0.01	-	4.05	3	920	
Methylcyclohexane	-	-	<0.00057	-	0.00050 J	-	-	-	-	-	-	-	-	<0.00052	<0.00061	<1.8	<1.8	<1.8	<1.8	-	-	-	-	-	-	-	
4-Methyl-2-pentanone	-	-	<0.0019	-	<0.0016	-	-	-	-	-	-	-	-	<0.0017	<0.0020	<3.0	<3.0	<3.0	<3.0	-	-	-	-	-	-	900,000	
Naphthalene	-	-	<0.0021	-	<0.0018	-	-	-	-	-	-	-	-	<0.0019	<0.0022	<1.1	1.7 J	<1.1	<1.1	6	17	25	-	0.0994	300	300	
Tetrachloroethene (PCE)	-	-	<0.00066	-	<0.00057	-	-	-	-	-	-	-	-	<0.00061	<0.00071 [a]	<0.50	<0.50	<0.50	<0.50	43	1,500	0.005	-	9.92	1	31	
1,2,3-Trichlorobenzene	-	-	<0.0010	-	<0.00089	-	-	-	-	-	-	-	-	<0.00096	<0.0011	<0.50	<0.50	<0.50	<0.50	-	-	-	-	20	-	-	
1,2,4-Trichlorobenzene	-	-	<0.0010	-	<0.00089	-	-	-	-	-	-	-	-	<0.00096	<0.0011	<0.50	<0.50	<0.50	<0.50	73	820	7	-	20	-	-	
1,1,2-Trichloroethane	-	-	<0.00044	-	<0.00038	-	-	-	-	-	-	-	-	<0.00040	<0.00047	<0.24	<0.24	<0.24	<0.24	2	6	0.02	-	28.6	-	-	
Trichlorofluoromethane	-	-	<0.00050	-	<0.00043	-	-	-	-	-	-	-	-	<0.00046	<0.00053	<0.60	<0.60	<0.60	<0.60	23,000	340,000.0	34	-	-	-	-	
Vinyl chloride	-	-	<0.00079	-	<0.00068	-	-	-	-	-	-	-	-	<0.00073	<0.00085	<0.62	<0.62	<0.62	<0.62	1	2	0.005	-	0.646	-	-	
VOC TICs	-	-	0	-	0	-	-	-	-	-	-	-	-	0	0	0	18.9 J	0	0	-	-	-	-	-	100/500	-	
Total Alkanes	-	-	0	-	0	-	-	-	-	-	-	-	-	0	0	0	0	0	0	-	-	-	-	-	100	-	
Total TICs & Alkanes	-	-	0	-	0	-	-	-	-	-	-	-	-	0	0	0	18.9 J	0	0	-	-	-	-	-	500	-	
Petroleum Hydrocarbons																											
EPH (C9-C28)	-	-	-	-	-	-	-	-	-	-	-	-	-	31.8	228	-	-	-	-	-			-	5,100	-	-	
EPH (>C28-C40)	-	-	-	-	-	-	-	-	-	-	-	-	-	48.4	211	-	-	-	-	-			-	5,100	-	-	
Total EPH (C9-C40)	-	-	-	-	-	-	-	-	-	-	-	-	-	80.2	438	-	-	-	-	-			-	5,100	1,700	-	
SVOCs																											**Background**
2-methylnaphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	230	2,400	8	-	3.24	30	-	
Naphthalene	-	-	-	-	-	-	15.7	-	-	-	-	-	-	-	-	-	-	-	-	6	17	25	-	0.0994	300	300	
PAHs																											
Acenaphthene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0314 J	0.354	-	-	-	-	3,400	37,000	110	-	20	400	-	
Acenanhthylene	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.019	0.0526	-	-	-	-	-	300,000	-	-	682	100	-	
Anthracene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0715	0.945	-	-	-	-	17,000	30,000	2,400	-	1,480	2,000	-	
Benzo(a)anthracene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.411	**3.16**	-	-	-	-	5	17	0.8	-	5.21	0.1	-	
Benzo(a)pyrene	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.51 T**	**3.69 N**	-	-	-	-	0.5	2	0.2	-	1.52	0.1	-	0.71
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.611	**4.56**	-	-	-	-	5	17	2	-	59.8	0.2	-	
Benzo(ghi)perylene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.435	3.31	-	-	-	-	380,000	30,000	NA	-	119	100	-	
Benzo(k)fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.223	1.46	-	-	-	-	45	170	25	-	148	0.5	-	
Carbazole	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0738 J	0.672	-	-	-	-	24	96	NA	-	NA	-	-	
Chrysene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.457	3.4	-	-	-	-	450	1,700	80	-	4.73	5	-	
Dibenzo(a,h)anthracene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0806	**0.589**	-	-	-	-	0.5	2	0.8	-	18.4	0.3	-	
Dibenzofuran	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.015	0.16	-	-	-	-	NA	NA	NA	-	NA	-	-	
bis(2-Ethylhexyl)phthalate	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0089	0.322	-	-	-	-	35	140	1,200	-	0.925	3	-	
Fluoranthene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.924	6.15	-	-	-	-	2,300	24,000	1,300	-	122	300	-	
Fluorene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0218 J	0.256	-	-	-	-	2,300	24,000	170	-	122	300	-	
Indeno(1,2,3-cd)pyrene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.447	3.6	-	-	-	-	5	17	7	-	109	0.2	-	
2-Methylnaphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0086	0.0555	-	-	-	-	230	2,400	8	-	3.24	30	-	
Naphthalene	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.011	**0.124**	-	-	-	-	6	17	25	-	0.0994	300	300	
Phenanthrene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.381	3.4	-	-	-	-	NA	300,000	NA	-	45.7	100	-	
Pyrene	-	-	-	-	-	-	-	-	-	-	-	-	-	0.694	5.39	-	-	-	-	1,700	18,000	840	-	78.5	200	-	
SVOC TICs	-	-	-	-	-	-	-	-	-	-	-	-	-	5.160 J	12.740 J	-	-	-	-	NA	NA	NA	-	NA	100/500	-	
SVOC alkanes	-	-	-	-	-	-	-	-	-	-	-	-	-	0.800 J	0.460 J	-	-	-	-	NA	NA	NA	-	NA	100/500	-	
PCBs																											
Aroclor 1016	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.015	<0.019	-	-	-	-	0.2	1	0.2	-	0.371	0.4	-	
Aroclor 1221	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.015	<0.019	-	-	-	-	0.2	1	0.2	-	0.371	0.4	-	
Aroclor 1232	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.010	<0.013	-	-	-	-	0.2	1	0.2	-	0.371	0.4	-	
Aroclor 1242	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0060	<0.0075	-	-	-	-	0.2	1	0.2	-	0.371	0.4	-	
Aroclor 1248	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.022	<0.028	-	-	-	-	0.2	1	0.2	-	0.371	0.4	-	
Aroclor 1254	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0093	<0.012	-	-	-	-	0.2	1	0.2	-	0.371	0.4	-	
Aroclor 1260	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.012	<0.015	-	-	-	-	0.2	1	0.2	-	0.371	0.4	-	
Aroclor 1268	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0056	<0.0070	-	-	-	-	0.2	1	0.2	-	0.371	0.4	-	
Aroclor 1262	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.0029	<0.0036	-	-	-	-	0.2	1	0.2	-	0.371	0.4	-	
Metals																											**Backround**
Aluminum	-	-	-	-	-	-	-	-	-	-	-	-	-	**13600 T**	**8380 T**	-	-	-	-	78,000	-	6,000	-	50	200	-	17,700
Antimony	-	-	-	-	-	-	-	-	-	-	-	-	-	<2.3	<2.8	-	-	-	-	31	450	6	-	0.27	6	-	
Arsenic	-	-	-	-	-	-	-	-	-	-	-	-	-	4	<2.8	-	-	-	-	19 [a]	19 [a]	9.9	-	3	9.9	-	
Barium	-	-	-	-	-	-	-	-	-	-	-	-	-	34.7	<28	-	-	-	-	16,000	59,000	2,100	-	283	6,000	-	
Beryllium	-	-	-	-	-	-	-	-	-	-	-	-	-	0.48	0.34	-	-	-	-	16	140	0.7	-	10	1	-	
Cadmium	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.78**	**<0.70**	-	-	-	-	78	78	2	-	0.36	4	-	-
Calcium	-	-	-	-	-	-	-	-	-	-	-	-	-	11900	6270	-	-	-	-	-	-	-	-	-	-	-	
Chromium	-	-	-	-	-	-	-	-	-	-	-	-	-	**30**	**39.8**	-	-	-	-	-	-	-	-	0.4	70	-	25.5
Cobalt	-	-	-	-	-	-	-	-	-	-	-	-	-	**9.6**	**<7.0 T**	-	-	-	-	1,600	590	90	-	0.14	100	-	9
Copper	-	-	-	-	-	-	-	-	-	-	-	-	-	**48.2 T**	**33.4 T**	-	-	-	-	3,100	45,000	11,000	-	5.4	1,300	-	53.1
Iron	-	-	-	-	-	-	-	-	-	-	-	-	-	20900	15100	-	-	-	-	-	-	-	-	-	300	-	
Lead	19.2 **T**	9.7	-	-	-	-	-	<6.5 [c]	9.8	15.4	-	10.7	5.3	**17.5 T**	**20.1 T**	-	-	-	-	400	800	90	-	0.0537	5	-	233
Manicuium	-	-	-	-	-	-	-	-	-	-	-	-	-	8210	3470	-	-	-	-	-	-	-	-	-	-	-	
Manganese	-	-	-	18.9	-	-	-	-	-	-	-	-	-	**301 T**	**260 T**	-	-	-	-	11,000	5,900	65	-	220	50	-	617
Mercury	-	-	-	-	-	0.042	-	-	-	-	<0.039	-	-	**<0.028 T**	**<0.034 b T**	-	-	-	-	23	65	0.1	-	0.00051	2	-	0.07
Nickel	-	-	-	-	-	-	-	-	-	-	-	-	-	**21.7**	**13.9 T**	-	-	-	-	1,600	23,000	48	-	13.6	100	-	17.6
Potassium	-	-	-	-	-	-	-	-	-	-	-	-	-	1210	<1400	-	-	-	-	-	-	-	-	-	-	-	
Selenium	-	-	-	-	-	-	-	-	-	-	-	-	-	**<7.3**	**<7.8**	-	-	-	-	390	5,700	11	-	0.0276	40	-	
Silver	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.57	<0.70	-	-	-	-	390	5,700	1	-	2	40	-	
Sodium	-	-	-	-	-	-	-	-	-	-	-	-	-	1290	<1400	-	-	-	-	-	-	-	-	-	50,000	-	
Thallium	-	-	-	-	-	-	-	-	-	-	-	-	-	**<1.1**	**<1.4**	-	-	-	-	-	-	1	-	1	2	-	
Vanadium	-	-	-	-	-	-	-	-	-	-	-	-	-	**47.1**	**49.6**	-	-	-	-	78	1,100	NA	-	2	60	-	37.2
Zinc	-	-	-	-	-	-	-	-	-	-	-	-	-	**82 T**	**132**	-	-	-	-	23,000	110,000	930	-	6.62	2,000	-	122
Comment																											
In unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes	no	yes	no	yes	yes	yes	yes	yes	no	yes storm drain	yes storm Drain	NA	NA	NA	NA								
In undeveloped area above 1 ft.	yes							no						yes	yes												
% Solids	85.7	89.9	87.7	86.3	88.7	82.2	60.3	88.3	82.3	83.9	83.7	85.8	89.5	84.3	68.7	-	-	-	-	-	-	-	-	-	-	-	

DTW: Depth to water
J: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -0Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
PAHs: Polycyclic aromatic hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water

Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screening levels should only be compared to samples collected in the upper 1 ft of the soil column in undeveloped areas.
Note: Only compounds deteted at site are listed in table.

32.5: Exceeds direct contact standard
Exceeds default impact to ground water screening level
Exceeds ecological soil screening level
Detection level above standard

T: Concentration or detection level above a standard but not above background
P: Also exceeds impact to aroundwater screening level
N: Also exceeds ecological soil screening level.

[a] Associated CCV outside of control limits hiah. sample was ND.
[b] Associated CCV outside of control limits low.
[c] Elevated detection limit due to dilution required for hiah interferina element.

Table 15: Residential Indooor Air Sampling Result Summary Table

1696 Route 130 LLC
A/K/A North Brunswick Gulf
1696 Georges Road Route 130
North Brunswick, NJ
NJDEP Program Interest #: 010180

Csepes Residence 359 Washington Place North Brunswick, Middelsex County Block 282; Lot 5	**NJDEP Residential Indoor Air Screening Level**	**Indoor Air Sampling Results Basement I-3**	**Indoor Air Sampling Results Living Room I-4**
Sample Date		**3/6/2018**	**3/6/2018**
Laboratory ID		**JC61802-1**	**JC61802-2**
Chemicals	**ug/m^3**	**ug/m^3**	**ug/m^3**
Acetone	32000	23	14
Benzene	2	0.51 J	0.61 J
Chloromethane	94	0.83	1.1
Carbon tetrachloride	3	ND	0.49 J
p-Dichlorobenzene	3	1.1 J	1.3
Ethanol	-	394 E	1440 E
Ethylbenzene	2	1.1	0.74 J
Ethyl Acetate	-	1.7	8.3
Heptane	-	0.70 J	0.49 J
Hexane	730	0.74	0.53 J
2-Hexanone	-	0.70 J	ND
Isopropyl Alcohol	-	6.9	15
Methyl ethyl ketone	5200	2.1	0.71
1,2,4-Trimethylbenzene	-	0.79 J	1.2
2,2,4-Trimethylpentane	-	1.2	0.79 J
Tetrachloroethylene	9	1.9	1.4
Tetrahydrofuran	-	1.3	ND
Toluene	5200	3.2	2.5
Trichlorofluoromethane	730	3.2	1.7
Vinyl Acetate	-	4.6	ND
m,p-Xylene	100	3.8	2.6
o-Xylene	100	1.4	1
Xylenes (total)	100	5.2	3.7

Notes:

All results are in micrograms per cubic meter (ug/m^3)

J: Estimated value

E: Estimated value excceds calibration range

- : Screening level for this chemical is currently unavailable

ND: Not Detected

No compound exceeded the residential indoor air screening level

Only compounds detected at one or more sample locations above the analytical reporting limits are listed in this table.

Table 16: Summary of Soil Analytical Reports for Soil Samples Collected 5/24 & 25/18

Sample I.D. Sample Depth Sample Date	P 101 3-4' 5/24/18	P 102 0-0.5' 5/24/18	P 102 1-2' 5/24/18	P 102 5-6' 5/24/18	P 102 10-11' 5/24/18	P 103 0-0.5' 5/24/18	P 103 1-2' 5/24/18	P 103 3-4' 5/24/18	P 103 13.5-14' 5/24/18	P 104 0-0.5' 5/24/18	P 104 1-2' 5/24/18	P 104 6.5-7.5' 5/24/18	P 105 0-0.5' 5/24/18	P 105 1.5-2' 5/24/18	P 106 0-0.5' 5/24/18	P 106 1.5-2' 5/24/18	P 107 0-0.5' 5/24/18	P 107 1-1.5' 5/24/18	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil ecological screening Level	Background
Lab ID	JC66860-1	JC66860-2	JC66860-3	JC66860-4	JC66860-5	JC66860-6	JC66860-7	JC66860-8	JC66860-9	JC66860-10	JC66860-11	JC66860-13	JC66860-14	JC66860-15	JC66860-16	JC66860-17	JC66860-18	JC66860-19					
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
PAHs																			-	-	-	-	
Acenaphthene		0.204	<0.014	<0.013	<0.012	0.0553	<0.013	0.0526	<0.013		<0.013	<0.013							3,400	37,000	110	20	
Acenaphthylene		0.0571	0.0658	<0.019	<0.018	<0.021	<0.019	0.0855	<0.019		0.055	<0.020							-	300,000	-	682	
Anthracene		0.518	0.143	<0.023	<0.022	0.133	<0.024	0.226	<0.023		0.0703	<0.024							17,000	30,000	2,400	1,480	
Benzo(a)anthracene		**2.06**	0.28	<0.011 [a]	<0.010 [a]	0.615	0.0326 J	0.684	<0.011 [a]		0.216	<0.011 [a]							5	17	0.8	5.21	
Benzo(a)pyrene		**1.98 N**	**0.261**	<0.017 [a]	<0.016 [a]	**0.648**	0.0382	**0.729**	<0.017 [a]		0.198	<0.018 [a]							0.5	2	0.2	1.52	
Benzo(b)fluoranthene		**2.64**	0.314	<0.017	<0.016	0.914	0.0426	0.811	<0.017		0.307	<0.017							5	17	2	59.8	
Benzo(g,h,i)perylene		1.84	0.195	<0.019	<0.018	0.626	0.0295 J	0.436	<0.019		0.149	<0.019							380,000	30,000	NA	119	
Benzo(k)fluoranthene		1.09	0.13	<0.018	<0.017	0.316	<0.018	0.329	<0.018		0.0976	<0.018							45	170	25	148	
Carbazole																			24	96	NA	NA	
Chrysene		2.23	0.304	<0.012	<0.011	0.696	0.0311 J	0.689	<0.012		0.265	<0.012							450	1,700	80	4.73	
Dibenzo(a,h)anthracene		0.338	0.0536	<0.017	<0.016	0.107	<0.017	0.124	<0.017		0.0387	<0.017							0.5	2	0.8	18.4	
Dibenzofuran																			NA	NA	NA	NA	
bis(2-Ethylhexyl)phthalate																			35	140	1,200	0.925	
Fluoranthene		4.99 [z]	0.517	<0.017 [a]	<0.016 [a]	1.32	0.0464	1.09	<0.017 [a]		0.425	<0.017 [a]							2,300	24,000	1,300	122	
Fluorene		0.179	0.0623	<0.017	<0.016	<0.019	<0.018	0.0741	<0.017		<0.017	<0.018							2,300	24,000	170	122	
Indeno(1,2,3-cd)pyrene		1.73	0.183	<0.018	<0.017	0.582	0.0301 J	0.439	<0.018		0.154	<0.018							5	17	7	109	
2-Methylnaphthalene	<0.0093																		230	2,400	8	3.24	
Naphthalene		0.0745	**0.531**	<0.011	<0.010	<0.012	<0.011	0.0525	0.142		<0.010	0.514							6	17	25	0.0994	
Phenanthrene		2.44	0.475	<0.013	<0.012	0.648	0.0187 J	0.823	<0.013		0.186	<0.013							NA	300,000	NA	45.7	
Pyrene		4.07	0.482	<0.012	<0.011	1.29	0.0521	1.45	<0.012		0.408	<0.012							1,700	18,000	840	78.5	
SVOC TICs																			NA	NA	NA	NA	
SVOC alkanes																			NA	NA	NA	NA	
Metals																							**Background**
Aluminum		**11900 T**	**18,600 N**			**18900 N**	**12800 T**								**7980 T**	**4490 T**			78,000	-	6,000	50	17,700
Antimony		<2.6	2.5			<2.5	<2.3								<2.5	<2.2			31	450	6	0.27	<2.2
Arsenic		3	7.4 [b]			2.8	3.5								4.7	<2.2			19 *	19 *	19 *	9.9	8.3
Barium		64.2	176			49.9	99								31.9	<22			16,000	59,000	2,100	283	52.1
Beryllium		0.41	**1.3**	0.45		0.37	**0.83**								0.3	<0.22			16	140	0.7	10	0.67
Cadmium		**1**	<0.59			**0.75**	<0.58						**<0.73**	**<0.63**	**<0.63**	**<0.54**			78	78	2	0.36	<0.56
Calcium		6,660	3,280			9,650	2,480								1,090	<540			-	-	-	-	1,710
Chromium		**32.4**	**37.4**			**52.9**	**26.1**								**12.7 T**	**6.9 T**			-	-	-	0.4	24.8
Cobalt		**11.6**	**22.1**			**15.9**	**11.9**								**<6.3 T**	**<5.4 T**			1,600	590	90	0.14	7.8
Copper		**47.1**	23.1 [b]			**80.9**	15.5								17.9	7.1			3,100	45,000	11,000	5.4	15.2
Iron		18,800	43,600			27,000	28,300								9,110	5,200			-	-	-	-	20,400
Lead		108 **T**	**69.2 [b] T**	9		**37.4 T**	**28.4 T**								**57.3 T**	6.3			400	800	90	0.0537	233
Magnesium		4,710	8,610			9,560	6,520								827	<540			-	-	-	-	1,390
Manganese	23.5	**319 N**	**980 [b] N**	38.4		**392 N**	**438 N**								35	18.4			11,000	5,900	65	220	36.4
Mercury		**0.074**	0.09			<0.038	0.057			0.089					0.052	<0.034	**0.046 T**	<0.037	23	65	0.1	0.00051	0.07
Nickel		**23.2**	**39.7**			**38.2**	**26.4**								7.2	4.3			1,600	23,000	48	13.6	10.6
Potassium		<1,300	3,250			<1,200	2,000								<1,300	<1,100			-	-	-	-	<1,100
Selenium		**<2.6**	**<4.7 [b]**			**<2.5**	**<2.3**								**<2.5**	**<2.2**			390	5,700	11	0.0276	<2.2
Silver		<0.64	**<1.2 [b]**			<0.62	<0.58								<0.63	<0.54			390	5,700	1	2	<0.56
Sodium		<1,300	<1,200			1,360	<1,200								<1,300	<1,100			-	-	-	-	<1,100
Thallium		**<1.3**	**<2.4 [b]**			**<1.2**	**<1.2**								**<1.3**	**<1.1**			-	-	3	1	<1.1
Vanadium		**42.2**	**40.1**			**69**	**31.8**								**22.4 T**	**11.8 T**			78	1,100	NA	2	37.2
Zinc		**357**	**99.8**			**104**	**65.3**						79.1	64.8	**60.7 T**	**10.1 T**			23,000	110,000	930	6.62	122
% Solids	80.3	78.1	83.8	86.7	91.5	77.8	85.7	82.4	85.8	69.7	87.7	83.9	66.2	75.5	76.1	90.6	72.1	81.6	-	-	-	-	
Comment																							
In unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes	no	yes	yes	yes	no	yes	yes	no	yes	yes	yes	yes	yes	yes					
In undeveloped area above 1 ft		yes				yes				yes			yes		yes		yes						

DTW: Depth to water
J: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -0Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
PAHs: Polycyclic aromatic hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water
Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screening levels should only be compared to samples collected in the upper 1 feet of the soil column.
Note: Only compouns detected at site are listed in table.
[a] Associated CCV outside of control limits high, sample was ND.
[b] Elevated detection limit due to dilution required for high interfering element
[z] result is from run 2
*: Standard is based on natural background per NJDEP

1.98 : Exceeds direct contact standard
Exceeds default impact to ground water screening level
Exceeds ecological soil screening level
Detection level above standard

T: Concentration or detection level above a standard but not above background

N: Also exceeds ecological soil screening level.

Table 16 (continued): Summary of Soil analytical Reports for Samples Collected 5/24 and 25/2018

Sample I.D. Sample Depth Sample Date	P 108 0-0.5' 5/24/18	P 108 1-1.5' 5/24/18	P 110 0-0.5' 5/24/18	P 110 0.5-1' 5/24/18	P 111 0-0.5' 5/24/18	P 111 0.5-1' 5/24/18	P 112 0-0.5' 5/24/18	P 112 0.5-1' 5/24/18	P 113 0-0.5' 5/24/18	P 113 0.5-1' 5/24/18	P 109 10-10.5' 5/25/18	P 109 17-17.5' 5/25/18	Field Rinsate 5/24/18						2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil ecological screening Level	Background
Lab ID	JC66860-20	JC66860-21	JC66860-22	JC66860-23	JC66860-24	JC66860-25	JC66860-26	JC66860-27	JC66860-28	JC66860-29	JC66860-30	JC66860-31	JC66860-12										
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	ug/l						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organics																							
Benzene											0.902	0.458							2	5	0.005	0.255	
Toluene											0.914	<0.053							6,300	91,000	7	200	
Ethyl benzene											35.9	1.14							7,800	110,000	13	5.16	
Xylenes											224	6.95							12,000	170,000	19	10	
MTBE											<0.058	<0.041							110	320	0.2	-	
TBA											<0.780	<0.560							1,400	11,000	0.3	-	
EDC											<0.024	<0.017							0.9	3	0.005	21.2	
EDB											<0.033	<0.024							0.008	0.3	0.005	-	
Acetone											<0.860 [a]	<0.620 [a]							70,000	-	19	-	
Bromomethane											<0.094	<0.068							25	59	0.04	-	
2-Butanone											<0.700	<0.500							3,100	44,000	0.9	-	
Carbon disulfide											<0.082	<0.059							7,800	110,000	6	-	
Chloroethane											<0.120	<0.087							220	1,100	-	-	
Chloroform											<0.043	<0.031							0.6	2	0.4	1.19	
Chloromethane											<0.130	<0.095							4.0	12	-	-	
Cyclohexane											2.73	0.0790 J							-	-	-	-	
1,2-Dibromo-3-chloropropane											<0.090	<0.065							0.08	0.20	0.005	-	
1,2 Dichlorobenzene											<0.069	<0.050							5,300	59,000	17	2.96	
1,3-Dichlorobenzene											<0.039	<0.028							5,300.0	59,000	19	37.7	
1,4-Dichlorobenzene											<0.064	<0.046							5.0	13	2	0.546	
1,1 Dichloroethane (1,1-DCA)											<0.035	<0.025							8.0	24	0.2	-	
Dichlorodifluoromethane											<0.082	<0.058							490	230,000	39	-	
cis-1,2 Dichloroethene											<0.054	<0.039							230	560	0.3	-	
trans-1,2-Dichloroethene											<0.078	<0.056							300	720	0.6	0.784	
trans-1,3-Dichloropropene											<0.032	<0.023							2	7	0.005	-	
2-Hexanone											<0.380	<0.270							-	-	-	-	
Isopropylbenzene											5.22	0.179 J							-	-	-	-	
Methyl Acetate											<0.340	<0.240							78,000.0	-	22	-	
Methylene Chloride											<0.340	<0.240							46	230	0.01	4.05	
Methylcyclohexane											10.7	0.309							-	-	-	-	
4-Methyl-2-pentanone											<0.240	<0.170							-	-	-	-	
Naphthalene											**10**	0.398 J							6	17	25	0.0994	
Tetrachloroethene (PCE)											<0.086	<0.061							43	1,500	0.005	9.92	
1,2,3-Trichlorobenzene											<0.130	<0.096							-	-	-	20	
1,2,4-Trichlorobenzene											<0.0130	<0.096							73	820	7	20	
1,1,2-Trichloroethane											<0.056	<0.040							2	6	0.02	28.6	
Trichlorofluoromethane											<0.065	<0.046							23,000	340,000.0	34	-	
Vinyl chloride											<0.100	<0.074							1	2	0.005	0.646	
VOC TICs											15.0 J	7.230 J							-	-	-	-	
Total Alkanes											415 J	19.96 J							-	-	-	-	
Total TICs & Alkanes											430 J	27.19 J							-	-	-	-	
Metals																							
Aluminum													<200						78,000	-	6,000	50	17,700
Antimony													<6						31	450	6	5	<2.2
Arsenic													<3						19 *	19 *	19 *	9.9	8.3
Barium													<200						16,000	59,000	2,100	283	52.1
Beryllium													<1						16	140	0.7	10	0.67
Cadmium													<3						78	78	2	0.36	<0.56
Calcium													<5,000						-	-	-	-	1,710
Chromium													<10						-	-	-	0.4	24.8
Cobalt													<50						1,600	590	90	0.14	7.8
Copper													<10						3,100	45,000	11,000	28	15.2
Iron													<100						-	-	-	-	20,400
Lead	**61.9 T**		**233 T**	**94 T**	**193 T**	**152** [b] **T**	**84.4 T**	11	**57.2 T**	**18.5 T**			<3						400	800	90	11	233
Magnesium													<5,000						-	-	-	-	1,390
Manganese		17.5											<15						11,000	5,900	65	220	36.4
Mercury													<0.20						23	65	0.1	0.00051	<0.036
Nickel													<10						1,600	23,000	48	13.6	10.6
Potassium													<10,000						-	-	-	-	<1,100
Selenium													<10						390	5,700	11	0.0276	<2.2
Silver													<10						390	5,700	1	2	<0.56
Sodium													<10,000						-	-	-	-	<1,100
Thallium													<2						-	-	3	1	<1.1
Vanadium													<50						78	1,100	NA	2	36.7
Zinc													<20						23,000	110,000	930	6.62	40.3
% Solids	75.6	81.1	74.6	76.9	76.4	79.9	66.8	82.2	75.8	85.7	83.6	88.5							-	-	-	-	
Comment																							
In unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no											
In undeveloped area above 1 ft	yes		yes	yes	yes	yes	yes	yes	yes	yes	no	no											

DTW: Depth to water
J: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -0Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
PAHs: Polycyclic aromatic hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water

a: Associated CCV outside of control limits high, sample was ND
b: Elevated detection limit due to dilution required for high interfering element

Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screening levels should only be compared to samples collected in the upper 2 feet of the soil column.
Note: Only compoun detected at site are listed in table.

[a] Associated CCV outside of control limits high, sample was ND.
[b] Elevated detection limit due to dilution required for high interfering element

10 : Exceeds direct contact standard
Exceeds default impact to ground water screening level
Exceeds ecological soil screening level
Detection level above standard

T: Concentration or detection level above a standard but not above background

N: Also exceeds ecological soil screening level.

Table 17:
Summary of Soil Analytical Results for Samples Collected on 9/13/18

Sample I.D. Sample Depth Sample Date	P 114 0-0.5' 9/13/18	P 114 0.5-1' 9/13/18	P 114 6-6.5' 9/13/18	P 115 0-0.5' 9/13/18	P 115 0.5-1' 9/13/18	P 115 6-6.5' 9/13/18	P 116 0-0.5' 9/13/18	P 116 0.5-1' 9/13/18	P 117 0-0.5' 9/13/18	P 117 0.5-1' 9/13/18	P 118 0-0.5' 9/13/18	P 118 0.5-1' 9/13/18	P 119 0-0.5' 9/13/18	P 119 0.5-1' 9/13/18	P 119 1.5-2' 9/13/18	P 120 0-0.5' 9/13/18	P 120 0.5-1' 9/13/18	P 120 1.5-2' 9/13/18	MW 18 5-5.5' 9/13/18	2016 RDC Standard	2016 NRDC Standard	2016 Default IGW Screening Level	Soil ecological screening Level	Concentration Related to Bakground
Lab ID	JC73820-1	JC73820-2	JC73820-3	JC73820-17	JC73820-18	JC73820-19	JC73820-9	JC73820-10	JC73820-7	JC73820-8	JC73820-5	JC73820-6	JC73820-11	JC73820-12	JC73820-13	JC73820-14	JC73820-15	JC73820-16	JC73820-4					
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
PAHs																				-	-	-	-	
Acenaphthene	0.0303 J	<0.013	<0.013	<0.3	<0.013	<0.013	<0.013	<0.014	<0.013	0.0156 J	<0.013	<0.013	<0.013	<0.013	0.0173 J	<0.014	<0.063	<0.012	0.0336 J	3,400	37,000	110	20	0.0303 J
Acenaphthylene	0.0675	0.0342 J	<0.019	<0.450	0.0217 J	<0.019	<0.019	0.0599	0.0367 J	0.0972	<0.019	<0.019	<0.019	0.0309 J	0.0575	<0.020	<0.092	0.0365	<0.018	-	300,000	-	682	0.0972
Anthracene	0.11	0.0566	<0.023	<0.540	0.0370 J	<0.022	<0.023	0.0984	0.0428	0.135	<0.023	<0.023	<0.023	0.0593	0.101	0.0359 J	<0.110	0.0615	0.0701	17,000	30,000	2,400	1,480	0.135
Benzo(a)anthracene	0.427	0.254	<0.010	<0.250	0.14	<0.010	0.0221 J	0.404	0.219	0.536	0.0213 J	0.0122 J	0.118	0.22	0.48	0.123	0.0761 J	0.279	0.0696	5	17	0.8	5.21	0.536
Benzo(a)pyrene	**0.543 T**	**0.341 T**	<0.017	**<0.400 T**	0.165	<0.017	0.0256 J	**0.523 T**	**0.276 T**	**0.71 T**	0.0260 J	<0.017	0.145	**0.254 T**	**0.574 T**	0.136	<0.083	**0.378 T**	0.0585	0.5	2	0.2	1.52	0.71
Benzo(b)fluoranthene	0.686	0.424	<0.016	<0.390	0.203	<0.016	0.0338 J	0.638	0.371	0.941	0.0275 J	<0.016	0.185	0.328	0.725	0.166	0.0820 J	0.459	0.0536	5	17	2	59.8	0.941
Benzo(g,h,i)perylene	0.414	0.247	<0.018	<0.440	0.118	<0.018	0.0194 J	0.359	0.211	0.501	0.0191 J	<0.019	0.108	0.173	0.419	0.0918	<0.091	0.253	0.0305 J	380,000	30,000	NA	119	0.414
Benzo(k)fluoranthene	0.369	0.22	<0.017	<0.410	0.0843	<0.017	<0.018	0.323	0.158	0.402	0.0188 J	<0.017	0.0771	0.138	0.359	0.873	<0.085	0.226	0.0345	45	170	25	148	0.402
Carbazole																				24	96	NA	NA	
Chrysene	0.614	0.396	<0.012	<0.280	0.19	<0.011	0.0299 J	0.576	0.323	0.801	0.0286 J	<0.012	0.15	0.294	0.631	0.153	0.0789 J	0.406	0.0722	450	1,700	80	4.73	0.801
Dibenzo(a,h)anthracene	0.0843	0.0676	<0.016	<0.390	0.0284 J	<0.016	<0.017	0.0914	0.0467	0.124	<0.017	<0.016	0.0223 J	0.0437	0.0978	0.020 J	<0.080	0.0642	<0.016	0.5	2	0.8	18.4	0.124
Dibenzofuran																				NA	NA	NA	NA	
bis(2-Ethylhexyl)phthalate																				35	140	1,200	0.925	
Fluoranthene	0.972	0.513	<0.016	<0.390	0.241	<0.016	0.0447	0.724	0.427	0.929	0.0398	<0.017	0.22	0.382	0.949	0.221	0.0903 J [G]	0.501	0.184	2,300	24,000	1,300	122	0.972
Fluorene	0.0314 J	<0.017	<0.017	<0.400	<0.017	<0.017	<0.017	<0.018	<0.018	0.0214 J	<0.017	<0.017	<0.017	<0.017	0.0214 J	<0.018	<0.083	<0.016	0.0635	2,300	24,000	170	122	0.0314 J
Indeno(1,2,3-cd)pyrene	0.335	0.208	<0.017	<0.410	0.0943	<0.017	<0.018	0.312	0.176	0.423	<0.018	<0.017	0.0874	0.149	0.36	0.0727	<0.085	0.22	0.0253 J	5	17	7	109	0.423
2-Methylnaphthalene																				230	2,400	8	3.24	
Naphthalene	0.0121 J	<0.011	<0.010	<0.250	<0.011	<0.010	<0.011	0.0184 J	<0.011	0.0215 J	<0.011	<0.010	0.0168 J	<0.010	<0.010	<0.011	<0.051	<0.010	0.0291 J	6	17	25	0.0994	0.0215 J
Phenanthrene	0.506	0.224	<0.012	<0.300	0.115	<0.012	0.0179 J	0.299	0.15	0.344	0.0154 J	<0.012	0.115	0.19	0.385	0.144	<0.061	0.193	0.266	NA	300,000	NA	45.7	0.506
Pyrene	1.18	0.695	<0.012	<0.280	0.339	<0.012	0.0481	0.994	0.577	1.2	0.0434	0.0183 J	0.231	0.537	1.06	0.279	0.123 J	0.633	0.174	1,700	18,000	840	78.5	1.2
SVOC TICs																				NA	NA	NA	NA	
SVOC alkanes																				NA	NA	NA	NA	
Metals																								
Aluminum	**11400 T**	**11400 T**	**16800 T**	**11200 T**	**9090 T**	**7280 T**	**12900 T**	**12500 T**	**9760 T**	**11700 T**	**7090 T**	**7640 T**	**8900 T**	**10500 T**	**9820 T**	**12500 T**	**10100 T**	**9530 T**	2030	78,000	-	6,000	50	17700 in P 73
Antimony	**<2.4 T**	**<2.3 T**	**<2.3 T**	**<2.1 T**	**<2.3 T**	**<2.3 T**	**<2.3 T**	**<2.5 T**	**<2.4 T**	**<2.4 T**	**<2.3 T**	**<2.2 T**	**<2.2 T**	**<2.2 T**	<2.2	**<2.4 T**	**<2.2 T**	<2.1	<2.1	31	450	6	0.27	<2.5
Arsenic	6.8	7.6	2.7	2.1	3.3	5.1	4.4	8.7	5.1	9.3	<2.3	2.8	2.8	3.5	3.8	4.9	3.7	4	<2.1	19 *	19 *	19 *	9.9	9.3
Barium	44.4	49.8	25.4	31.5	39.6	29.7	44.6	95	37.6	85.6	32.4	35	30.6	50	50.6	79.1	54.9	50.8	<21	16,000	59,000	2,100	283	95
Beryllium	0.52	0.65	**1 T**	0.56	0.51	**0.98 T**	0.41	**1 T**	0.61	**0.99 T**	0.38	0.46	0.43	0.51	0.45	**0.75 T**	0.57	0.49	<0.21	16	140	0.7	10	1
Cadmium	**<0.59 T**	**<0.58 T**	<0.56	**<0.54 T**	**<0.57 T**	**<0.57 T**	**<0.59 T**	**<0.61 T**	**<0.60 T**	**<0.61 T**	**<0.58 T**	**<0.55 T**	**<0.56 T**	**<0.54 T**	<0.54	**0.67**	**<0.56 T**	**<0.53 T**	<0.52	78	78	2	0.36	<0.61
Calcium	1500	1670	<560	2260	902	<570	<590	1760	749	2110	<580	<550	<560	800	652	1560	1540	1190	<520	-	-	-	-	2,110
Chromium	**17 T**	**25 T**	24.3	**13.8 T**	**14.1 T**	16	**15.6 T**	**24 T**	**18.3 T**	**25.5 T**	**10.2 T**	**11 T**	**13.6 T**	**18 T**	17.5	**20.8 T**	**15.5 T**	14.7	8.8	-	-	-	0.4	25.5
Cobalt	**<5.9 T**	**<5.8 T**	<5.6	**<5.4 T**	**<5.7 T**	<5.7	**<5.9 T**	**9 T**	**<6.0 T**	**6.9 T**	**<5.8 T**	**<5.5 T**	**<5.6 T**	**<5.4 T**	<5.4	**8.7 T**	**<5.6 T**	<5.3	<5.2	1,600	590	90	0.14	9
Copper	**25.3 T**	**27.1 T**	20.8 [C]	**25.2 T**	**11.6 T**	11.8 [C]	**10.4 T**	**53.1 [C] T**	**15.4 T**	**46.3 [C] T**	**11.4 T**	**13.1 T**	**11.9 T**	**17.9 T**	18.2	**22.8 T**	**14.3 T**	18.4	<2.6	3,100	45,000	11,000	5.4	53.1
Iron	14400	18400	26700	12500	10400	29900	14100	33200	15300	32400	5840	7750	8970	11200	9990	18300	13500	13100	1040	-	-	-	-	33,200
Lead	**104 T**	**113 T**	8.8	**6.6 T**	**37.2 T**	8.4	**34.1 T**	**115 T**	**52.1 T**	**151 T**	**15.7 T**	**17.5 T**	**40 T**	**88.4 T**	64.2	**63.6 T**	**51.4 T**	86.6	2.5	400	800	90	0.0537	233 in P 110
Magnesium	1450	1450	1330	3120	932	960	1090	1990	967	1780	<580	599	892	1470	1150	2980	2000	1210	<520	-	-	-	-	1,990
Manganese	**114 T**	**110 T**	51.4 [C]	**74.2 T**	38.8	64.3 [C]	32.6	**617 [C] T**	30.9	**429 [C] T**	29	37.9	32.8	55.5	61.4	**641 N**	**232 T**	**90.6 T**	3.9	11,000	5,900	65	220	617
Mercury	**0.077 T**	**0.076 T**	<0.036	**<0.032 T**	**0.049 T**	<0.034	**<0.038 T**	**0.064 T**	**<0.037**	**0.068 T**	**<0.035 T**	**<0.036 T**	**<0.036 T**	**<0.035 T**	0.038	**0.09**	<0.035	0.036	<0.032	23	65	0.1	0.00051	0.077
Nickel	13.1	12.6	**19.1 T**	13.2	9.2	7.6	6.9	**17.6 T**	6.7	**15.2 T**	4.7	5.3	7.3	10.8	9.7	**21.1**	12	9.9	<4.2	1,600	23,000	48	13.6	19.1
Potassium	<1200	<1200	<1100	<1100	<1100	<1100	<1200	<1200	<1200	1370	<1200	<1100	<1100	<1100	<1100	<1200	<1100	<1100	<1000	-	-	-	-	1370
Selenium	**<2.4 T**	<2.3	**<4.5 [C] T**	<2.1	<2.3	**<4.5 [C] T**	<2.3	**<4.9 [C] T**	**<2.4 T**	**<4.9 [C] T**	<2.3	<2.2	<2.2	<2.2	<2.2	**<2.4 T**	<2.2	<2.1	<2.1	390	5,700	11	0.0276	<2.4
Silver	<0.59	<0.58	**<1.1 [C]**	<0.54	<0.57	**<1.1 [C]**	<0.59	**<1.2 [C]**	<0.60	**<1.2 [C]**	<0.58	<0.55	<0.56	<0.54	<0.54	<0.60	<0.56	<0.53	<0.52	390	5,700	1	2	<0.6
Sodium	<1200	<1200	<1100	<1100	<1100	<1100	<1200	<1200	<1200	<1200	<1200	<1100	<1100	<1100	<1100	<1200	<1100	<1100	<1000	-	-	-	-	<1200
Thallium	**<1.2 T**	**<1.2 T**	**<2.3 [C]**	**<1.1 T**	**<1.1 T**	<2.3 [C]	**<1.2 T**	**<2.5 [C]**	**<1.2 T**	**<2.4 [C]**	**<1.2 T**	**<1.1 T**	**<1.1 T**	**<1.1 T**	<1.1	**<1.2 T**	**<1.1 T**	<1.1	<1.0	-	-	3	1	<1.2
Vanadium	**27.2 T**	**32.5 T**	44.9	**43.5 T**	**21.7 T**	26.5	**26 T**	**36.5 T**	**24.4 T**	**37.2 T**	**13.8 T**	**16.8 T**	**19.4 T**	**25.2 T**	23.7	**25.3 T**	**24 T**	22.7	9	78	1,100	NA	2	37.2/44.9at 6.5'
Zinc	**70.3 T**	**74.8 T**	27.3	**27.7 T**	**40.3 T**	15.6	**42.6 T**	**106 T**	**39.1 T**	**122 T**	**18.4 T**	**19.4 T**	**30.7 T**	**46.4 T**	44.8	**160 T**	**93.1 T**	85.8	6.3	23,000	110,000	930	6.62	122
% Solids	82.2	87.3	87	94.2	87.5	89.9	84.6	83	83.1	79.3	86.5	89	89	90.2	91.6	83.2	89.1	91.5	93.2	-	-	-	-	
Comment																								
In undeveloped area above 1 ft	yes	yes	no	yes	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	no	no					
In unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no					

DTW: Depth to water
J: Estimated value
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
EDB: 1,2 -Dibromoethane
TICs: Tentatively Identifiable Compounds
SVOCs: Semi volatile organic compounds
EPH: Extractable petroleum hydrocarbons
PAHs: Polycyclic aromatic hydrocarbons

RDC: Residential direct contact
NRDC: Non-residential direct contact
IGW: Impact to ground water
Note: Samples collected in saturated zone should not be compared to IGW screening levels.
Note: Ecological soil screening levels should only be compared to samples collected in the upper 1 foot of the soil column in undeveloped areas.
Note: Only compounds detected at site are listed in table.
[a] Associated CCV outside of control limits high, sample was ND.
[b] Elevated detection limit due to dilution required for high interfering element
[Z] result is from run 2
*: Standard is based on natural background per NJDEP

0.71 : Exceeds direct contact standard
Exceeds default impact to ground water screening level
Exceeds ecological soil screening level
Detection level above standard

T: Concentration or detection level above a standard but not above background
P: Also exceeds impact to groundwater screening level
N: Also exceeds ecological soil screening level.
[C] Elevated detection limit due to dilution required for high interfering element.
[G] Estimated value due to corresponding internal standard failing high.

Table 18
Summary of Groundwater Analytical Reports for Samples Analyzed for Volatile Organics
Collected October 3, 2018
North Brunswick Gulf - North Brunswick, NJ

Sample I.D.	Lab ID	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	TBA (ug/l)	Acetone (ug/l)	2-Butanone (ug/l)	Cyclohexane (ug/l)	cis-1,2-Dichloroethene (ug/l)	Ethylene dibromide EDB (ug/l)	Isopropylbenzene (ug/l)	Methylclyclohexane	Naphthalene (ug/l)	1,2,4-TMB (ug/l)	Total VOC TICs (ug/l)	Total Alkanes (ug/l)	VOC TIC or Alkanes over 100 ug/l	DTW (ft)
Rinsate Blank	JC75394-1	<0.43	<0.53	<0.60	<0.59	<0.51	<5.8	<6.0	<6.9	<0.78	<0.51	<0.0053	<0.65	<0.60	<0.98	<1.0	0	0	no	
MW 17	JC75394-2	<0.43	<0.53	<0.60	<0.59	<0.51	<5.8	<6.0	<6.9	<0.78	<0.51	<0.0053	<0.65	<0.60	<0.98	<1.0	0	0		7.04
MW 20 Duplicate of MW 17	JC75394-3	<0.43	<0.53	<0.60	<0.59	<0.51	<5.8	<6.0	<6.9	<0.78	<0.51	<0.0053	<0.65	<0.60	<0.98	<1.0	0	0	no	7.04
MW 18	JC75394-4	<0.43	<0.53	<0.60	<0.59	<0.51	6.3 J	<6.0	<6.9	<0.78	<0.51	<0.0053	<0.65	<0.60	45.1	1.1 J	6.1 J	0		4.82
MW 19	JC75394-5	868	1,960	1,790	8,790	<10	123 J	144 J	<140	103	65.9	<0.0053	156	129	448	2,060	5840 J	3300 J	yes	5.96
Trip Blank	JC75394-6	<0.43	<0.53	<0.60	<0.59	<0.51	<5.8	<6.0	<6.9	<0.78	<0.51	<0.0053	<0.65	<0.60	<0.98	<1.0	0	0	no	
Class IIA GWQS		1	600	700	1,000	70	100	6,000	300	-	70	0.03	700	-	300		100each 500 total	100each 500 total		
Interim Standard		-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-	
Ground Water Screening Level for VI		20	330,000	700	8,600	580	-	21,000,000	2,500,000	-	-	0.4	-	-	300	-	-	-	-	

Well Number	Lab ID	Bromoform (ug/l)	Bromodichloromethane (ug/l)	Bromomethane (ug/l)	Carbon tetrachloride (ug/l)	Chloroethane (ug/l)	Dibromochloromethane (ug/l)	1,2-Dichloroethane (ug/l)	1,1-Dichloroethene (ug/l)	1,2-Dichloropropane (ug/l)	2-Hexanone (ug/l)	Methylene chloride (ug/l)	1,1,2,2-Tetrachloroethane (ug/l)	Tetrachloroethene (ug/l)	1,2,4-Trichlorobenzene (ug/l)	1,1,2-Trichloroethane (ug/l)	Trichloroethene (ug/l)	Vinyl Chloride (ug/l)		DTW (ft)
Rinsate Blank	JC75394-1	<0.63	<0.58	<1.6 a	<0.55	<0.73	<0.56	<0.60	<0.59	<0.51	<2.0	<1	<0.65	<0.90	<0.50	<0.53	<0.53	<0.79 c		
MW 17	JC75394-2	<0.63	<0.58	<1.6 a	<0.55	<0.73	<0.56	<0.60	<0.59	<0.51	<2.0	<1	<0.65	<0.90	<0.50	<0.53	<0.53	<0.79 c		7.04
MW 20 Duplicate of MW 17	JC75394-3	<0.63	<0.58	<1.6 a	<0.55	<0.73	<0.56	<0.60	<0.59	<0.51	<2.0	<1	<0.65	<0.90	<0.50	<0.53	<0.53	<0.79 c		7.04
MW 18	JC75394-4	<0.63	<0.58	<1.6 b	<0.55	<0.73	<0.56	<0.60	<0.59	<0.51	<2.0	<1	<0.65	<0.90	<0.50	<0.53	<0.53	<0.79 c		4.82
MW 19	JC75394-5	<13	<12	<33 a	<11	<15	<11	<12	<12	<10	<41	<20	<13	<18	<10	<11	<11	<16 c		5.96
Trip Blank	JC75394-6	<0.63	<0.58	<1.6 b	<0.55	<0.73	<0.56	<0.60	<0.59	<0.51	<2.0	<1	<0.65	<0.90	<0.50	<0.53	<0.53	<0.79 c		
Class IIA GWQS		4	1	10	1		1	2	1	1	40	3	1	1	9	3	1	1		
Interim Standard		-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-		
Ground Water Screening Level for VI		300	2	20	1	26,000	6	3	260	4	-	920	6	31	130	8	2	1		

Red & bold numbers exceed standard.
MTBE: Methyl tertiary butyl ether
TBA: Teriary butyl alcohol
TIC: Tentatively Identifiable Compound
VI: Vapor Intrusion
: Detection Level above standard.
DTW: Depth to water from top of casing
a: Associated CCV & BS outside control limits high, sample was ND
b: Associated CCV outside control limits high, sample was ND. This compound in BS is outside in house QC limits biased high.
c: Associated CCV outside of control limits high, sample was ND.
J: estimated value

Table 19
Summary of Groundwater Analytical Reports for Samples Analyzed for Semi Volatile Organics
Collected October 3, 2018
North Brunswick Gulf - North Brunswick, NJ

Sample I.D.	LAB ID	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Acetophene (ug/l)	Anthracene (ug/l)	Benzo(a) anthracene (ug/l)	Benzo(a) pryene (ug/l)	Benzo(b) fluoranthene (ug/l)	Benzo(g,h,i) perylene (ug/l)	1,1-Biphenol (ug/l)	Carbazol (ug/l)	Dibenz(a,h) anthracene (ug/l)	Dibenzofuran (ug/l)	Fluoranthene (ug/l)	Fluorene (ug/l)	Indeno(1,2,3-cd) pryene (ug/l) (ug/l)	1-Methyl naphthalene (ug/l)			
Rinsate Blank a	JC75394-1	<0.19 a	<0.14 a	<0.21 a	<0.21 a	<0.023 a	<0.033 a	<0.043 a	<0.34 a	<0.21 a	<0.23 a	<0.036 a	<0.22 a	<0.17 a	<0.17 a	<0.038 a	-			
MW 17 a	JC75394-2	<0.18 a	<0.13 a	<0.20 a	<0.20 a	<0.022 a	<0.032 a	0.0419 J a	<0.32 a	<0.20 a	<0.22 a	<0.034 a	<0.21 a	<0.16 a	<0.16 a	<0.036 a	-			
MW 20 Duplicate of MW 17	JC75394-3	<0.18	<0.13	<0.20	<0.20	<0.022	<0.032	0.0437 J	<0.32	<0.20	<0.22	<0.034	<0.21	<0.16	<0.16	0.0387 J	-			
MW 18 a	JC75394-4	4.1 a	0.73 J a	0.43 J a	1.4 a	**0.208 a**	<0.032 a	<0.041 a	<0.32 a	1.4 a	5.7 a	<0.034 a	2.6 J a	1.6 a	4.4 a	<0.036 a	4.6 J as TIC			
MW 19	JC75394-5	0.36 J	<0.13	<0.20	<0.20	<0.022	<0.032	<0.041	<0.32	1.7	0.47 J	<0.034 c	<0.21	<0.16	0.25 J	<0.036	**7.5 J as TIC**			
Trip Blank	JC75394-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Class IIA GWQS		400		700	2,000	0.1	0.1	0.2		400		0.3		300	300	0.2	5			
Interim Standard			100						100											
Ground Water Screening Level for VI		-	-		-	-	-	-	-	-	-	-		-	-	-	-			

Well Number	LAB ID	2-Methyl naphthalene (ug/l)	2-Methylphenol (ug/l)	3&4 Methylphenol (ug/l)	Naphthalene (ug/l)	Phenanthrene (ug/l)	Phenol (ug/l)	Pryene (ug/l)	2,4-Dinitrotoluene (ug/l)	2,4-Dichlorophenol (ug/l)	2,4-Dimethyl phenol (ug/l)	2-Nitrophenol (ug/l)	Butyl benzyl phthalate (ug/l)	Di-n-octyl phthalate (ug/l)	3,3-Dichlorobenzidine (ug.l)	4,6-Dinitro-o-cresol (ug/l)	Pentachlorophenol (ug/l)	Total SVOC TICs (ug/l)	Total Alkanes (ug/l)	SVOC TIC over 100 ug/l
Rinsate Blank a	JC75394-1	<0.21 a	<0.89 a	<0.88 a	<0.23 a	<0.18 a	<0.39 a	<0.22 a	<0.55 a c	<1.3 a c	<2.4 a c	<0.96 a c	<0.46 a c	<0.23 a c	<0.51 a	<0.15 a c	<0.13 a f	0	0	no
MW 17 a	JC75394-2	<0.20 a	<0.85 a	<0.84 a	<0.22 a	<0.17 a	<0.37 a	<0.21 a	<0.53 a	<1.2 a	<2.3 a	<0.91 a	<0.44 a	<0.22 a c	<0.48 a	<0.15 a c	<0.12 a f	12.4 J	0	
MW 20 Duplicate of MW 17	JC75394-3	<0.20	<0.85	<0.84	<0.22	<0.17	<0.37	<0.21	<0.53	<1.2	<2.3 c	<0.91	<0.44	<0.22 c	<0.48	<0.15 c	<0.12 f	7 J	13 J	
MW 18 a	JC75394-4	7.1 a	<0.85 a	27.3 a	28.6 a	6.9 a	0.41 J a	1.2 a	<0.53 a	<1.2 a	<2.3 a	<0.91 a	<0.44 a	<0.22 a c	<0.48 a	<0.15 a c	<0.12 a f	51.2 J a	0	no
MW 19	JC75394-5	**133 k**	11	11.8	**327 k**	0.25 J	4.4	<0.21	<0.53	<1.2	83.4 d k	<0.91	<0.44 c	<0.22 c	<0.48 c	<0.15 e	<0.12	**3,717.7 J**	0	**yes**
Trip Blank	JC75394-6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Class IIA GWQS		30		50	300	100	2,000	200	10	20	100		100	100	30	0.7	0.3	100/500		
Interim Standard									-	-	-	-	-	-	-	-	-			
Ground Water Screening Level for VI		-			300	-		-	-	-	-	-	-	-	-	-	-			

a: sample extracted outside of hold time
b: Associated CCV outside control limits high, sample was ND. This compound in BS is outside in house QC limits biased high.
c: Associated CCV outside of control limits high, sample was ND.
d: Associated CCV outside of control limits high.
e: Associated CCV outside of control limits high, sample was ND.
f: Associated CCV outside of control limits low.
k: result is from run 2
J: estimated value
Bold & red numbers exceed standard.
TIC: Tentatively Identifiable Compound

MW 17 sampled on 10/3/18 at 10:15 and extracted on the 10th at 10:30 PM = in 7 days so it was appro. 12 hrs out of hold.

MW 18 sampled on 10/3/18 at 12:31 and extracted on the 10th around 10:30 PM = in 7 days so it was approx 8 hrs out of hold.

Table 20
Summary of Groundwater Analytical Reports for Samples Analyzed for TAL Metals
Collected October 3, 2018
North Brunswick Gulf - North Brunswick, NJ

Sample I.D.	Lab ID	Aluminum (ug/l)	Antimony (ug/l)	Arsenic (ug/l)	Barium (ug/l)	Beryllium (ug/l)	Cadmium (ug/l)	Calcium (ug/l)	Chromium	Cobalt (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Nickel (ug/l)	Potassium (ug/l)	Selenium (ug/l)	Silver (ug/l)	Sodium (ug/l)	Thallium (ug/l)	Vanadium (ug/l)	Zinc (ug/l)
Rinsate Blank	JC75394-1	<200	<6	<1	<200	<1	<3	<5000	<10	<50	<10	<100	<3	<5,000	<15	<0.20	<10	<10,000	<10	<10	<10,000	<1.0	<50	<20
MW 17	JC75394-2	**2,130**	<6	1.6	210	<1.0	<3.0	31,500	<10	<50	13.7	**3,130**	<3.0	15,300	**297**	<0.20	13.5	<10,000	<10	<10	**287,000**	<1.0	<50	55.6
MW 20 Duplicate of MW 17	JC75394-3	**1,870**	<6	1.5	223	<1.0	<3.0	33,100	<10	<50	13.8	**2,710**	<3.0	16,200	**316**	<0.20	14.2	<10,000	<10	<10	**295,000**	<1.0	<50	57.8
MW 18	JC75394-4	<200	<6.0	2.5	<200	<1.0	<3.0	22,500	<10	<50	<10	**11,900**	**<15 h**	7,700	**340**	<0.20	14.8	<10,000	<10	<10	12,700	<1.0	<50	<20
MW 19 g	JC75394-5	**60,700 g**	**<60 g**	**38.4**	<2,000 g	**<10 g**	**<30 g**	<50,000 g	**171 g**	**<500 g**	245 g	**83,900 g**	**67 g**	<50,000 g	**222 g**	<0.20	<100 g	<100,000 g	**<100 g**	**<100 g**	**<100,000 g**	**<10**	**589 g**	701 g
Class IIA GWQS		200	6	3	6,000	1	4	-	70	100	1,300	300	5	-	50	2	100	-	40	40	50,000	2	60	2,000

Bold & red numbers exceed standard J: estimated value
g: Elevated sample detection limits due to difficult sample matrix.
h: Elevated detection limit due to dilution required for high intering element.
Detection level above standard.

Table 21
Summary of Groundwater Samples Analyzed for Semi Volatile Organics
Collected November 15, 2018
North Brunswick Gulf - North Brunswick, NJ

Sample I.D.	Lab ID	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Acetophene (ug/l)	Anthracene (ug/l)	Benzo(a) anthracene (ug/l)	Benzo(a) pryene (ug/l)	Benzo(b) fluoranthene (ug/l)	Benzo(g,h,i) perylene (ug/l)	1,1-Biphenol (ug/l)	Carbazol (ug/l)	Dibenz(a,h) anthracene (ug/l)	Dibenzofuran (ug/l)	Fluoranthene (ug/l)	Fluorene (ug/l)	Indeno(1,2,3-cd) pryene (ug/l)	1-Methyl naphthalene (ug/l)	2-Methyl naphthalene (ug/l)	Hexachlorocyclopentadiene (ug/l)
Rinsate Blank	JC 78017-1	ND (0.20)	ND (0.14)	ND (0.22)	ND (0.22)	ND (0.024)	ND (0.035)	ND (0.045)	ND (0.36)	ND (0.22)	ND (0.24)	ND (0.038)	ND (0.23)	ND (0.18)	ND (0.18)	ND (0.040)	ND (0.27)	ND (0.22)	ND (2.9)
MW 18	JC 78017-2	3.4	0.64 J	ND (0.20)	1.3	**0.135**	ND (0.032)	ND (0.041)	ND (0.32)	1.2	4.8	ND (0.034)	2.6 J	1.4	4	ND (0.036)	4	6.5	ND (2.6)
MW 18 Filtered	JC 78017-3	3.2	0.55 J	ND (0.20)	ND (0.20)	ND (0.022)	ND (0.032)	ND (0.042)	ND (0.33)	0.48 J	3.3	ND (0.035)	0.95 J	ND (0.16)	2.6	ND (0.037)	3.8	4.2	ND (2.7) [b]
MW 20 Duplicate of MW 18	JC 78017-4	5	0.75 J	ND (0.20)	1.7	**0.121**	ND (0.032)	ND (0.041)	ND (0.32)	1.8	6.5	ND (0.034)	3.6 J	1.2	5.7	ND (0.036)	**5.3**	8.4	ND (2.6)
Class IIA GWQS		400		700	2000	0.1	0.1	0.2		400		0.3		300	300	0.2	5	30	40
Interim Standard			100						100										
Ground Water Screening Level for VI		-	-		-	-	-	-	-	-	-	-						-	

Well Number		2-Methylphenol (ug/l)	3&4 Methylphenol (ug/l)	Naphthalene (ug/l)	Phenanthrene (ug/l)	Phenol (ug/l)	Pryene (ug/l)	2,4-Dinitrotoluene (ug/l)	2,4-Dichlorophenol (ug/l)	2,4-Dimethyl phenol (ug/l)	2-Nitrophenol (ug/l)	Butyl benzyl phthalate (ug/l)	Di-n-octyl phthalate (ug/l)	3,3-Dichlorobenzidine (ug.l)	4,6-Dinitro-o-cresol (ug/l)	Pentachlorophenol (ug/l)	Total SVOC TICs (ug/l)	Total Alkanes (ug/l)	SVOC TIC over 100 ug/l
Rinsate Blank	JC 78017-1	ND (0.92)	ND (0.92)	ND (0.24)	ND (0.18)	ND (0.41)	ND (0.23)	ND (0.58)	ND (1.3)	ND (2.5)	ND (1.0)	ND (0.48)	ND (0.24)	ND (0.53)	ND (0.16) [a]	ND (0.13) [a]	0	0	no
MW 18	JC 78017-2	**54.1**	**54.1**	25.6	7	0.60 J	0.91 J	ND (0.53)	ND (1.2)	ND (2.3)	ND (0.91)	ND (0.44)	ND (0.22)	ND (0.48)	ND (0.15) [a]	ND (0.12) [a]	174.1 J	-	no
MW 18 Filtered	JC 78017-3	**60.9**	**60.9**	20.8	1.1	0.82 J	ND (0.21)	ND (0.53)	ND (1.2)	ND (2.3)	ND (0.92) [a]	ND (0.44)	ND (0.22) [a]	ND (0.49)	ND (0.15) [a]	ND (0.12) [a]	58 J	0	no
MW 20 Duplicate of MW 18	JC 78017-4	**55.8**	**55.8**	27.8	8.9	0.59 J	0.79 J	ND (0.53)	ND (1.2)	ND (2.3)	ND (0.91)	ND (0.44)	ND (0.22)	ND (0.48)	ND (0.15) [a]	ND (0.12) [a]	169.5 J	-	**yes**
Class IIA GWQS		50	50	300	100	2,000	200	40	20	100		100	100	30	0.7	0.3	100/500		
Interim Standard								-	-	-	-	-	-	-	-	-			
Ground Water Screening Level for VI		50		300	-		-	-	-	-	-	-	-	-	-	-			

a: Associated CCV outside control limits high, sample was ND.
b: Associated CCV outside of control limits low.
Bold & red numbers exceed standard.
TIC: Tentatively Identifiable Compound

Table 22
Summary of Groundwater Analytical Reports for Samples Analyzed for Volatile Organics
Collected January 18, 2019
North Brunswick Gulf - North Brunswick, NJ

Sample I.D.	Lab ID	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	TBA (ug/l)	Acetone (ug/l)	2-Butanone (ug/l)	Cyclohexane (ug/l)	cis-1,2-Dichloroethene (ug/l)	Ethylene dibromide EDB (ug/l)	Isopropylbenzene (ug/l)	Methylclyclohexane (ug/l)	Naphthalene (ug/l)	1,2,4-TMB (ug/l)	Total VOC TICs (ug/l)	VOC TIC or Alkanes over 100 ug/l	DTW (ft)
Rinsate Blank	JC81574-1	ND (0.43)	ND (0.53)	ND (0.60)	ND (0.59)	ND (0.51)	ND (5.8)	ND (6.0)	ND (6.9)	ND (0.78)	ND (0.51)	ND (0.0053)	ND (0.65)	ND (0.60)	NA	ND (1.0)	0	no	
MW 20	JC81574-2	ND (0.43)	ND (0.53)	ND (0.60)	ND (0.59)	ND (0.51)	ND (5.8)	ND (6.0)	ND (6.9)	ND (0.78)	ND (0.51)	ND (0.0052)	ND (0.65)	ND (0.60)	NA	ND (1.0)	0	no	3.20
MW 21 Duplicate of MW 20	JC81574-3	ND (0.43)	ND (0.53)	ND (0.60)	ND (0.59)	ND (0.51)	ND (5.8)	ND (6.0)	ND (6.9)	ND (0.78)	ND (0.51)	ND (0.0052)	ND (0.65)	ND (0.60)	NA	ND (1.0)	0	no	
Trip Blank	JC81574-4	ND (0.43)	ND (0.53)	ND (0.60)	ND (0.59)	ND (0.51)	ND (5.8)	ND (6.0)	ND (6.9)	ND (0.78)	ND (0.51)	ND (0.0053)	ND (0.65)	ND (0.60)	NA	ND (1.0)	0	no	
Class IIA GWQS		1	600	700	1,000	70	100	6,000	300	-	70	0.03	700	-	300		100each 500 total		
Interim Standard		-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	-	-	-
Ground Water Screening Level for VI		20	330,000	700	8,600	580	-	21,000,000	2,500,000	-	-	0.4	-	-	300	-	-	-	-

Well Number	Lab ID	Bromoform (ug/l)	Bromodichloromethane (ug/l)	Bromomethane (ug/l)	Carbon tetrachloride (ug/l)	Chloroethane (ug/l)	Dibromochloromethane (ug/l)	1,2-Dichloroethane (ug/l)	1,1-Dichloroethene (ug/l)	1,2-Dichloropropane (ug/l)	2-Hexanone (ug/l)	Methylene chloride (ug/l)	1,1,2,2-Tetrachloroethane (ug/l)	Tetrachloroethene (ug/l)	1,2,4-Trichlorobenzene (ug/l)	1,1,2-Trichloroethane (ug/l)	Trichloroethene (ug/l)	Vinyl Chloride (ug/l)	DTW (ft)
Rinsate Blank	JC81574-1	ND (0.63)	ND (0.58)	ND (1.6) [a]	ND (0.55)	ND (0.73)	ND (0.56)	ND (0.60)	ND (0.59)	ND (0.51)	ND (2.0)	ND (1.0)	ND (0.65)	ND (0.90)	ND (0.50)	ND (0.53)	ND (0.53)	ND (0.79)	
MW 20	JC81574-2	ND (0.63)	ND (0.58)	ND (1.6) [a]	ND (0.55)	ND (0.73)	ND (0.56)	ND (0.60)	ND (0.59)	ND (0.51)	ND (2.0)	ND (1.0)	ND (0.65)	ND (0.90)	ND (0.50)	ND (0.53)	ND (0.53)	ND (0.79)	3.20
MW 21 Duplicate of MW 20	JC81574-3	ND (0.63)	ND (0.58)	ND (1.6) [a]	ND (0.55)	ND (0.73)	ND (0.56)	ND (0.60)	ND (0.59)	ND (0.51)	ND (2.0)	ND (1.0)	ND (0.65)	ND (0.90)	ND (0.50)	ND (0.53)	ND (0.53)	ND (0.79)	
Trip Blank	JC81574-4	ND (0.63)	ND (0.58)	ND (1.6) [a]	ND (0.55)	ND (0.73)	ND (0.56)	ND (0.60)	ND (0.59)	ND (0.51)	ND (2.0)	ND (1.0)	ND (0.65)	ND (0.90)	ND (0.50)	ND (0.53)	ND (0.53)	ND (0.79)	
Class IIA GWQS		4	1	10	1		1	2	1	1	40	3	1	1	9	3	1	1	
Interim Standard		-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	-	
Ground Water Screening Level for VI		300	2	20	1	26,000	6	3	260	4	-	920	6	31	130	8	2	1	

MTBE: Methyl tertiary butyl ether
TBA: Teriary butyl alcohol
TIC: Tentatively Identifiable Compound
a: Associated CCV outside control limits low

VI: Vapor Intrusion

NA: Not analyzed in VOC analysis

DTW: Depth to water from top of casing

Note: Only compounds above a standard or that had detection levels above a standard in previus samples are listed
Note: No compound exceeded a standard

Table 23
Summary of Groundwater Analytical Reports for Samples Analyzed for Semi Volatile Organics
Collected January 18, 2019
North Brunswick Gulf - North Brunswick, NJ

Sample I.D.	LAB ID	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Acetophene (ug/l)	Anthracene (ug/l)	Benzo(a) anthracene (ug/l)	Benzo(a) pryene (ug/l)	Benzo(b) fluoranthene (ug/l)	Benzo(g,h,i) perylene (ug/l)	1,1-Biphenol (ug/l)	Carbazol (ug/l)	Dibenz(a,h) anthracene (ug/l)	Dibenzofuran (ug/l)	Fluoranthene (ug/l)	Fluorene (ug/l)	Indeno(1,2,3-cd) pryene (ug/l) (ug/l)	1,4 Dioxane (ug/l)	4-Chloroaniline (ug/l)	4-Nitroaniline (ug/l)
Rinsate Blank	JC81574-1	ND (0.18)	ND (0.13)	ND (0.20)	ND (0.20)	ND (0.022)	ND (0.032)	ND (0.042)	ND (0.33)	ND (0.20)	ND (0.22)	ND (0.035)	ND (0.21)	ND (0.16)	ND (0.16)	ND (0.037)	ND (0.047) [b]	ND (0.33) [a]	ND (0.42) [a]
MW 20	JC81574-2	ND (0.18)	ND (0.13)	ND (0.20)	ND (0.20)	ND (0.022)	ND (0.032)	ND (0.042)	ND (0.33)	ND (0.20)	ND (0.22)	ND (0.035)	ND (0.21)	ND (0.16)	0.20 J	ND (0.037)	0.0571 JB [c]	ND (0.33) [a]	ND (0.42) [a]
MW 21 Duplicate of MW 20	JC81574-3	ND (0.18)	ND (0.13)	ND (0.20)	ND (0.20)	ND (0.022)	ND (0.032)	ND (0.041)	ND (0.32)	ND (0.20)	ND (0.22)	ND (0.034)	ND (0.21)	ND (0.16)	ND (0.16)	ND (0.036)	ND (0.046) [b]	ND (0.32) [a]	ND (0.42) [a]
Class IIA GWQS		400		700	2,000	0.1	0.1	0.2		400		0.3		300	300	0.2	5	30	-
Interim Standard			100						100										
Ground Water Screening Level for VI		-	-		-	-	-	-	-	-	-	-		-	-	-	-		

Well Number	LAB ID	2-Methyl naphthalene (ug/l)	2-Methylphenol (ug/l)	3&4 Methylphenol (ug/l)	Naphthalene (ug/l)	Phenanthrene (ug/l)	Phenol (ug/l)	Pryene (ug/l)	2,4-Dinitrotoluene (ug/l)	2,4-Dichlorophenol (ug/l)	2,4-Dimethyl phenol (ug/l)	2-Nitrophenol (ug/l)	Butyl benzyl phthalate (ug/l)	Di-n-octyl phthalate (ug/l)	3,3-Dichlorobenzidine (ug.l)	4,6-Dinitro-o-cresol (ug/l)	Pentachlorophenol (ug/l)	Total SVOC TICs (ug/l)	SVOC TIC over 100 ug/l
Rinsate Blank	JC81574-1	ND (0.20)	ND (0.85)	ND (0.85)	ND (0.22)	ND (0.17)	ND (0.38)	ND (0.21)	ND (0.53)	ND (1.2)	ND (2.3)	ND (0.92)	ND (0.44)	ND (0.22)	ND (0.49)	ND (0.15) [b]	ND (0.12)	0	no
MW 20	JC81574-2	ND (0.20)	ND (0.85)	ND (0.85)	0.25 J	ND (0.17)	ND (0.38)	ND (0.21)	ND (0.53)	ND (1.2)	ND (2.3)	ND (0.92)	ND (0.44)	ND (0.22)	ND (0.49)	ND (0.15) [b]	ND (0.12)	4.4 J	no
MW 21 Duplicate of MW 20	JC81574-3	ND (0.20)	ND (0.85)	ND (0.84)	ND (0.22)	ND (0.17)	ND (0.37)	ND (0.21)	ND (0.53)	ND (1.2)	ND (2.3)	ND (0.91)	ND (0.44)	ND (0.22)	ND (0.48)	ND (0.15) [b]	ND (0.12)	5.1 J	no
Class IIA GWQS		30	50	50	300	100	2,000	200	10	20	100		100	100	30	0.7	0.3	100/500	
Interim Standard									-	-	-	-	-	-	-	-	-		
Ground Water Screening Level for VI		-			300	-		-	-	-	-	-	-	-	-	-	-		

[a] Associated CCV outside of control limits low.
[b] Associated CCV outside of control limits high, sample was ND.
[c] Associated CCV outside of control limits high
TIC: Tentatively Identifiable Compound

Indicates a Hit

J: Estimated value
B: Compound found in method blank

Table 24
Summary of Groundwater Analytical Reports for Samples Analyzed for Total and Dissolved TAL Metals
Collected January 18, 2019
North Brunswick Gulf - North Brunswick, NJ

Sample I.D.	Lab ID	Aluminum (ug/l)	Antimony (ug/l)	Arsenic (ug/l)	Barium (ug/l)	Beryllium (ug/l)	Cadmium (ug/l)	Calcium (ug/l)	Chromium	Cobalt (ug/l)	Copper (ug/l)	Iron (ug/l)	Lead (ug/l)	Magnesium (ug/l)	Manganese (ug/l)	Mercury (ug/l)	Nickel (ug/l)	Potassium (ug/l)	Selenium (ug/l)	Silver (ug/l)	Sodium (ug/l)	Thallium (ug/l)	Vanadium (ug/l)	Zinc (ug/l)
Rinsate Blank	JC81574-1	<200	<6.0	<1.0	<200	<1.0	<3.0	<5000	<10	<50	<10	<100	<3.0	<5000	<15	<0.20	<10	<10000	<10	<10	<10000	<1.0	<50	<20
MW 20	JC81574-2	**6130**	<6.0	2.5	<200	**3.1**	<3.0	28200	<10	83.3	62.1	**19300**	**10.2**	9470	**531**	<0.20	**132**	11600	<10	<10	**64300**	<1.0	<50	226
MW 20 Filtered	JC81574-2F	**2480**	<6.0	<1.0	<200	**3.1**	<3.0	28000	<10	78.9	57.5	**11800**	4.7	9070	**489**	<0.20	**125**	11000	<10	<10	**62600**	<1.0	<50	212
MW 21 Duplicate of MW 20	JC81574-3	**4450**	<6.0	1.7	<200	**3**	<3.0	26200	<10	73.8	63.3	**9660**	**6.6**	8490	**405**	<0.20	**115**	<10000	<10	<10	**59900**	<1.0	<50	201
Class IIA GWQS		200	6	3	6,000	1	4	-	70	100	1,300	300	5	-	50	2	100	-	40	40	50,000	2	60	2,000

Bold & red numbers exceed standard

Indicates a Hit

Table 25: Water Level Data - 5/21/19

WELL ID	WELL DEPTH from TOC (feet)	T.O.C. ELEVATION (feet)	Depth to Screen from TOC (feet)	DTW (feet)	DTP (feet)	PRODUCT THICKNESS (feet)	PRODUCT ELEVATION (feet)	PRODUCT GRAVITY	HYDRO. EQUIV.	CORRECTED DTW (feet)	CORRECTED WATER ELEVATION (feet)
MW 1	20.10 mud	109.95	5	3.37							106.58
MW 2	20.29	109.24	5	3.30							105.94
MW 3	20.25	105.68	5	1.19							104.49
MW 4	21.08 mud	107.43	6.03	1.53							105.90
MW 5	19.43	110.28		3.39							106.89
MW 6	19.48	110.00		3.37							106.63
MW 7	19.37	109.83		3.15							106.68
MW 8	18.20 mud	107.72		2.81							104.91
MW 9	18.82	105.82		1.00							104.82
MW 10	19.32	106.07		1.82							104.25
MW11	19.10	106.20	4.10	1.40							104.80
MW12	19.09	106.30	4.09	1.80							104.50
MW13	19.05	105.79	4.05	1.61							104.18
MW14	18.54 mud	106.41	3.59	2.70							103.71
MW15	17.53	109.47	2.53	1.95							107.52
MW16	18.65	108.77	3.68	2.19							106.58
MW 17	13.20	109.79	3.2	3.01							106.78
MW 18	20.08	102.13	5.08	3.37							98.76
MW 19	20.40	109.72	5.4	2.81							106.91
MW 20	19.00	101.03	4	3.67							97.36
RW 1	12.60	109.12	5	3.00							106.12

T.O.C. : Top of Casing DTW: Depth to Top of Water DTP: Depth to Top of Product

Table 26: Summary of Groundwater Analytical Reports
for Samples Collected in May 2019 for VOC Analysis

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 1/16/18)[a]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/16/18)[a]	NJ Vapor Intrusion GW Screening (NJAC 7:26E 3/13)	MW1	DUPLICATE of MW 1	MW2	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10	MW11	MW12	MW13	MW14	MW15	MW16	MW17	MW18	MW19	MW20	RW1	RINSATE BLANK	TRIP
Lab Sample ID:					JC88638-22	JC88638-14	JC88638-18	JC88638-12	JC88638-10	JC88638-19	JC88638-20	JC88638-16	JC88638-1	JC88638-7	JC88638-3	JC88638-6	JC88638-5	JC88638-9	JC88638-23	JC88638-21	JC88638-11	JC88638-24	JC88638-4	JC88638-17	JC88638-2	JC88638-15	JC88638-8	JC88638-13
Date Sampled:					5/22/2019	5/22/2019	5/22/2019	5/21/2019	5/21/2019	5/22/2019	5/22/2019	5/22/2019	5/21/2019	5/21/2019	5/21/2019	5/21/2019	5/21/2019	5/21/2019	5/22/2019	5/22/2019	5/21/2019	5/22/2019	5/21/2019	5/22/2019	5/21/2019	5/22/2019	5/21/2019	5/22/2019
Matrix:					Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Equipment Blank	Trip Blank
MS Volatiles (SW846 8260C)																												
Acetone	ug/l	6000	-	21000000	ND (120)	ND (120)	ND (60)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (6.0)	ND (120)	ND (6.0)	ND (30)	ND (6.0)	ND (6.0)
Benzene	ug/l	1	-	20	**1550**	**1660**	**515**	ND (0.43)	**8.2**	ND (0.43)	**46.2**	**71.5**	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	**1530**	0.68	**510**	ND (0.43)	ND (0.43)
Bromochloromethane	ug/l	-	-	-	ND (9.6)	ND (9.6)	ND (4.8)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.48)	ND (9.6)	ND (0.48)	ND (2.4)	ND (0.48)	ND (0.48)
Bromodichloromethane	ug/l	1	-	2	ND (12)	ND (12)	ND (5.8)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (0.58)	ND (12)	ND (0.58)	ND (2.9)	ND (0.58)	ND (0.58)
Bromoform	ug/l	4	-	300	ND (13)	ND (13)	ND (6.3)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (13)	ND (0.63)	ND (3.2)	ND (0.63)	ND (0.63)
Bromomethane	ug/l	10	-	20	ND (33)	ND (33) [c]	ND (16)	ND (1.6) [c]	ND (1.6) [c]	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6) [c]	ND (1.6) [c]	ND (1.6) [c]	ND (1.6) [c]	ND (1.6) [c]	ND (1.6) [c]	ND (1.6) [c]	ND (1.6)	ND (1.6)	ND (1.6) [c]	ND (1.6)	ND (33) [c]	ND (1.6) [c]	ND (8.2) [c]	ND (1.6) [c]	ND (1.6) [c]
2-Butanone (MEK)	ug/l	300	-	2500000	ND (140)	ND (140)	ND (69)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (6.9)	ND (140)	ND (6.9)	ND (34)	ND (6.9)	ND (6.9)
Carbon disulfide	ug/l	700	-	1500	ND (19)	ND (19)	ND (9.5)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (0.95)	ND (19)	ND (0.95)	ND (4.8)	ND (0.95)	ND (0.95)
Carbon tetrachloride	ug/l	1	-	1	ND (11)	ND (11)	ND (5.5)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (11)	ND (0.55)	ND (2.8)	ND (0.55)	ND (0.55)
Chlorobenzene	ug/l	50	-	770	ND (11)	ND (11)	ND (5.6)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	41.5	ND (0.56)	ND (2.8)	ND (0.56)	ND (0.56)
Chloroethane	ug/l	-	5	26000	ND (15)	ND (15)	ND (7.3)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (0.73)	ND (15)	ND (0.73)	ND (3.6)	ND (0.73)	ND (0.73)
Chloroform	ug/l	70	-	70	ND (10)	ND (10)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (10)	ND (0.50)	ND (2.5)	ND (0.50)	ND (0.50)
Chloromethane	ug/l	-	-	240	ND (15)	ND (15) [c]	ND (7.6)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76) [c]	ND (0.76) [c]	ND (0.76)	ND (0.76) [c]	ND (0.76)	ND (0.76) [c]	ND (0.76)	ND (0.76) [c]	ND (0.76)	ND (0.76)	ND (0.76)	ND (0.76) [c]	ND (15) [c]	ND (0.76) [c]	ND (3.8) [c]	ND (0.76) [c]	ND (0.76) [c]
Cyclohexane	ug/l	-	-	16000	44.8 J	55.8 J	44.2 J	ND (0.78)	ND (0.78)	ND (0.78)	30.8	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	98.0 J	ND (0.78)	21.8 J	ND (0.78)	ND (0.78)
Dibromochloromethane	ug/l	1	-	6	ND (11)	ND (11)	ND (5.6)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (0.56)	ND (11)	ND (0.56)	ND (2.8)	ND (0.56)	ND (0.56)
1,2-Dichlorobenzene	ug/l	600	-	6800	ND (11)	ND (11)	ND (5.3)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (11)	ND (0.53)	ND (2.7)	ND (0.53)	ND (0.53)
1,3-Dichlorobenzene	ug/l	600	-	-	ND (11)	ND (11)	ND (5.4)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (11)	ND (0.54)	ND (2.7)	ND (0.54)	ND (0.54)
1,4-Dichlorobenzene	ug/l	75	-	75	ND (10)	ND (10)	ND (5.1)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (10)	ND (0.51)	ND (2.5)	ND (0.51)	ND (0.51)
Dichlorodifluoromethane	ug/l	1000	-	1000	ND (27)	ND (27)	ND (14)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (27)	ND (1.4)	ND (6.8)	ND (1.4)	ND (1.4)
1,1-Dichloroethane	ug/l	50	-	50	ND (11)	ND (11)	ND (5.7)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (0.57)	ND (11)	ND (0.57)	ND (2.8)	ND (0.57)	ND (0.57)
1,2-Dichloroethene	ug/l	2	-	3	ND (12)	ND (12)	ND (6.0)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (12)	ND (0.60)	ND (3.0)	ND (0.60)	ND (0.60)
1,1-Dichloroethene	ug/l	1	-	260	ND (12)	ND (12)	ND (5.9)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (12)	ND (0.59)	ND (3.0)	ND (0.59)	ND (0.59)
cis-1,2-Dichloroethene	ug/l	70	-	-	ND (10)	ND (10)	ND (5.1)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	17.9 J	ND (0.51)	ND (2.5)	ND (0.51)	ND (0.51)
trans-1,2-Dichloroethene	ug/l	100	-	520	ND (11)	ND (11)	ND (5.4)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (11)	ND (0.54)	ND (2.7)	ND (0.54)	ND (0.54)
1,2-Dichloropropane	ug/l	1	-	4	ND (10)	ND (10)	ND (5.1)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	ND (10)	ND (0.51)	ND (2.5)	ND (0.51)	ND (0.51)
cis-1,3-Dichloropropene	ug/l	-	-	-	ND (9.4)	ND (9.4)	ND (4.7)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.47)	ND (9.4)	ND (0.47)	ND (2.4)	ND (0.47)	ND (0.47)
trans-1,3-Dichloropropene	ug/l	-	-	-	ND (8.6)	ND (8.6)	ND (4.3)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.43)	ND (8.6)	ND (0.43)	ND (2.2)	ND (0.43)	ND (0.43)
Ethylbenzene	ug/l	700	-	700	**1670**	**1750**	**923**	ND (0.60)	ND (0.60)	ND (0.60)	149	**3.7**	ND (0.60)	ND (0.60)	ND (0.60)	1.4	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	0.93 J	**2800**	ND (0.60)	295	ND (0.60)	ND (0.60)
Freon 113	ug/l	20000	-	3700	ND (39)	ND (39)	ND (19)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (39)	ND (1.9)	ND (9.7)	ND (1.9)	ND (1.9)
2-Hexanone	ug/l	40	-	-	ND (41)	ND (41)	ND (20)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (41)	ND (2.0)	ND (10)	ND (2.0)	ND (2.0)
Isopropylbenzene	ug/l	700	-	-	59.6	70.3	66.8	ND (0.65)	ND (0.65)	2.1	54.7	1.1	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	148	ND (0.65)	38.8	ND (0.65)	ND (0.65)
Methyl Acetate	ug/l	7000	-	-	ND (16)	ND (16)	ND (8.0)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (0.80)	ND (16)	ND (0.80)	ND (4.0)	ND (0.80)	ND (0.80)
Methylcyclohexane	ug/l	-	-	-	42.9 J	62.8 J	50.5	ND (0.60)	ND (0.60)	ND (0.60)	46.5	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	110	ND (0.60)	10.9 J	ND (0.60)	ND (0.60)
Methyl Tert Butyl Ether	ug/l	70	-	580	**83.6**	**77.1**	65.6	65.4	12.3	ND (0.51)	26	2.7	0.75 J	0.51 J	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)	2.9	ND (0.51)	0.78 J	ND (0.51)	ND (0.51)	ND (10)	ND (0.51)	58.8	ND (0.51)	ND (0.51)
4-Methyl-2-pentanone(MIBK)	ug/l	-	-	900000	ND (37)	ND (37)	ND (19)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (1.9)	ND (37)	ND (1.9)	ND (9.3)	ND (1.9)	ND (1.9)
Methylene chloride	ug/l	3	-	920	ND (20)	ND (20)	ND (10)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (20)	ND (1.0)	ND (5.0)	ND (1.0)	ND (1.0)
Styrene	ug/l	100	-	180000	ND (14)	ND (14)	ND (7.0)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (14)	ND (0.70)	ND (3.5)	ND (0.70)	ND (0.70)
Tert Butyl Alcohol	ug/l	100	-	-	ND (120)	ND (120)	**241**	64.3	7.0 J	ND (5.8)	62	6.7 J	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	13.5	ND (5.8)	ND (5.8)	ND (5.8)	ND (5.8)	ND (120)	ND (5.8)	**111**	ND (5.8)	ND (5.8)
1,1,2,2-Tetrachloroethane	ug/l	1	-	6	ND (13)	ND (13)	ND (6.5)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (0.65)	ND (13)	ND (0.65)	ND (3.3)	ND (0.65)	ND (0.65)
Tetrachloroethene	ug/l	1	-	31	ND (18)	ND (18)	ND (9.0)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	**1.8**	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (0.90)	ND (18)	ND (0.90)	ND (4.5)	ND (0.90)	ND (0.90)
Toluene	ug/l	600	-	330000	**2430**	**2510**	**1140**	ND (0.53)	ND (0.53)	ND (0.53)	69.5	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	15.3	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	339	ND (0.53)	**940**	ND (0.53)	ND (0.53)
1,2,3-Trichlorobenzene	ug/l	-	-	-	ND (10)	ND (10)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (10)	ND (0.50)	ND (2.5)	ND (0.50)	ND (0.50)
1,2,4-Trichlorobenzene	ug/l	9	-	130	ND (10)	ND (10)	ND (5.0)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (10)	ND (0.50)	ND (2.5)	ND (0.50)	ND (0.50)
1,1,1-Trichloroethane	ug/l	30	-	13000	ND (11)	ND (11)	ND (5.4)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (11)	ND (0.54)	ND (2.7)	ND (0.54)	ND (0.54)
1,1,2-Trichloroethane	ug/l	3	-	8	ND (11)	ND (11)	ND (5.3)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (11)	ND (0.53)	ND (2.7)	ND (0.53)	ND (0.53)
Trichloroethene	ug/l	1	-	2	ND (11)	ND (11)	ND (5.3)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (11)	ND (0.53)	ND (2.6)	ND (0.53)	ND (0.53)
Trichlorofluoromethane	ug/l	2000	-	2000	ND (17)	ND (17) [c]	ND (8.4)	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.84) [c]	ND (0.84) [c]	ND (0.84)	ND (0.84) [c]	ND (0.84)	ND (0.84) [c]	ND (0.84)	ND (0.84) [c]	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.84)	ND (0.84) [c]	ND (0.84) [c]	ND (4.2) [c]	ND (0.84) [c]	ND (0.84) [c]
1,2,4-Trimethylbenzene	ug/l	-	100	-	**1030**	**1010**	**929**	ND (1.0)	ND (1.0)	8	**961**	14.5	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	1.4 J	**2450**	ND (1.0)	**178**	ND (1.0)	ND (1.0)
Vinyl chloride	ug/l	1	-	1	ND (16)	ND (16)	ND (7.9)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (16)	ND (0.79)	ND (3.9)	ND (0.79)	ND (0.79)
m,p-Xylene	ug/l	-	-	8600	6890	7700	2840	ND (0.78)	ND (0.78)	ND (0.78)	556	2.6	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	**10300**	ND (0.78)	1210	ND (0.78)	ND (0.78)
o-Xylene	ug/l	-	-	8600	2470	2550	780	ND (0.59)	ND (0.59)	ND (0.59)	106	2.2	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	499	ND (0.59)	278	ND (0.59)	ND (0.59)
Xylene (total)	ug/l	1000	-	8600	**9360**	**10300**	**3620**	ND (0.59)	ND (0.59)	ND (0.59)	662	4.8	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	ND (0.59)	**10800**	ND (0.59)	**1490**	ND (0.59)	ND (0.59)
MS Volatile TIC																												
Total TIC, Volatile	ug/l	-	-	-	**4630 J**	**3470 J**	**8140 J**	0	0	332 J	**1160 J**	24.6 J	0	0	0	0	0	0	5.9 J	0	0	0	28 J	**6540 J**	7.2 J	**1015 J**	0	0
TIC over 100					**yes**	**yes**	**yes**				**yes**													**yes**		**yes**		
GC Volatiles (SW846-8011)																												
1,2-Dibromoethane	ug/l	0.03	-	0.4	ND (0.0048)	ND (0.0054)	ND (0.0053)	ND (0.0054)	ND (0.0053)	ND (0.0054)	ND (0.0051)	ND (0.0053)	ND (0.0053)	ND (0.0051)	ND (0.0051)	ND (0.0053)	ND (0.0054)	ND (0.0052)	ND (0.0053)	ND (0.0054)	ND (0.0051)	ND (0.0054)	ND (0.0051)	ND (0.0053)	ND (0.0052)	ND (0.0055)	ND (0.0051)	ND (0.0054)

Footnotes:

[a] Associated CCV outside of control limits low.

[b] Associated CCV outside of control limits high, sample was ND.

[c] Elevated detection limit due to dilution required for high interfering element.

Result exceeds a standard

Indicates a Hit

Detection level higher than standard

Table 27: Summary of Groundwater Analytical Reports
for Samples Collected May 21 and 22, 2019 for SVOC Analysis

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 1/16/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/16/18)[1]	NJ Vapor Intrusion GW Screening (NJAC 7:26E 3(13)	MW1	DUPLICATE of MW 1	MW2	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10	MW11	MW12	MW13	MW14	MW15	MW16	MW17	MW18	MW19	MW20	RW1	RINSATE BLANK	TRIP
Lab Sample ID:					JC86538-22	JC86538-14	JC86538-18	JC86538-12	JC86538-10	JC86538-19	JC86538-20	JC86538-16	JC86538-1	JC86538-7	JC86538-3	JC86538-6	JC86538-5	JC86538-9	JC86538-23	JC86538-21	JC86538-11	JC86538-24	JC86538-4	JC86538-17	JC86538-2	JC86538-15	JC86538-8	JC86538-13
Date Sampled:					5/22/2019	5/22/2019	5/22/2019	5/21/2019	5/21/2019	5/22/2019	5/22/2019	5/22/2019	5/21/2019	5/21/2019	5/21/2019	5/21/2019	5/21/2019	5/21/2019	5/22/2019	5/22/2019	5/21/2019	5/22/2019	5/21/2019	5/22/2019	5/22/2019	5/21/2019	5/22/2019	5/22/2019
Matrix:					Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Equipment Blank	Trip Blank
MS Semi-volatiles (SW846 8270D)																												
Acenaphthene	ug/l	400	-	-	0.20 J	ND (0.19)	0.19 J	ND (0.18)	ND (0.19)	ND (0.19)	0.31 J	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.19)	0.35 J	ND (0.18)	ND (0.18)	ND (0.19)	ND (0.19)	ND (0.19)	5.5	0.35 J	2.7	ND (0.19)	ND (0.19)	-
Acenaphthylene	ug/l	-	100	-	ND (0.14)	ND (0.14)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.14)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.13)	ND (0.14)	0.48 J	ND (0.13)	ND (0.14)	ND (0.14)	ND (0.14)	-
Acetophenone	ug/l	700	-	-	ND (0.21)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.20)	ND (0.21)	ND (0.21)	ND (0.21)	-
Anthracene	ug/l	2000	-	-	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.21)	0.76 J	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	-
Atrazine	ug/l	3	-	-	ND (0.45) [a]	ND (0.45) [a]	ND (0.44) [a]	ND (0.43)	ND (0.43)	ND (0.44) [a]	ND (0.44) [a]	ND (0.44) [a]	ND (0.43)	ND (0.43)	ND (0.43)	ND (0.45)	ND (0.43)	ND (0.43)	ND (0.43) [a]	ND (0.43) [a]	ND (0.45)	ND (0.45) [a]	ND (0.45)	ND (0.44) [a]	ND (0.45)	ND (0.45)	ND (0.45)	-
Benzaldehyde	ug/l	-	-	-	ND (0.29)	ND (0.29)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.29)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.29)	ND (0.29)	ND (0.29)	ND (0.28)	ND (0.29)	ND (0.29)	ND (0.29)	-
Benzo(g,h,i)perylene	ug/l	-	100	-	ND (0.34)	ND (0.34)	ND (0.33)	ND (0.32)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.34)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.33)	ND (0.34)	ND (0.34)	ND (0.34)	ND (0.33)	ND (0.34)	ND (0.34)	ND (0.34)	-
4-Bromophenyl phenyl ether	ug/l	-	-	-	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.38)	ND (0.39)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.40)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.39)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.40)	-
Butyl benzyl phthalate	ug/l	100	-	-	ND (0.46)	ND (0.46)	ND (0.45)	ND (0.44)	ND (0.44)	ND (0.45)	ND (0.45)	ND (0.45)	1.3 J	ND (0.44)	ND (0.44)	ND (0.46)	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.45)	ND (0.46)	ND (0.46)	ND (0.46)	-
1,1'-Biphenyl	ug/l	400	-	-	0.58 J	0.57 J	0.69 J	ND (0.20)	ND (0.21)	ND (0.21)	0.47 J	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.21)	0.70 J	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)	ND (0.21)	1.5	1.4	0.33 J	ND (0.21)	ND (0.21)	-
2-Chloronaphthalene	ug/l	600	-	-	ND (0.24)	ND (0.24)	ND (0.23)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.24)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.23)	ND (0.24)	ND (0.24)	ND (0.24)	-
4-Chloroaniline	ug/l	30	-	-	ND (0.34)	ND (0.34)	ND (0.33)	ND (0.32)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.33)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.34)	ND (0.32)	ND (0.32)	ND (0.32)	ND (0.33)	ND (0.34)	ND (0.34)	ND (0.34)	ND (0.33)	ND (0.34)	ND (0.34)	ND (0.34)	-
Carbazole	ug/l	-	-	-	ND (0.23)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.23)	4.3	1	0.55 J	ND (0.23)	ND (0.23)	-
Caprolactam	ug/l	4000	-	-	ND (0.65) [a]	ND (0.65) [a]	ND (0.64) [a]	ND (0.62) [a]	ND (0.63) [a]	ND (0.64) [a]	ND (0.64) [a]	ND (0.64) [a]	ND (0.62) [a]	ND (0.62) [a]	ND (0.62) [a]	ND (0.65) [a]	ND (0.62) [a]	ND (0.62) [a]	ND (0.62) [a]	ND (0.63) [a]	ND (0.65) [a]	ND (0.65) [a]	ND (0.65) [a]	ND (0.64) [a]	ND (0.65) [a]	ND (0.65) [a]	ND (0.65) [a]	ND (0.65) [a]
Chrysene	ug/l	5	-	-	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.17)	ND (0.18)	ND (0.18)	ND (0.18)	ND (0.18)
bis(2-Chloroethoxy)methane	ug/l	-	-	-	ND (0.28) [a]	ND (0.28) [a]	ND (0.27) [a]	ND (0.26)	ND (0.27)	ND (0.27) [a]	ND (0.27) [a]	ND (0.27) [a]	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.28)	ND (0.26)	ND (0.26)	ND (0.26) [a]	ND (0.27) [a]	ND (0.28)	ND (0.28) [a]	ND (0.28)	ND (0.27) [a]	ND (0.28)	ND (0.28)	ND (0.28)	ND (0.28)
bis(2-Chloroethyl)ether	ug/l	7	-	-	ND (0.25) [a]	ND (0.25) [a]	ND (0.24) [a]	ND (0.24)	ND (0.24)	ND (0.24) [a]	ND (0.24) [a]	ND (0.24) [a]	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.25)	ND (0.24)	ND (0.24)	ND (0.24) [a]	ND (0.24) [a]	ND (0.25)	ND (0.25) [a]	ND (0.25)	ND (0.24) [a]	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)
2,2'-Oxybis(1-chloropropane)	ug/l	300	-	-	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.38)	ND (0.39)	ND (0.40)	ND (0.40)	ND (0.40)	ND (0.38) [a]	ND (0.38)	ND (0.38) [a]	ND (0.40)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.39)	ND (0.40)	ND (0.40)	ND (0.40) [a]	ND (0.40)	ND (0.40) [a]	ND (0.40)	ND (0.40)	ND (0.40)
4-Chlorophenyl phenyl ether	ug/l	-	-	-	ND (0.37)	ND (0.37)	ND (0.36)	ND (0.35)	ND (0.36)	ND (0.36)	ND (0.36)	ND (0.36)	ND (0.35)	ND (0.35)	ND (0.35)	ND (0.37)	ND (0.35)	ND (0.35)	ND (0.35)	ND (0.36)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.36)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.37)
2,4-Dinitrotoluene	ug/l	-	-	-	ND (0.55)	ND (0.55)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.54)	ND (0.53) [a]	ND (0.53)	ND (0.53) [a]	ND (0.55)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.54)	ND (0.55)	ND (0.55)	ND (0.55) [a]	ND (0.54)	ND (0.55) [a]	ND (0.55)	ND (0.55)	ND (0.55)
2,6-Dinitrotoluene	ug/l	-	-	-	ND (0.48) [a]	ND (0.48) [a]	ND (0.47) [a]	ND (0.45)	ND (0.46)	ND (0.47) [a]	ND (0.47) [a]	ND (0.47) [a]	ND (0.45) [a]	ND (0.45)	ND (0.45) [a]	ND (0.48)	ND (0.45)	ND (0.45)	ND (0.45) [a]	ND (0.46) [a]	ND (0.48)	ND (0.48) [a]	ND (0.48) [a]	ND (0.47) [a]	ND (0.48) [a]	ND (0.48)	ND (0.48)	ND (0.48)
3,3'-Dichlorobenzidine	ug/l	30	-	-	ND (0.51)	ND (0.51)	ND (0.50)	ND (0.48)	ND (0.49)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.51)	ND (0.48)	ND (0.48)	ND (0.48)	ND (0.49)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.50)	ND (0.51)	ND (0.51)	ND (0.51)	ND (0.51)
Dibenzofuran	ug/l	-	-	-	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	0.23 J	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)	2.8 J	ND (0.22)	0.49 J	ND (0.22)	ND (0.22)	-
Di-n-butyl phthalate	ug/l	700	-	-	ND (0.50)	ND (0.50)	ND (0.49)	ND (0.47)	ND (0.48)	ND (0.49)	ND (0.49)	ND (0.49)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.50)	ND (0.47)	ND (0.47)	ND (0.47)	ND (0.48)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.49)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Di-n-octyl phthalate	ug/l	100	-	-	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)	ND (0.23)
Diethyl phthalate	ug/l	6000	-	-	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.25)	ND (0.25)	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.26)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.26)
Dimethyl phthalate	ug/l	-	100	-	ND (0.22)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)
bis(2-Ethylhexyl)phthalate	ug/l	3	-	-	4.4	5	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	1.7 J	ND (1.6)	ND (1.6)	ND (1.7)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.7)	ND (1.7)	ND (1.7)	ND (1.6)	ND (1.7)	ND (1.7)	ND (1.7)	ND (1.7)
Fluoranthene	ug/l	300	-	-	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.17)	0.82 J	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)
Fluorene	ug/l	300	-	-	0.22 J	0.22 J	ND (0.17)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.16)	ND (0.17)	0.47 J	ND (0.16)	ND (0.16)	ND (0.17)	ND (0.17)	ND (0.17)	3.9	0.39 J	0.90 J	ND (0.17)	ND (0.17)	ND (0.17)
Hexachlorocyclopentadiene	ug/l	40	-	-	ND (2.8)	ND (2.8)	ND (2.7)	ND (2.6) [a]	ND (2.7) [a]	ND (2.7)	ND (2.7)	ND (2.7)	ND (2.6) [a]	ND (2.6) [a]	ND (2.6) [a]	ND (2.8) [a]	ND (2.6) [a]	ND (2.6) [a]	ND (2.6)	ND (2.7)	ND (2.8) [a]	ND (2.8) [a]	ND (2.8)	ND (2.8) [a]	ND (2.7)	ND (2.8) [a]	ND (2.8)	ND (2.8) [a]
Hexachloroethane	ug/l	7	-	-	ND (0.39)	ND (0.39)	ND (0.38)	ND (0.37)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.39)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.38)	ND (0.39)	ND (0.39)	ND (0.39)	ND (0.38)	ND (0.39)	ND (0.39)	ND (0.39)	ND (0.39)
Isophorone	ug/l	40	-	-	ND (0.28) [a]	ND (0.28) [a]	ND (0.27) [a]	ND (0.26)	ND (0.27)	ND (0.27) [a]	ND (0.27) [a]	ND (0.27) [a]	ND (0.26)	ND (0.26)	ND (0.26)	ND (0.28)	ND (0.26)	ND (0.26)	ND (0.26) [a]	ND (0.27) [a]	ND (0.28)	ND (0.28) [a]	ND (0.28)	ND (0.27) [a]	ND (0.28)	ND (0.27) [a]	ND (0.28)	ND (0.28)
1-Methylnaphthalene	ug/l	-	5	-	17.6	17.3	28.3	ND (0.25)	ND (0.26)	1.8	22.8	0.65 J	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.26)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.26)	ND (0.26)	ND (0.26)	5.2	53.7	2.5	5.1	ND (0.26)	-
2-Methylnaphthalene	ug/l	30	-	-	34	33.9	56.1	ND (0.20)	ND (0.20)	ND (0.21)	29.4	1.1	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.21)	ND (0.21)	5.8	92.3	0.98 J	5.9	ND (0.21)	-
2-Nitroaniline	ug/l	-	-	-	ND (0.28) [a]	ND (0.28) [a]	ND (0.27) [a]	ND (0.26) [a]	ND (0.27) [a]	ND (0.27) [a]	ND (0.27) [a]	ND (0.27) [a]	ND (0.26) [a]	ND (0.26) [a]	ND (0.26) [a]	ND (0.28) [a]	ND (0.26) [a]	ND (0.26) [a]	ND (0.26) [a]	ND (0.27) [a]	ND (0.28) [a]	ND (0.28) [a]	ND (0.28) [a]	ND (0.27)	ND (0.28) [a]	ND (0.28) [a]	ND (0.28) [a]	-
3-Nitroaniline	ug/l	-	-	-	ND (0.39)	ND (0.39)	ND (0.38)	ND (0.37)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.38)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.39)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.38)	ND (0.39)	ND (0.39)	ND (0.39)	ND (0.38)	ND (0.39)	ND (0.39)	ND (0.39)	-
4-Nitroaniline	ug/l	-	-	-	ND (0.44) [a]	ND (0.44) [a]	ND (0.43) [a]	ND (0.42)	ND (0.43)	ND (0.43) [a]	ND (0.43) [a]	ND (0.43) [a]	ND (0.42)	ND (0.42)	ND (0.42)	ND (0.44)	ND (0.42)	ND (0.42)	ND (0.42) [a]	ND (0.43) [a]	ND (0.44)	ND (0.44) [a]	ND (0.44)	ND (0.43) [a]	ND (0.44)	ND (0.44)	ND (0.44)	-
Naphthalene	ug/l	300	-	300	112	107	231	ND (0.22)	ND (0.23)	ND (0.23)	64.2	4.2	0.75 J	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.23)	ND (0.23)	ND (0.23)	23.1	433	7.8	58.5	ND (0.23)	-
Nitrobenzene	ug/l	6	-	-	ND (0.64)	ND (0.64)	ND (0.63)	ND (0.61) [a]	ND (0.62) [a]	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.61)	ND (0.61) [a]	ND (0.61)	ND (0.64) [a]	ND (0.61) [a]	ND (0.61) [a]	ND (0.61)	ND (0.62)	ND (0.64) [a]	ND (0.64)	ND (0.64)	ND (0.63)	ND (0.64)	ND (0.64) [a]	ND (0.64) [a]	ND (0.64) [a]
N-Nitroso-di-n-propylamine	ug/l	10	-	-	ND (0.48) [a]	ND (0.48) [a]	ND (0.47) [a]	ND (0.46)	ND (0.47)	ND (0.47) [a]	ND (0.47) [a]	ND (0.47) [a]	ND (0.46)	ND (0.46)	ND (0.46)	ND (0.48)	ND (0.46)	ND (0.46)	ND (0.46) [a]	ND (0.47) [a]	ND (0.48)	ND (0.48) [a]	ND (0.48)	ND (0.47) [a]	ND (0.48)	ND (0.48) [a]	ND (0.48) [a]	ND (0.48)
N-Nitrosodiphenylamine	ug/l	10	-	-	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)	ND (0.22)
Phenanthrene	ug/l	-	-	-	0.20 J	0.21 J	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.18)	ND (0.18)	4.3	0.22 J	0.25 J	ND (0.18)	ND (0.18)	-
Pyrene	ug/l	200	-	-	ND (0.22)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.22)	ND (0.22)	0.45 J	ND (0.21)	ND (0.22)	ND (0.22)	ND (0.22)	-
1,2,4,5-Tetrachlorobenzene	ug/l	-	-	-	ND (0.37)	ND (0.37)	ND (0.36)	ND (0.35)	ND (0.36)	ND (0.36)	ND (0.36)	ND (0.36)	ND (0.35)	ND (0.35)	ND (0.35)	ND (0.37)	ND (0.35)	ND (0.35)	ND (0.35)	ND (0.36)	ND (0.37)	ND (0.37)	ND (0.37)	ND (0.36)	ND (0.37)	ND (0.37) [a]	ND (0.37)	-
MS Semi-volatiles (SW846 8270D BY SIM)																												
Benzo(a)anthracene	ug/l	0.1	-	-	0.0534	0.0239 J	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.023)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.023)	0.0281 J	0.0348 J	ND (0.022)	ND (0.023)	ND (0.023)	ND (0.023)	-
Benzo(a)pyrene	ug/l	0.1	-	-	0.0446 J	ND (0.033)	ND (0.033)	ND (0.032)	ND (0.032)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.033)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.033)	-
Benzo(b)fluoranthene	ug/l	0.2	-	-	0.102	0.0747	ND (0.043)	ND (0.041)	ND (0.042)	ND (0.043)	ND (0.043)	ND (0.043)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.043)	ND (0.041)	ND (0.041)	ND (0.041)	ND (0.042)	ND (0.043)	ND (0.043)	ND (0.043)	ND (0.043)	ND (0.043)	ND (0.043)	ND (0.043)	-
Benzo(k)fluoranthene	ug/l	0.5	-	-	0.0402 J	ND (0.033)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.033)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.032)	ND (0.033)	ND (0.033)	ND (0.033)	ND (0.032)	ND (0.033)	ND (0.033)	ND (0.033)	-
Dibenzo(a,h)anthracene	ug/l	0.3	-	-	ND (0.036)	ND (0.036)	ND (0.035)	ND (0.034)	ND (0.035)	ND (0.035)	ND (0.035)	ND (0.035)	ND (0.034)	ND (0.034)	ND (0.034)	ND (0.036)	ND (0.034)	ND (0.034)	ND (0.034)	ND (0.035)	ND (0.036)	ND (0.036)	ND (0.036)	ND (0.035)	ND (0.036)	ND (0.036)	ND (0.036)	-
Hexachlorobenzene	ug/l	0.02	-	-	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	ND (0.011)	-
Hexachlorobutadiene	ug/l	1	-	1	ND (0.018)	ND (0.018)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.018)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.017)	ND (0.018)	ND (0.018)	ND (0.018)	ND (0.017)	ND (0.018)	ND (0.018)	ND (0.018)	-
Indeno(1,2,3-cd)pyrene	ug/l	0.2	-	-	0.0534 J	0.0399 J	ND (0.037)	ND (0.036)	ND (0.037)	ND (0.037)	ND (0.037)	ND (0.037)	ND (0.036)	ND (0.036)	ND (0.036)	ND (0.038)	ND (0.036)	ND (0.036)	ND (0.036)	ND (0.037)	ND (0.038)	ND (0.038)	ND (0.038)	ND (0.037)	ND (0.038)	ND (0.038)	ND (0.038)	-
MS Semi-volatile TIC																												
Total TIC, Semi-Volatile	ug/l	-	-	-	1587 J	1602 J	1438 J	0	19 J	231.5 J	1518 J	122.6 J	22 J	24 J	15.9 J	4.2 J	6.9 J	0	3.9 J	0	18 J	0	21.2 J	3898 J	5.2 J	560.2 J	7.2 J	-
TIC over 100					yes	yes	yes				yes													yes				

Footnotes:

[a] Associated CCV outside of control limits low.

[b] Associated CCV outside of control limits high, sample was ND.

[c] Elevated detection limit due to dilution required for high interfering element.

Result exceeds a standard

Indicates a Hit

Table 28: Summary of Groundwater Reports
for Samples Collected in May 2019 for TAL Metal Analysis

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 1/16/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/16/18)[1]	NJ Vapor Intrusion GW Screening (NJAC 7:26E 3/13)	MW1	DUPLICATE of MW 1	MW2	MW3	MW4	MW5	MW6	MW7	MW8	MW9	MW10	MW11	MW12	MW13	MW14	MW15	MW16	MW17	MW18	MW19	MW20	RW1	RINSATE BLANK	TRIP
Lab Sample ID:					JC88638-22	JC88638-14	JC88638-18	JC88638-12	JC88638-10	JC88638-19	JC88638-20	JC88638-16	JC88638-1	JC88638-7	JC88638-3	JC88638-6	JC88638-5	JC88638-9	JC88638-23	JC88638-21	JC88638-11	JC88638-24	JC88638-4	JC88638-17	JC88638-2	JC88638-15	JC88638-8	JC88638-13
Date Sampled:					5/22/2019	5/22/2019	5/22/2019	5/21/2019	5/21/2019	5/22/2019	5/22/2019	5/22/2019	5/21/2019	5/21/2019	5/21/2019	5/21/2019	5/21/2019	5/21/2019	5/22/2019	5/22/2019	5/21/2019	5/22/2019	5/21/2019	5/22/2019	5/21/2019	5/22/2019	5/21/2019	5/22/2019
Matrix:					Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Equipment Blank	Trip Blank
Metals Analysis																												
Aluminum	ug/l	200	-	-	372	400	449	241	<200	892	<200	<200	544	1500	1640	<200	238	1060	7610	7810	867	3660	<200	370	2120	<200	<200	-
Antimony	ug/l	6	-	-	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	<8.0	-
Arsenic	ug/l	3	-	-	1.2	1.3	1.8	<1.0	<1.0	5	2	4.2	4.2	1.2	17.4	1.9	4.6	8.7	4.6	3.6	1.1	2	3.9	8	1.4	<1.0	<1.0	-
Barium	ug/l	6000	-	-	<200	<200	<200	<200	<200	<200	421	<200	<200	<200	<200	<200	<200	<200	707	<200	<200	<200	215	<200	<200	378	<200	-
Beryllium	ug/l	1	-	-	<1.0	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.7	<1.0	<1.0	<1.0	<1.0	<1.0	2.7	<1.0	<1.0	-
Cadmium	ug/l	4	-	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	-
Calcium	ug/l	-	-	-	58400	63200	13600	27400	74200	17500	83100	535000	20700	14200	7310	13300	16400	7600	51100	15400	23200	8980	26500	38700	42500	143000	<5000	-
Chromium	ug/l	70	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	11	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-
Cobalt	ug/l	100	-	-	<50	<50	<50	71.8	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	87.2	<50	<50	<50	<50	<50	121	<50	<50	-
Copper	ug/l	1300	-	-	<10	<10	<10	15.8	<10	14.5	<10	25.8	72.1	123	11.6	<10	<10	10.5	16.4	48.3	<10	21.9	<10	<10	13.3	<10	<10	-
Iron	ug/l	300	-	-	43200	47200	30900	527	<100	25800	72800	9680	10600	1830	15200	24900	22100	25600	104000	8180	362	3600	24800	58600	78500	35900	<100	-
Lead	ug/l	5	-	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	4.5	<15 [3]	3	<3.0	<3.0	<3.0	<3.0	<3.0	11.4	17.5	<3.0	6.3	<3.0	<3.0	<6.0 [3]	<3.0	<3.0	-
Magnesium	ug/l	-	-	-	15300	16700	19000	15900	19300	7090	47800	87200	<5000	<5000	<5000	8560	<5000	8900	18400	8640	<5000	5020	11800	13200	12200	31000	<5000	-
Manganese	ug/l	50	-	-	809	863	329	202	96	427	1120	1530	563	36.6	25.2	194	294	88.5	623	76.9	<15	112	1380	416	1070	739	<15	-
Mercury	ug/l	2	-	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	-
Nickel	ug/l	100	-	-	<10	<10	21.3	97	29.7	<10	<10	21.1	20.3	19.9	22.3	22	14.3	26	114	16.2	33.4	13.1	<10	<10	172	<10	<10	-
Potassium	ug/l	-	-	-	<10000	<10000	<10000	<10000	<10000	<10000	<10000	50100	<10000	<10000	<10000	<10000	<10000	<10000	<10000	<10000	<10000	<10000	<10000	<10000	11300	<10000	<10000	-
Selenium	ug/l	40	-	-	<10	<10	<10	<10	<10	<10	<10	<50 [3]	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-
Silver	ug/l	40	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-
Sodium	ug/l	50000	-	-	123000	132000	74200	117000	46200	158000	349000	380000	13700	<10000	15400	57600	<10000	28700	607000	118000	29800	343000	30100	21400	194000	215000	<10000	-
Thallium	ug/l	2	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-
Vanadium	ug/l	-	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	-
Zinc	ug/l	2000	-	-	53.4	50.3	<20	143	<20	24.5	<20	163	67.4	81	29.1	<20	<20	24.9	533	44.1	32.5	43.6	<20	<20	307	22.7	<20	-

Footnotes:

[2] Associated CCV outside of control limits low.

[3] Associated CCV outside of control limits high, sample was ND.

[4] Elevated detection limit due to dilution required for high interfering element.

Result exceeds a standard

Indicates a Hit

Detection level higher than standard

Appendix A

RedHawk Tables & Figures

List of Samples Collected by RedHawk 2001-2002: page 1				
Sample Describtion	**Sample I.D. and Depth (ft)**	**Analysis**	**Lab**	**Sample Date**
West wall of Excavtion on 1/22/02	West Wall: 10½'	Forensic	F&B	1/21/2002
Test Pit 1	TP 1: 2'	Forensic	F&B	1/22/2002
Test Pit 1	TP 1: 8'	Forensic	F&B	1/22/2002
Test Pit 2	TP 2: 2'	Forensic	F&B	1/22/2002
Test Pit 2	TP 2: 7'	Forensic	F&B	1/22/2002
Test Pit 1	TP 1: 2'	VOCs +10, lead	Wastex	1/22/2002
Test Pit 1	TP 1: 8'	VOCs +10, lead	Wastex	1/22/2002
Test Pit 2	TP 2: 2'	VOCs +10, lead	Wastex	1/22/2002
Test Pit 2	TP 2: 7'	VOCs +10, lead	Wastex	1/22/2002
Test Pit 4	TP 4: 2½'	VOC +10	STL	2/6/2002
Test Pit 4	TP 4: 6½'	VOC +10	STL	2/6/2002
Test Pit 6	TP 6: 5'	VOC +10	STL	2/6/2002
Test Pit 6	TP 6: 14 - 15'	VOC +10	STL	2/6/2002
Test Boring 1	TB1: 8 - 9'	VOCs +10, lead	STL	1/31/2002
Test Boring 2	TB 2: 6 - 7'	VOCs +10, lead	STL	1/31/2002
Test Boring 3	TB 3: 3 - 4'	VOCs +10, lead	STL	1/31/2002
Test Boring 4	TB4: 13 -14'	VOCs +10, lead	STL	1/31/2002
Test Boring 5	TB 5: 2 - 2½'	VOCs +10, lead	STL	1/31/2002
Test Boring 6	TB 6: 10 - 11'	VOCs +10, lead	STL	1/31/2002
Test Boring 7	TB 7: 4 - 5'	VOCs +10, lead	STL	1/31/2002
Test Boring 7	TB 7: 10 - 11'	VOCs +10, lead	STL	1/31/2002
Test Boring 7	TB 7: 10 - 11'	Forensic	F&B	1/31/2002
Test Boring 8	TB 8: 3 - 4'	VOCs +10, lead	STL	1/31/2002
USTs Closure Sample	SW 1: 11½ 12'	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 2: 11½ - 12	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 3: 11½ - 12	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 4: 10½ - 11	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 5: 11½ - 12	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 6: 11 - 11½	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 7: 10½ - 11	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 8: 10½ - 11	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 9: 10½ - 11	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 10: 10½ - 11	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 11: 10½ - 11	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 12: 10½ - 11	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 13: 10½ - 11	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 14: 11 - 11½	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 15: 11 - 11½	VOCs +10	STL	2/2/2002
USTs Closure Sample	SW 16: 11 - 12	VOCs +10	STL	2/2/2002
Pea Gravel below lines	Pea Gravel	VOCs +10	STL	2/7/2002
North wall of excavation on 2/7/02	North Wall 4½'	VOCs +10	STL	2/7/2002
NW corner of excavation on 2/7/02	NW Corner 5'	VOCs +10	STL	2/7/2002
West wall of excavation on 2/7/02	West Wall 4'	VOCs +10	STL	2/7/2002
Dispenser	D 1: 2 - 3½'	Forensic	F&B	2/8/2002
Dispenser	D 2: 2½ - 4'	Forensic	F&B	2/8/2002
Dispenser	D 3: 3½ - 4½'	Forensic	F&B	2/8/2002
Dispenser	D 4: 3½ - 4½'	Forensic	F&B	2/8/2002
Dispenser	D 1: 2 - 3½'	Vocs +10	STL	2/8/2002
Dispenser	D 2: 2½ - 4'	Vocs +10	STL	2/8/2002
Dispenser	D 3: 3½ - 4½'	Vocs +10	STL	2/8/2002
Dispenser	D 4: 3½ - 4½'	Vocs +10	STL	2/8/2002
Grassy Area after excavation	G 1: 2'	Vocs +10	STL	2/12/2002
Grassy Area after excavation	G 2: 6'	Vocs +10	STL	2/12/2002
Grassy Area after excavation	G 3: 3½'	Vocs +10	STL	2/12/2002

List of Samples Collected by RedHawk 2001-2002: page 2				
Sample Describtion	**Sample I.D. and Depth (ft)**	**Analysis**	**Lab**	**Sample Date**
Monitoring Well	MW 1: 8 - 9'	Forensic	F&B	2/21/2002
Monitoring Well	MW 2: 6 - 7'	Forensic	F&B	2/21/2002
Monitoring Well	MW 3: 12 - 13'	Forensic	F&B	2/22/2002
Monitoring Well	MW 4: 2 - 4'	Forensic	F&B	2/22/2002
Monitoring Well	MW 4: 9 - 10'	Forensic	F&B	2/22/2002
Monitoring Well	MW 4: 12 - 13'	Forensic	F&B	2/22/2002
Monitoring Well	MW 4: 14 - 15'	Forensic	F&B	2/22/2002
Monitoring Well	MW 4: 16 - 18'	Forensic	F&B	2/22/2002
Boring at north end of site	N 1: 8 - 9½ ft	Forensic	F&B	2/25/2002
Boring at north end of site	N 2: 8 - 9 ft	Forensic	F&B	2/25/2002
Boring at north end of site	N 3: 4 - 5½ ft	Forensic	F&B	2/25/2002
Boring at north end of site	N 4: 10 - 12 ft	Forensic	F&B	2/25/2002
Boring at north end of site	N 5: 4 - 5 ft	Forensic	F&B	2/25/2002
Boring at north end of site	N 6: 8 - 9 ft	Forensic	F&B	2/25/2002
Boring at north end of site	N 7: 8 - 9 ft	Forensic	F&B	2/25/2002
Boring at north end of site	N 8: 8 - 9½ ft	Forensic	F&B	2/25/2002
Boring at north end of site	N 9: 11 - 12 ft	Forensic	F&B	2/25/2002
Boring at north end of site	N 10: 8 - 10 ft	Forensic	F&B	2/26/2002
Boring at north end of site	N 11: 10 - 12 ft	Forensic	F&B	2/26/2002
Boring at north end of site	N 12: 6 - 8 ft	Forensic	F&B	2/26/2002
Boring at north end of site	N 13: 9 - 10 ft	Forensic	F&B	2/26/2002
Boring at north end of site	N 14: 8 - 9 ft	Forensic	F&B	2/26/2002
Boring at north end of site	N 15: 2 - 3 ft	Forensic	F&B	2/26/2002
Boring at north end of site	N 16: 4 - 7 ft	Forensic	F&B	2/26/2002
Boring at north end of site	N 1: 8 - 9½ ft	VOCs +10; lead	Wastex	2/25/2002
Boring at north end of site	N 2: 8 - 9 ft	VOCs +10; lead	Wastex	2/25/2002
Boring at north end of site	N 3: 4 - 5½ ft	VOCs +10; lead	Wastex	2/25/2002
Boring at north end of site	N 4: 10 - 12 ft	VOCs +10; lead	Wastex	2/25/2002
Boring at north end of site	N 5: 4 - 5 ft	VOCs +10; lead	Wastex	2/25/2002
Boring at north end of site	N 6: 8 - 9 ft	VOCs +10; lead	Wastex	2/25/2002
Boring at north end of site	N 7: 8 - 9 ft	VOCs +10; lead	Wastex	2/25/2002
Boring at north end of site	N 8: 8 - 9½ ft	VOCs +10; lead	Wastex	2/25/2002
Boring at north end of site	N 9: 11 - 12 ft	VOCs +10; lead	Wastex	2/25/2002
Boring at north end of site	N 10: 8 - 10 ft	VOCs +10; lead	Wastex	2/26/2002
Boring at north end of site	N 11: 10 - 12 ft	VOCs +10; lead	Wastex	2/26/2002
Boring at north end of site	N 12: 6 - 8 ft	VOCs +10; lead	Wastex	2/26/2002
Boring at north end of site	N 13: 9 - 10 ft	VOCs +10; lead	Wastex	2/26/2002
Boring at north end of site	N 14: 8 - 9 ft	VOCs +10; lead	Wastex	2/26/2002
Boring at north end of site	N 15: 2 - 3 ft	VOCs +10; lead	Wastex	2/26/2002
Boring at north end of site	N 16: 4 - 7 ft	VOCs +10; lead	Wastex	2/26/2002

Table 1
Summary of Soil Analytical Results: Test Pit Samples (mg/kg)
North Brunswick Gulf

Sample I.D. Sample Depth Sample Date	Test Pit 1 2' 1/22/02	Test Pit 1 8' 1/22/02	Test Pit 2 2' 1/22/02	Test Pit 2 7' 1/22/02	Test Pit 4 2.5' 2/6/02	Test Pit 4 6.5' 2/6/02	Test Pit 6 5' 2/6/02	Test Pit 6 14' - 15' 2/6/02	Trip Blank 2/6/02	2019 RDC Standard	2019 NRDC Standard	2019 Default IGW Screening Level		2016 RDC Standard	2016 NRDC Standard	Default IGW Screening Level
Organics																
Benzene	1.2	0.5	<0.32	<0.3	<0.6	<0.16	<0.14	<0.13	<0.12	2	5	0.005		2	5	0.005
Toluene	0.5	6.3	<0.32	0.39	4.4	<0.79	<0.69	<0.67	<0.62	6,300	91,000	7		6,300	91,000	7
Ethylbenzene	4.1	3.9	0.93	46	<2.4	<0.63	<0.55	<0.54	<0.50	7,800	110,000	13		7,800	110,000	13
Xylenes	11.37	24.1	1.72	168.3	22	<0.79	<0.69	<0.67	<0.62	12,000	170,000	19		12,000	170,000	19
TBA	<3.1	<2.7	<3.2	<3	<60	<16	<14	<13	<12	1,400	11,000	0.3		1,400	11,000	0.3
MTBE	<0.31	<0.27	<0.32	<0.3	80	0.72 J	<0.69	<0.67	<0.62	110	320	0.2		110	320	0.2
Isopropylbenzene	0.41	0.87	<0.32	11	NA	NA	NA	NA	NA	-	-	-		-	-	-
n-propylbenzene	1.1	2.5	0.68	31	NA	NA	NA	NA	NA	-	-	-		-	-	-
1,3,5-Trimethyl benzene	1.9	4.9	0.35	62	NA	NA	NA	NA	NA	-	-	-		-	-	-
1,2,4-Trimethyl benzene	6.2	17	2.2	220	NA	NA	NA	NA	NA	-	-	-		-	-	-
sec-Butyl benzene	<0.31	<0.27	<0.32	3.4	NA	NA	NA	NA	NA	-	-	-		-	-	-
p-isopropytoluene	<0.31	<0.27	<0.32	2.5	NA	NA	NA	NA	NA	-	-	-		-	-	-
Naphthalene	0.98	2.6	0.62	29	NA	NA	NA	NA	NA	6	17	25		6	17	25
EDB (1,2 Dibromoethane)	<0.310	<0.270	<0.320	<0.300	<1.2	<0.310	NA	NA	NA	0.008	0.04	0.005		0.008	0.04	0.005
EDC (1,2 Dichloroethane)	<0.310	<0.270	<0.320	<0.300	NA	NA	<0.280	<0.270	<0.250	0.9	3	0.005		0.9	3	0.005
Total Volatile Targets	27.76	62.67	6.5	573.59	106.4	0.72	0	0	0							
TIC's	61.26	32.3	8.75	362	129.6	0	0	0	0							
Total Volatile Targets & TICs	89.02	94.97	15.25	935.59	236	0	0	0								
Inorganics																
Lead	72	5	34	8	NA	NA	NA	NA	NA	400	800	90		400	600	90
in unsaturated zone per average DTW as of 4/4/17	yes	no	yes	no	yes	no	no	no								

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TICs: Tentatively Identifiable Compounds
mg/kg: milligram per kilogram = parts per million
1.2: Exceedance
J: Estimated Value

RDC: Residential Direct Contact Soil Standard
NRDC: Non-residential Direct Contact Soil Standard
IGW: Impact to Groundwater
Total VOC Target Compounds plus TIC Standard: 1,000 mg/kg
NA: Not Analyzed
Samples collecetd in saturated zone are not compiared to screening levels.

<0.3 : Detection level above screening level or standard

Table 2
Summary of Forensic Soil Analytical Results: Test Pit Samples (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**Test Pit 1** **2'** **1/22/02**	**Test Pit 1** **8'** **1/22/02**	**Test Pit 2** **2'** **1/22/02**	**Test Pit 2** **2'** **1/22/02**	**Test Pit 2** **7'** **1/22/02**	**Test Pit 2** **7'** **1/22/02**	**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019** **Default** **IGW** **Screening** **Level**
Benzene	**0.59**	0.74	<0.05	<0.5	<0.05	<0.5	2	5	0.005
Toluene	0.05	7.8	0.09	<0.5	<0.05	<0.5	6,300	91,000	7
Ethylbenzene	2.00	5.5	9.4	9.8	8.2	9.2	7,800	110,000	13
Xylenes	4.86	37.1	17.18	18	28.61	28	12,000	170,000	19
TBA	<10	<10	<10	<10	<10	<10	1,400	11,000	0.3
MTBE	<0.05	<0.1	<0.05	<0.5	<0.05	<0.5	110	320	0.2
TAME	<0.05	<0.05	<0.05	<0.5	<0.05	<0.5			
Butane	<0.5	<0.5	<0.5	<5	<0.5	<5			
ETBE	<0.05	<0.05	<0.05	<0.5	<0.05	<0.5			
DIPE	<0.05	<0.05	<0.05	<0.5	<0.05	<0.5			
Naphthalene	0.27	3.1	4.2	4.4	5.5	**6.5**	6	17	25
EDB (1,2 Dibromoethane)	<0.05	<0.05	<0.05	<0.5	<0.05	<0.5	0.008	0.04	0.005
EDC (1,2 Dichloroethane)	<0.05	<0.05	<0.05	<0.5	<0.05	<0.5	0.9	3	0.005
TPH	9	160	160.00		360				
in unsaturated zone per average DTW as of 4/4/17	yes	no	yes	yes	no	no			
Comment									
TEL		tentatively identified by GC			likely present per GC				
Degree of Degradation		substantial	extensive		extensive				
Type of product	none	appears to be leaded gasoline	gasoline		appears to be leaded gasoline				
Age of release		5 years	5 years		5 years				

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TAME: t-Amyl methyl ether
TEL: Tertaethyl lead
6.5: Exceedance
<0.05 : Detection level is above screening level or standard

Samples collecetd in saturated zone are not compared to screening levels.

Table 3
Summary of Soil Analytical Results: Test Boring Samples (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**TB 1** **8' - 9'** **1/31/02**	**TB 2** **6' -7'** **1/31/02**	**TB 3** **3' - 4'** **1/31/02**	**TB 4** **13' - 14'** **1/31/02**	**TB 5** **2' - 2½'** **1/31/02**	**TB 6** **10' - 11'** **1/31/02**	**TB 7** **4' - 5'** **1/31/02**	**TB 7** **10'- 11'** **1/31/02**	**TB 8** **3' 4'** **1/31/02**	**Trip Blank** **1/31/02**	**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019** **Default** **IGW** **Screening** **Level**
Organics													
Benzene	0.32	0.38	**0.62**	<0.15	**0.35**	<0.14	**1.5**	**5.4**	0.32	<0.12	2	5	0.005
Toluene	<1.3	<1.4	0.37 J	<0.73	<0.77	<0.71	**11**	55	2.4	<0.62	6,300	91,000	7
Ethylbenzene	5.6	0.99 J	0.81	<0.98	<0.62	<0.57	4.8	25	0.180 J	<0.5	7,800	110,000	13
Xylenes	3.7	1.5	1.8	<0.73	0.15 J	<0.71	**32**	160	3.7	<0.62	12,000	170,000	19
TBA	<25.0	<27	<16	<15	<15	<14	<14	<130	**28**	<12	1,400	11,000	0.3
MTBE	<1.3	<1.4	<0.83	<0.73	**0.88**	<0.71	<0.71	<6.7	**24**	<0.62	110	320	0.2
EDC (1,2 Dichloroethane)	<0.510	<0.550	<0.330	<0.290	<0.310	<0.280	<0.140	<0.05	<0.310	<0.250	0.9	3	0.005
EDB (1,2 Dibromomethane)	NA	NA	NA	NA	NA	NA	NA	<0.05	NA	NA	0.008	0.04	0.005
Total Volatile Targets	9.62	1.88	3.23	0	1.23	0	49.3	245.4	58.6	0			
TIC's	185	202	114.4	0	61.1	0	77.7	366	19.1	0			
Total Volatile Targets & TICs	194.62	203.88	117.63	0	62.33	0	127	611.4	77.7				
Inorganics													
Lead	21.2	7.4	66	12.9	15.7	6.3	13	7	**675**		400	800	90
in unsaturated zone per average DTW as of 4/4/17	no	maybe	yes	no	yes	no	yes	no	yes				

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TICs: Tentatively Identifiable Compounds
mg/kg: Milligram per kilogram = parts per million
5.4: Exceedance
<0.15 Detection level above screening level or standard

RDC: Residential Direct Contact Soil Standard
NRDC: Non-residential Direct Contact Soil Standard
IGW: Impact to Groundwater
Total VOC Target Compounds plus TIC Standard: 1,000 mg/kg
Samples collecetd in saturated zone are not conpaired to screening levels

J: Estimated Value
NA: Not analyzed

Table 4
Summary of Soil Analytical Results: UST Closure Samples (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**SW 1** **11½' - 12'** **2/2/02**	**SW 2** **11½' - 12'** **2/2/02**	**SW 3** **11½' - 12'** **2/2/02**	**SW 4** **10½' - 11'** **2/2/02**	**SW 5** **11½' - 12'** **2/2/02**	**SW 6** **11' - 11½'** **2/2/02**	**SW 7** **10.5' - 11'** **2/2/02**	**SW 8** **10½' - 11'** **2/2/02**	**SW 9** **10½' - 11** **2/2/02**	**SW 10** **10½' - 11'** **2/2/02**	**2019 RDC Standard**	**2019 NRDC Standard**	**2019 Default IGW Screening Level**
Benzene	0.24	<0.160	<0.150	<0.150	<0.140	<0.150	<0.150	<0.150	<0.170	<0.150	2	5	0.005
Toluene	0.096 J	<0.780	<0.740	0.16 J	<0.680	0.24 J	<0.770	<0.750	<0.860	<0.740	6,300	91,000	7
Ethylbenzene	0.24 J	<0.620	<0.590	<0.590	<0.540	<0.600	<0.520	<0.600	<0.690	<0.590	7,800	110,000	13
Xylenes	0.67 J	<0.780	<0.740	<0.740	<0.680	0.320 J	<0.770	<0.750	<0.860	<0.740	12,000	170,000	19
TBA	16	<16	<15	4.3 J	<14	<15	<15	<15	<17	<15	1,400	11,000	0.3
MTBE	20	<0.780	<0.740	4.8	<0.680	0.3 J	<0.770	<0.750	<0.860	<0.740	110	320	0.2
EDC (1,2 Dichloroethane)	<0.310	<0.310	<0.300	<0.300	<0.270	<0.300	<0.310	<0.300	<0.350	<0.300	0.9	3	0.005
EDB (1,2 Dibromomethane)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.008	0.04	0.005
Total Volatile Targets	36.24	0	0	4.8	0	0	0	0	0	0			
TIC's	0	0	0	0	0	1.4	0	0	0	0			
Total Volatile Targets & TICs	36.24	0	0	4.8	0	1.4	0	0	0	0			
in unsaturated zone per average DTW as of 4/4/17	no	no	no	no	no	no	no	no	no	no			

Sample I.D. **Sample Depth** **Sample Date**	**SW 11** **10½' - 11'** **2/2/02**	**SW 12** **10½' - 11'** **2/2/02**	**SW 13** **10½' - 11'** **2/2/02**	**SW 14** **11' - 11½'** **2/2/02**	**SW 15** **11' - 11½'** **2/2/02**	**SW 16** **11½' - 12'** **2/2/02**	**Trip Blank** **2/1/02**	**2019 RDC Standard**	**2019 NRDC Standard**	**2019 Default IGW Screening Level**
Benzene	<0.140	<0.140	<0.140	<0.140	<0.140	<0.150	<0.120	2	5	0.005
Toluene	<0.730	<0.720	<0.720	<0.700	<0.690	<0.740	<0.620	6,300	91,000	7
Ethylbenzene	<0.580	<0.580	<0.570	<0.560	<0.560	<0.600	<0.500	7,800	110,000	13
Xylenes	<0.730	<0.720	<0.720	<0.700	<0.690	0.33 J	<0.620	12,000	170,000	19
TBA	<14	<14	<14	<14	<14	<15	<12	1,400	11,000	0.3
MTBE	0.11 J	0.13 J	0.24 J	0.2 J	0.36 J	1.9	<0.620	110	320	0.2
EDC Dichloroethane	<0.290	<0.290	<0.290	<0.280	<0.260	<0.300		0.9	3	0.005
EDB (1,2 Dibromomethane)	NA	NA	NA	NA	NA	NA	NA	0.008	0.04	0.005
Total Volatile Targets	0	0	0	0	0	1.9	0			
TIC's	0	0	0	0	0	0	0			
Total Volatile Targets & TICs	0	0	0	0	0	1.9	0			
in unsaturated zone per average DTW as of 4/4/17	no	no	no	no	no	no				

TBA : Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
RDC: Residential direct contact soil standard
NRDC: Non-residential direct contact soil standard
IGW: Impact to groundwater
TICs: Tentatively identifiable compounds
J: Estimated concentration

Samples collected in saturated zone are not compared to screening levels

Table 5
Summary of Soil Analytical Results: USTs Excavation Samples: (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**Pea Gravel** **~3'** **2/7/02**	**North Wall** **4½'** **2/7/02**	**NW Corner** **5'** **2/7/02**	**West Wall** **4'** **2/7/02**	**2019 RDC Standard**	**2019 NRDC Standard**	**2019 Default IGW Screening Level**
Organics							
Benzene	<0.13	**6.6**	**2**	**14**	2	5	0.005
Toluene	<0.66	**140**	42	**220**	6,300	91,000	7
Ethylbenzene	<0.52	**70**	17	**89**	7,800	110,000	13
Xylenes	<0.66	**480**	**110**	**590**	12,000	170,000	19
TBA	<13.0	<140	<71	<140	1,400	11,000	0.3
MTBE	<0.66	**0.950 J**	**5.5**	**3.7 J**	110	320	0.2
EDC (1,2 Dichloroethane)	<0.260	<2.900	<1.4	<2.800	0.9	3	0.005
EDB (1,2 Dibromomethane)	NA	NA	NA	NA	0.008	0.04	0.005
Total Volatile Targets	0	696.6	176.5	913			
TIC's	0	682	163.5	967			
Total Volatile Targets & TICs	0	1,379	340	1,880			
in unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes			

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TICs: Tentatively Identifiable Commands
mg/kg: Milligrams per kilogram - parts per million
6.6: Exceedance
<0.13 : Detection level is above screening level or standard
Samples collecetd in saturated zone are not compared to screening levels

RDC: Residential Direct Contact Soil Standard
NRDC: Non-residential Direct Contact Soil Standard
IGW: Impact to Groundwater
J: Estimated Value
NA: Not Analyzed

Table 6
Summary of Soil Analytical Results: Samples Collected by Dispensers: (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**D 1** **2½' - 3½'** **2/8/02**	**D 2** **2½' - 4'** **2/8/02**	**D 3** **3½' - 4½'** **2/8/02**	**D 4** **3½' - 4½'** **2/8/02**	**Trip Blank** **2/8/02**	**2019 RDC Standard**	**2019 NRDC Standard**	**2019 Default IGW Screening Level**
Organics								
Benzene	**12**	**8.2**	**3.8**	**0.53 J**	<0.12	2	5	0.005
Toluene	**160**	**160**	**55**	3.2 J	<0.62	6,300	91,000	7
Ethylbenzene	**58**	**42**	**18**	**16**	<0.5	7,800	110,000	13
Xylenes	**380**	**290**	**130**	**96**	<0.62	12,000	170,000	19
TBA	<140	<140	<77	<72	<12	1,400	11,000	0.3
MTBE	<7.1	**0.76 J**	**7.3**	**0.43 J**	<0.62	110	320	0.2
EDC (1,2 dichloroethane)	<2.8	<2.800	<1.500	<1.400	<0.250	0.9	3	0.005
EDB (1,2 Dibromomethane)	NA	NA	NA	NA	NA	0.008	0.04	0.005
Total Volatile Targets	610	500.2	214.1	112				
TIC's	854	559	252	286	0			
Total Volatile Targets & TICs	1,464	1,059.20	466.1	398				
in unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes				

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TICs: Tentatively Identifiable Compounds
mg/kg: Milligram per kilogram = parts per million
8.2: Exceedance
J: Estimated value
<77 : Detection level is above screening level or standard

RDC: Residential Direct Contact Soil Standard
NRDC: Non-residential Direct Contact Soil Standard
IGW: Impact to Groundwater
Total VOC Target Compound plus TIC Standard: 1,000 mg/kg
NA: Not Analyzed

Table 7
Summary of Forensic Soil Analytical Results: Samples Collected by Dispensers (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**D 1** **2½' - 3½'** **2/8/02**	**D 2** **2½' - 4'** **2/8/02**	**D 3** **3½' - 4½'** **2/8/02**	**D 4** **3½' - 4½'** **2/8/02**	**TB7** **10' - 11'** **1/31/02**	**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019** **Default** **IGW** **Screening** **Level**
Organics								
Benzene	**1.9**	**0.87**	**0.6**	<0.05	0.05	2	5	0.005
Toluene	**22**	**27**	**23**	0.79	10	6,300	91,000	7
Ethylbenzene	9.50	**18**	**15**	5.9	13	7,800	110,000	13
Xylenes	**54**	**69**	**81**	**32**	69	12,000	170,000	19
TBA	<10	<10	<10	<10	<10	1,400	11,000	0.3
MTBE	0.11	**0.24**	2	0.11	<0.05	110	320	0.2
TAME	<0.05	<0.05	<0.05	<0.05	<0.05			
Butane	<0.5	<0.5	<0.5	<0.5	<0.5			
Naphthalene	3.9	**6.5**	**9.0**	5.2	**11**	6	17	25
EDB (1,2 Dibromoethane)	<0.05	<0.05	<0.05	<0.05	NA	0.008	0.04	0.005
EDC (1,2 Dichloroethane)	<0.05	<0.05	<0.05	<0.05	NA	0.9	3	0.005
TPH (gas range)	160 [d]	180 [d]	250 [d]	120 [d]	64[d]			
in unsaturated zone per average DTW as of 4/4/17	yes	yes	yes	yes	no			
Organic Lead and Manganese (ppm) : Method 6010 ICP								
Organic Lead	<0.1	<0.1	<0.1	<0.1 but GC implied maybe	0.2 & GC implied maybe			
Organic Manganese	<0.1 but GC implied maybe	<0.1 but GC implied maybe	<0.1 but GC implied maybe	<0.1 but GC implied maybe	<0.1 but GC implied maybe			
Comment								
Degree of Degradation	substantial	substantial	substantial	substantial	substantial			
Type of product	gasloine with maybe lead additives	gasloine with maybe lead additives	gasloine with maybe lead additives	gasloine with maybe lead additives	leaaded gasoline			

TBA: Tertiary Butyl Alcohol
NA: Not Analyzed
MTBE: Methyl Tertiary Butyl Ether
TAME: t-Amyl methyl ether
1.9 : Exceedance.
d: The sample was diluted.
<0.05 : Detection level is above screening level or standard
Samples collected in saturated zone are not compared to screening level.

Table 8
Summary of Soil Analytical Results: Samples in Grassy Area (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**G 1** **2'** **2/12/02**	**G 2** **6'** **2/12/02**	**G 3** **3½'** **2/12/02**	**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019** **Default** **IGW** **Screening** **Level**
Organics						
Benzene	**0.24**	<0.14	<0.14	2	5	0.005
Toluene	0.52 J	<0.73	<0.70	6,300	91,000	7
Ethylbenzene	0.13 J	<0.58	<0.56	7,800	110,000	13
Xylenes	0.53 J	<0.73	<0.70	12,000	170,000	19
TBA	**10 J**	<14	**4.7 J**	1,400	11,000	0.3
MTBE	**1.9**	0.45 J	**3.4**	110	320	0.2
EDC (1,2 Dichloroethane)	<0.310	<0.290	<0.280	0.9	3	0.005
EDB (1,2 Dibromomethane)	NA	NA	NA	0.008	0.04	0.005
Total Volatile Targets	2.14	0	3.4			
TIC's	0	0	0			
Total Volatile Targets & TICs	2.14	0	3.4			
in unsaturated zone per average DTW as of 4/4/17	yes	no	yes			

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TICs: Tentatively Identifiable Compounds
mg/kg: Milligram per kilogram = ppm
J: Estimated Value
RDC: Residential Diret Contact Soil Standard
NRDC: Non-residential Direct Contact Soil Standard
IGW: Impact to Groundwater
NA: Not Analyzed
Samples collected in saturated zone are not compared to screening levels

Table 9
Summary of Soil Sample Analytical Results: Samples at North End of Site (mg/kg)
North Brunswick Gulf

Sample I.D. Sample Depth Sample Date	N 1 8' - 9½' 2/25/02	N 2 8' - 9' 2/25/02	N 3 4' - 5½' 2/25/02	N 4 10' - 12' 2/25/02	N 5 4' - 5' 2/25/02	N 6 8' - 9' 2/25/02	N 7 8' - 9' 2/25/02	N 8 8' - 9½' 2/25/02	N 9 11' - 12' 2/25/02	Trip 2/25/02	2019 RDC Standard	2019 NRDC Standard	2019 Default IGW Screening Level
Organics													
Benzene	2.9	<1.5	<0.69	<0.26	2.6	2.7	7.9	<0.45	<0.26	<0.25	2	5	0.005
Toluene	110	25	6.2	<0.26	56	48	210	1.9	<0.26	<0.25	6,300	91,000	7
Ethylbenzene	30	31	14	<0.26	27	17	76	0.52	<0.26	<0.25	7,800	110,000	13
Xylenes	221?	193	69	<0.26	195	104	510	2.7	<0.26	<0.25	12,000	170,000	19
TBA	<23	<15	<6.9	<2.6	<14	<8.5	<36	<2.8	<2.6	<2.5	1,400	11,000	0.3
MTBE	14	<1.5	<0.69	<0.26	<1.4	<0.85	<3.6	<0.28	<0.26	<0.25	110	320	0.2
Naphthalene	10	10	7.8	<0.4	11	3.5	20	<0.41	<0.39	<0.38	6	17	25
Isopropyl benzene	4.5	4.5	2.9	<0.26	3.8	1.9	9.6	<0.28	<0.26	<0.25			
n-Propoylbenzene	10	12	8.3	<0.26	10	4.7	22	<0.28	<0.26	<0.25			
1,3,5-Trimethyl benzene	28	27	13	<0.26	24	12	60	0.36	<0.28	<0.25			
1,2,4-Trimethyl benzene	93	89	42	<0.260	82	40	200	0.97	<0.26	<0.25			
EDB (1,2 Dibromoethane)	<2.3	<1.5	<0.690	<0.260	<1.400	<0.850	<3.600	<0.280	<0.260	<0.250	0.008	0.04	0.005
EDC (1,2 Dichloroethane)	<2.3	<1.5	<0.690	<0.260	<1.400	<0.850	<3.600	<0.280	<0.260	<0.250	0.9	3	0.005
Total Volatile Targets	523.4	391.5	163.2	ND	411.4	233.8	1,115.50	6.45	ND	ND			
TIC's	175	246	147.9	0	184	101.3	460	0.77	ND	ND			
Total Volatile Targets & TIC's	698.4	637.5	311.1	0	595.4	335.1	1,575.50	7.22	ND	ND			
Inorganics													
Lead	13	14	29	7	6	9	2	9	3		400	800	90
in unsaturated zone per average DTW as of 4/4/17	no	no	yes	no	yes	no	no	no	no				

Sample I.D. Sample Depth Sample Date	N 10 8' - 10' 2/26/02	N 11 10' - 12' 2/26/02	N 12 6' - 8' 2/26/02	N 13 9' - 10' 2/26/02	N 14 8' - 9' 2/26/02	N 15 2' - 3' 2/26/02	N 16 4' - 7' 2/26/02	Trip 2/26/02	2019 RDC Standard	2019 NRDC Standard	2019 Default IGW Screening Level
Organics											
Benzene	<0.29	<0.28	<0.49	5.1	4	<2.6	5.2	<0.25	2	5	0.005
Toluene	0.73	<0.28	0.83	170	4.60	7.9	69	<0.25	6,300	91,000	7
Ethylbenzene	1.1	<0.28	1.50	55	41	29	32	<0.25	7,800	110,000	13
Xylenes	5.1	<0.28	15.5	370	285	235	193	<0.25	12,000	170,000	19
TBA	<2.9	<2.8	<4.9	<26	<18	<26	<16	<2.5	1,400	11,000	0.3
MTBE	<0.29	<0.28	<0.49	<2.6	<1.8	<2.8	<1.6	<0.25	110	320	0.2
Naphthalene	0.57	<0.43	<0.73	13	13	13	16	<0.38	6	17	25
Isopropyl benzene	<0.29	<0.28	0.86	6.1	5.4	4.2	8.2	<0.25			
n-Propoylbenzene	0.48	<0.28	2.2	16	14	12	16	<0.25			
1,3,5-Trimethyl benzene	1	<0.28	13	39	34	35	33	<0.25			
1,2,4-Trimethyl benzene	3.6	<0.28	27	130	120	120	110	<0.25			
EDB (1,2 Dibromoethane)	<0.290	<0.280	<0.490	<2.600	<1.800	<2.600	<1.600	<0.250	0.008	0.04	0.005
EDC (1,2 Dichloroethane)	<0.290	<0.280	<0.490	<2.600	<1.800	<2.600	<1.600	<0.250	0.9	3	0.005
Total Volatile Targets	12.58	ND	60.89	804.2	521	456.1	482.4	ND			
TIC's	4.03	0	108.7	352	323	257	273	ND			
Total Volatile Targets & TIC's	16.61	0	169.59	1,156.20	844	713.1	755.4	ND			
Inorganic											
Lead	2	<1	3	8	19	7	10		400	800	90
in unsaturated zone per average DTW as of 4/4/17	no	no	no	no	no	yes	yes				

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TIC's: Tentatively Identifiable Compounds
ND: Non detect
2.9: Exceedance
<0.29 Detection level is above standard or screening level
Samples collecetd in the saturated zone not compared to screening levels.

RDC: Residential Direct Contact Soil Standard
NRDC: Non-residential Direct Contact Standard
IGW: Impact to Groundwater
Total Target Volatile Organic Compounds plus TIC Satndard: 1,000 mg/kg

Table 10
Summary of Forensic Soil Analytical Results: Samples at North End of Site (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**N 1** **8' - 9½'** **2/25/02**	**N 1 [d]** **8' - 9½'** **2/25/02**	**N 2** **8' - 9'** **2/25/02**	**N 3** **4' - 5½'** **2/25/02**	**N 3 [d]** **4' - 5½'** **2/25/02**	**N 4** **10' - 12'** **2/25/02**	**N 5** **4' - 5'** **2/25/02**	**N 5 [d]** **4' - 5'** **2/25/02**	**N 6** **8' - 9'** **2/25/02**	**N 7** **8' - 9'** **2/25/02**	**N 7 [d]** **8' - 9'** **2/25/02**	**N 8** **8' - 9½'** **2/25/02**	**N 9** **11' - 12'** **2/25/02**	**N 10** **8' - 10'** **2/26/02**	**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019 Default** **IGW** **Screening** **Level**
Analyte																	
Benzene	1.2	1.3	0.47	**0.36**	<0.5	0.14	**0.42**	<0.5	1.2	**4.7**	**4.7**	0.16	<0.05	<0.05	2	5	0.005
Toluene	38 ve	52	11	5.9	6.9	0.10	**14**	**15**	24	60 ve	98	0.87	<0.05	0.22	6,300	91,000	7
Ethylbenzene	17	20	14	13	**15**	0.07	11	**12**	10	31	40	0.44	<0.05	0.31	7,800	110,000	13
Xylenes	89 ve	128	66	**53**	**63**	0.11	**64**	**83**	53	122 ve	245	2.19	<0.05	1.89	12,000	170,000	19
TBA	<10	<100	<10	<10	<100	<10	<10	<100	<10	<10	<100	<10	<10	<10	1,400	11,000	0.3
MTBE	3.4	3.6	<0.05	<0.05	<0.5	0.16	<0.05	<0.5	0.24	0.15	<0.5	<0.05	<0.05	<0.05	110	320	0.2
TAME	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05			
Butane	<0.5	<5	<0.5	<0.5	<5	<0.5	<0.5	<5	<0.5	<0.5	<5	<0.5	<0.5	<0.5			
ETBE	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05			
DIPE	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05			
Naphthalene	**7.2**	**7.4**	5.4	5.2	**6.1**	<0.05	**7.7**	**7.8**	3.6	**14**	**13**	0.07	<0.05	0.62	6	17	25
EDB (1,2 Dibromoethane)	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	0.008	0.04	0.005
EDC (1,2 Dichloroethane)	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	0.9	3	0.005
TPH (gas range)	360		390 ip	500 ip		2	750 ip		660 ip	1600 ip		17	<1	25 ip			
TEL																	
MMT																	
in unsaturated zone per average DTW as of 4/4/17	no	no	no	yes	yes	no	yes	yes	no	no	no	no	no	no			
Comment																	
Degree of Degradation	substantial		substantial	substantial			substantial		substantial	substantial							
Type of product	gasoline		gasoline	gasoline			gasoline		gasoline	gasoline							

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TAME: t-Amyl methyl ether
TEL: Tertaethyl lead
MMT: Methylcyclopentadienyl manganese tricarbonyl
ve: Value exceeded calibration range therefore value is an estimate
d: Sample diluted due to high level of material
89: Exceedance
ip: Recovery fell outside normal control limits. Compounds in sample interfered with the quantification of the analyte.
<10 Detection level is above screening level or standard
Samples collecetd in saturated zone not compared to screening levels

Table 11
Summary of Forensic Soil Analytical Results: Samples Collected from Monitoring Wells (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**MW 1** **8' - 9'** **2/21/02**	**MW 1 [d]** **8' - 9'** **2/21/02**	**MW 2** **6' - 7'** **2/21/02**	**MW 3** **12' - 13'** **2/22/02**	**MW 4** **2' - 4'** **2/22/02**	**MW 4** **9' - 10'** **2/22/02**	**MW 4** **12' - 13'** **2/22/02**	**MW 4** **14' - 15'** **2/22/02**	**MW 4** **16' - 18'** **2/22/02**	**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019 Default** **IGW** **Screening** **Level**
Analyte												
Benzene	0.78	0.7	0.34	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	2	5	0.005
Toluene	35 ve	45	5.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6,300	91,000	7
Ethylbenzene	21	25	4.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	7,800	110,000	13
Xylenes	99 ve	152	25.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	12,000	170,000	19
TBA	<10	<10	<10	<10	<10	<10	<10	<10	<10	1,400	11,000	0.3
MTBE	0.05	<0.5	<0.05	0.58	**0.46**	<0.05	<0.05	<0.05	<0.05	110	320	0.2
TAME	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Butane	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5			
ETBE	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
DIPE	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			
Naphthalene	**10**	**13**	2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	17	25
EDB (1,2 Dibromoethane)	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.008	0.04	0.005
EDC (1,2 Dichloroethane)	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.9	3	0.005
TPH (gas range)	930 [d]		180 [d]	<1	<1	<1	<1	<1	<1			
in unsaturated zone per average DTW as of 4/4/17	no	no	maybe	no	yes	no	no	no	no			
Comment												
TEL	GC implied maybe											
MMT	GC implied maybe											
Degree of Degradation	Substantial		Substantial									
Type of product	gasoline with maybe lead & manganese additives		gasoline	none but did have trace of MTBE	none but did have trace of MTBE							

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TAME: t-Amyl methyl ether
TEL: Tertaethyl lead
MMT: Methylcyclopentadienyl manganese tricarbonyl
10 : Exceedance
ve: Value exceeded calibration range therefore value is an estimate
d: Sample was diluted due to high level of material
Samples collected in saturated zone not compared to screening levels
<0.05 : Detection level is above screening level or standard

Table 12
Summary of Water Analytical Results from Temporary Wells : Sampled 2/6/02 (ug/l)
North Brunswick Gulf

Sample I.D. Sample Date	Temp Well 1 2/6/02	Temp Well 2 2/6/02	Temp Well 3 2/6/02	TempWell 4 2/6/02	USTs Excavation 2/6/02	Trip Blank 2/6/02	2019 Groundwater Standard
Organics							
Benzene	**120**	**130**	**14**	<380	**1,200**	<0.120	1
Toluene	11	130	3.1	<360	**1,900**	<0.620	600
Ethylbenzene	6.4	56	42	<380	**1,100**	<0.50	700
Xylenes	14	330	62	<380	**6,000**	<0.620	1,000
BTEX	151.4	646	121.1	<380	**10,200**		
TBA	**1,700**	**12,000**	**4,900**	**77,000**	**11,000**	<12	100
MTBE	**370**	**11,000**	**480**	**200,000**	**20,000**	<0.620	70
EDC (1,2 Dichloroethane)	<1	<21	<1	<420	<21		2
EDB (1,2 Dibromomethane)	NA	NA	NA	NA	NA	NA	0.03
Total Volatile Targets	2,221	23,646	5,501	277,000	41,200		-
TIC's	144	330	**725**	0	**5,350**		100 ea. 500 total
Inorganics							
Lead					**7.8**		5

TBA : Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TICs: Tentatively Identifiable Compounds
ug/l: micro grams per liter = parts per billion
14: Concentration exceeds standard
<21 Detection level is above standard

NA: Not Analyzed
NS: No standard

Table 13
Summary of Forensic Water Analytical Results: Temporary Wells: Sampled on 2/6/02 (ug/l)
North Brunswick Gulf

Sample I.D. Sample Date	Temp Well 1 2/6/02	Temp Well 2 2/6/02	Temp Well 2 [d] 2/6/02	Temp Well 3 2/6/02	Temp Well 4 2/6/02	Temp Well 4 [d] 2/6/02	Temp Well 4 [d] 2/6/02	2019 Groundwater Standard
Analyte								
Benzene	**110**	**140**	**140**	**15**	**260**	**240**	<1,000	1
Toluene	9	140	130	3	81	83	<1,000	600
Ethylbenzene	6	63	<100	42	3	<10	<1,000	700
Xylenes	15	390	240	55	193	182	<1,000	1,000
Total BTEX	140	733	510	115	537	505	ND	-
TBA	**1,300**	**8,000**	<2,000	**5,200**	**7,500**	**62,000**	<200,000	100
MTBE	**400**	**4,800 ve**	**12,000**	**490**	**26,000 ve**	**81,000 ve**	**260,000**	70
TAME	11	95	<100	<1	2,400 ve	4,200	4,000	-
DIPE	<1	2	<100	<1	<1	<10	<1,000	20,000
ETBE	<1	10	<100	5	<1	<10	<1,000	-
Butane	<10	10	<1,000	<10	<10	<100	<10,000	-
Naphthalene	7	69	<100	19	<1	<10	<1,000	300
Acetone	35	110	<1,000	<10	<10	150	<10,000	6,000
EDB (1,2 Dibromoethane)	<1	<1	<100	<1	<1	<10	<1000	0.03
EDC (1,2 Dichloroethane)	<1	<1	<100	<1	<1	<10	<1000	2
TPH	<250 [d]	2,600 [d]		2,300 [d]	2,900 [d]			-

TBA: t-Butyl alcohol
MTBE: Methyl t-butyl ether
TAME: t-Amyl methyl ether
DIPE: Diisopropyl ether
ETBA: Ethyl t-butyl ether
TPH: Total petroleum hydrocarbons (gasoline range: C6 -C 10)
d: Sample was diluted due to the presence of high levels of material.
ve: Value exceeded calibration range therefore value is an estimate
110: Concentration exceeds standard.
<100 Detection level is above standard

Table 14
Summary of Forensic Water Analytical Results: Temporary Wells, Monitoring Wells, Excavation:
Sampled 2/26-27/02 (ug/l)
North Brunswick Gulf

Sample I.D. Sample Date	MW 1 2/27/02	MW 1 [d] 2/27/02	MW 2 2/27/02	MW 2 [d] 2/27/02	MW 3 2/27/02	MW 3 [d] 2/27/02	MW 4 2/27/02	Excavation 2/27/02	Excavation [d] 2/27/02	TW 10 2/26/02	TW 10 [d] 2/26/02	TW 10 2/27/02	TW 10 [d] 2/27/02
Analyte													
Benzene	2,600 ve	7,800	350	390	3	<10	<1	140	120	840 ve	1,200	780 ve	1,000
Toluene	4,000 ve	18,000	550	650	<1	<10	1	24	15	2,700 ve	6,600 ve	2,400 ve	5,400
Ethylbenzene	1,600 ve	3,300	130	130	<1	<10	<1	15	<10	1,600 ve	3,200	1,600 ve	2,800
Xylenes	3,600 ve	10,000	460	500	<1	<10	<1	129	89	3,900 ve	12,800	3,800 ve	11,000
Total BTEX	11,800	39,100	1490	1,670	3	ND	1	308	224	9,040	23,800	8,580	20,200
TBA	3,000	<20,000	2,500	2,400	290	<2,000	450	3,700	3,700	<200	<2,000	<200	<2,000
MTBE	6,100 ve	17,000	700 ve	740	630	710	230	750 ve	880	22	22	22	20
TAME	120	140	<1	<10	<1	<10	<1	21	18	<1	<10	<1	<10
DIPE	<1	<100	<1	<10	<1	<10	<1	<1	<10	<1	<10	<1	<10
ETBE	<1	<100	2	<10	<1	<10	<1	<1	<10	<1	<10	<1	<10
Butane	120	<1000	<10	<100	<10	<100	<10	<10	<100	40	<100	54	<100
Naphthalene	780 ve	640	25	<10	<1	<10	<1	11	<10	1,100 ve	1,200	1,000 ve	840
EDB (1,2 Dibromoethane)	<1	<100	<1	<10	<1	<10	<1	<1	<10	<1	<10	NA	NA
EDC (1,2 Dichloroethane)	<1	<100	<1	<10	<1	<10	<1	<1	<10	<1	<10		
TPH (gas range)	72,000 [d]		3,400		<50		<50	740		120,000 [d]		30,000 [d]	

Table 14 (continued)

Sample I.D. Sample Date	TW 13 2/26/02	TW 13 [d] 2/26/02	TW 13 2/27/02	TW 13 [d] 2/27/02	TW 14 2/27/02	TW 14 [d] 2/27/02	TW 15 2/27/02	TW 15 [d] 2/27/02	TW 15 [d] 2/27/02	TW 16 2/27/02	TW 16 [d] 2/27/02		2019 Groundwater Standard
Analyte													
Benzene	2,100 ve	4,700	1,600 ve	2,500	890 ve	1,000	1,900 ve	4,200	4,500	1,800 ve	3,600		1
Toluene	3,800 ve	11,000 ve	3,500 ve	8,200	420	370	3,100 ve	9,000 ve	12,000	1,800 ve	3,900		600
Ethylbenzene	1,400 ve	2,500	1,400 ve	1,600	1,200 ve	1,400	1,800 ve	3,900	4,000	1,100 ve	1,600		700
Xylenes	3,900	11,900	3,900 ve	8,900	3,500 ve	7,800	4,600 ve	17,300	23,000	2,750 ve	5,800		1,000
Total BTEX	11,200	30,100	10,400	21,200	6,010	10,570	11,400	34,400	43,500	7,450	14,900		-
TBA	690	<2,000	310	<2,000	1,500	<2,000	540	<2,000	<20,000	760	<2,000		100
MTBE	1,000 ve	1,200	510	560	350	410	710 ve	720	810	330	340		70
TAME	30	20	12	<10	2	<10	25	28	<100	7	<10		-
DIPE	<1	<10	<1	<10	<1	<10	<1	<10	<100	<1	<10		20,000
ETBE	<1	<10	<1	<10	<1	<10	<1	<10	<100	<1	<10		-
Butane	120	<100	160	110	150	<100	170	<100	<1,000	270	180		-
Naphthalene	470	330	480	280	520	340	850 ve	940	680	470	430		300
EDB (1,2 Dibromoethane)	<1	<10	NA	NA	<1	<10	<1	<10	<100	<1	<10		0.03
EDC (1,2 Dichloroethane)	<1	<10	NA	NA	<1	<10	<1	<10	<100	<1	<10		2
TPH (gas range)	78,000 [d]		62,000 [d]		35,000		92,000			36,000			-

TBA: Tertiary Butyl Alcohol
NA: Not Analyzed
MTBE: Methyl Tertiary Butyl Ether
TAME: t-Amyl methyl ether
DIPE: Diisopryl ether
ETBA: Ethyl t-butyl ether
TPH: Total Petroleum Hydrocarbons
ve: Value exceeded calibration range therefore value is an estimate
d: Sample diluted due to high level of material
890: Concentration exceeds groundwater standard
<10 Detection level is above standard

Table 15
Summary of Water Sample Analytical Results from Monitoring Wells : Sampled 3/9/02 (ug/l)
North Brunswick Gulf

Sample I.D. **Sample Date**	**MW 1** **3/9/02**	**MW 2** **3/9/02**	**MW 3** **3/9/02**	**MW 4** **3/9/02**	**2019 Groundwater Standard**
Benzene	**5,300**	**220**	**19**	<1	1
Toluene	**9,100**	520	<2	<2	600
Ethylbenzene	**2,500**	130	<5	<5	700
Xylenes	**9,100**	500	<2	<3	1,000
BTEX	26,000	1,370	19	ND	
TBA	**1,300**	**910**	**360 J**	**410**	100
MTBE	**7,200**	**670**	**3,000**	**390**	70
1,1,2-Tricholorethane	<40	**4**	<2	<2	-
EDB (1,2 Dibromoethane)	NA	NA	NA	NA	0.03
EDC (1,2 Dichloroethane)	<40	**11**	<2	<2	2
Total Volatile Targets	34,500	2,954	3,379 J	800	-
TIC's	**4,490**	450	53	87	100 ea. 500 total
Inorganics (ug/l)					
Lead	<5	<5	<5	<5	-

TBA : Tertiary Butyl Alcohol
NA: Not Analyzed
MTBE: Methyl Tertiary Butyl Ether
TICs: Tentatively Identifiable Compounds
ug/l: micro grams per liter = parts per billion
J: Estimated concentration
ND: Non detectable
19: Concentration exceeds standard
<40 Detection level is above standard

Table 16
Summary of Forensic Water Analytical Results from Monitoring Wells
Sampled 3/9/02 (ug/l)
North Brunswick Gulf

Sample I.D. **Sample Date**	**MW 1** **3/9/02**	**MW 1 [d]** **3/9/02**	**MW 2** **3/9/02**	**MW 2 [d]** **3/9/02**	**MW 3** **3/9/02**	**MW 3 [d]** **3/9/02**	**MW 4** **3/9/02**	**2019 Groundwater Standard**
Analyte								
Benzene	**2,100 ve**	**9,400**	**230**	**260**	**18**	**20**	<1	1
Toluene	**2,800 ve**	**13,000**	410	480	<1	<10	<1	600
Ethylbenzene	**1,300 ve**	**3,600**	130	140	<1	<10	<1	700
Xylenes	**2,900 ve**	**10,000**	480	470	<1	<10	<1	1,000
Total BTEX	9100 ve	36,000	1,250	1,350	18	20	ND	-
TBA	**3,100**	<20,000	**2,200**	**2,300**	**1,200**	<2,000	**780**	100
MTBE	**3,900 ve**	**12,000**	**650 ve**	**790**	**2,400 ve**	**3,900**	**360**	70
TAME	88	<100	<1	<10	7	<10	2	-
DIPE	1	<100	<1	<10	<1	<10	<1	20,000
ETBE	1	<100	3	<10	5	<10	<1	-
Butane	140	<1,000	16	<100	<10	<100	<10	-
Naphthalene	**730 ve**	**930**	<22	19	1	<10	<1	300
Acetone	<10	<1,000	<10	<100	<10	<100	48	6,000
EDB (1,2 Dibromoethane)	<1	<100	<1	<10	<1	<10	<1	0.03
EDC (1,2 Dichloroethane)	<1	<100	<1	<10	<1	<10	<1	2
TPH (gas range)	45,000 [d]		3,000		110		<50	-

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TAME: t-Amyl methyl ether
DIPE: Diisopropyl ether
ETBE: Ethyl t-butyl ether
TPH: Total Petroleum Hydrocarbons
ve: Value exceeded calibration range
d: The sample was diluted.
18: Concentration exceeds standard.
<100 Detection level is above standard

Table 17
Summary of Soil Analytical Results: Samples Collecetd 12/20 to 23/2004 by Whitman
North Brunswick Gulf

Sample I.D.	N-13V	N13-1	N13-1	N13-1	N13-1	N13-2	N13-2	N7-V	N7-1	N7-2	N7-2	N7-2	N7-3	2019	2019	2019 Default IGW Soil Screening Level
Sample Date	**12/20/04**	**12/20/04**	**12/20/04**	**12/20/04**	**12/20/04**	**12/21/04**	**12/21/04**	**12/20/04**	**12/20/04**	**12/21/04**	**12/21/04**	**12/21/04**	**12/21/04**	**RDC**	**NRDC**	
Sample Depth	**12 - 12.5**	**3.5 - 4**	**7.5 - 8**	**9.5 - 10**	**15 - 15.5**	**5 - 5.5**	**9.5 - 10**	**11.5 - 12**	**8.5 - 9**	**6.5 - 7**	**10.5 - 11**	**15 - 15.5**	**6.5 - 7**	**Standard**	**Standard**	
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**			
Organics																
Benzene	0.311 J	**30.9**	**23.1**	**12.5**	0.479	ND	ND	ND	ND	**12**	ND	0.572	**12.3**	2	5	0.005
Toluene	0.755	**281 D**	173 D	114 D	ND	ND	ND	ND	ND	17.1	ND	ND	129 D	6,300	91,000	7
Ethylbenzene	0.302 J	**156 EB**	180 EB	78.2	ND	ND	ND	ND	ND	108 D	0.886	ND	87.6	7,800	110,000	13
Xylenes	1.62	**1,100 D**	1,250 D	459 D	ND	ND	ND	0.609	ND	766 D	4.31	0.352 J	611 D	12,000	170,000	19
TBA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,400	11,000	0.3
MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	110	320	0.2
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.94	ND	ND	ND	510	7,400	0.6
1,2 Dicbromoethane (EDB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.008	0.04	0.005
1,2, Dichloroethane (EDC)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9	3	0.005
Total Volatile Targets	2.988	1,567.9	1,626.1	663.7	0.479	0	0	0.609	0	908.04	5.196	0.924	839.9			
TIC's	0	1,340	1,250	664	0	0	0	0	0	1,280	10.70	0.00	1,020			
Total Volatile Targets & TICs																
in unsaturated zone per average DTW as of 4/4/17	no	yes	no	no	no	yes	no	no	no	no	no	no	no			

Sample I.D.	N7-3	N7-3	N10-S	N3-1	N3-1	N2-V	N2-V	TB-7V	TB7-1	TB7-1	TW16-1	TW16-1	TW16-1	2019	2019	2019 Default IGW Soil Screening Level
Sample Date	**12/21/04**	**12/21/04**	**12/20/04**	**12/20/04**	**12/20/04**	**12/21/04**	**12/21/04**	**12/21/04**	**12/20/04**	**12/20/04**	**12/21/04**	**12/21/04**	**12/21/04**	**RDC**	**NRDC**	
Sample Depth	**10.5 - 11**	**15 - 15.5**	**4.5 - 5**	**7.5 - 8**	**15 - 15.5**	**5.5 - 6**	**11.5 - 12**	**14 - 14.5**	**7.5 - 8**	**15.5 - 16**	**5 - 5.5**	**9.5 - 10**	**14 - 14.5**	**Standard**	**Standard**	
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**			
Organics																
Benzene	0.763	ND	ND	0.355	0.795	ND	1.13	ND	**4.66**	0.648	**14.6**	0.714	ND	2	5	0.005
Toluene	1.9	ND	0.073 J	42.8 D	0.319 J	0.59	ND	ND	55.6	0.332 J	12.4	ND	ND	6,300	91,000	7
Ethylbenzene	0.614	ND	ND	18.4 D	0.236 J	5.48	0.11 J	ND	27.8	ND	134 EB	ND	ND	7,800	110,000	13
Xylenes	2.48	ND	ND	118 EB	0.575	**35.3**	0.251 J	ND	166	0.293 J	835 D	0.098 J	ND	12,000	170,000	19
TBA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1,400	11,000	0.3
MTBE	ND	ND	ND	ND	0.196 J	ND	ND	ND	ND	ND	ND	ND	ND	110	320	0.2
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	510	7,400	0.6
1,2 Dicbromoethane (EDB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.008	0.04	0.005
1,2, Dichloroethane (EDC)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9	3	0.005
Total Volatile Targets	5.757	0	0.073	179.555	2.121	41.37	1.491	0	254.06	1.273	0	0	0			
TIC's	1.64	0	0	168	0	59.2	0	0	262	0	2,090	ND	ND			
Total Volatile Targets & TICs																
in unsaturated zone per average DTW as of 4/4/17	no	no	yes	no	no	yes	no	no	no	no	maybe	no	no			

Sample I.D.	TW16-2	TW16-2	MW-5	MW-5	MW-5	MW-5	MW-7	MW-8	MW-8	MW-9	MW-10	TRIP		2019	2019	2019 Default IGW Soil Screening Level
Sample Date	**12/21/04**	**12/21/04**	**12/23/04**	**12/23/04**	**12/23/04**	**12/23/04**	**12/21/04**	**12/22/04**	**12/22/04**	**12/22/04**	**12/22/04**	**BLANK**		**RDC**	**NRDC**	
Sample Depth	**6.5 - 7**	**9.5 - 10**	**9.5 - 10**	**13.5 - 14**	**18 - 18.5**	**22.5 - 23**	**11 - 11.5**	**2.5 - 3**	**9.5 - 10**	**2.5 - 3**	**2.5 - 3**	**12/20/04**		**Standard**	**Standard**	
Units	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**				
Organics																
Benzene	0.097 J	0.562	0.209 J	ND	ND	ND	0.569	0.487 J	ND	ND	ND	ND		2	5	0.005
Toluene	ND	ND	ND	ND	ND	ND	ND	2.76	ND	ND	0.137 J	ND		6,300	91,000	7
Ethylbenzene	0.243 J	ND	3.81	ND	ND	0.317 J	0.209 J	86.7 D	ND	ND	ND	ND		7,800	110,000	13
Xylenes	0.298 J	ND	13.8	ND	ND	ND	0.21 J	681 D	0.133 J	ND	0.152 J	ND		12,000	170,000	19
TBA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		1,400	11,000	0.3
MTBE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		110	320	0.2
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		510	7,400	0.6
1,2 Dicbromoethane (EDB)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		0.008	0.04	0.005
1,2, Dichloroethane (EDC)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.9	3	0.005
Total Volatile Targets	0	0	17.8 J	ND	ND	1.49 J	0.988	771 J	0.133	ND	0.289 J	0				
TIC's	ND	ND	275	ND	ND	23.6	0	1,150	ND	ND	ND	ND				
Total Volatile Targets & TICs																
in unsaturated zone per average DTW as of 4/4/17	no	no	no	no	no	no	no	no	no	no	no					

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TICs: Tentatively Identifiable Commands
mg/kg: Milligrams per kilogram - parts per million
14.6: Concentration Exceeds Soil Standard

RDC: Residential Direct Contact Soil Standard
NRDC: Non-residential Direct Contact Soil Standard
IGW: Impact to Groundwater Soil Standard
J: Estimated Value
Samles collected in saturated zone should not be compared to IGW standards

Table 18
Summary of Water Sample Analytical Results from Monitoring Wells : Sampled 1/11 and 12/05 by Whitman
North Brunswick Gulf

Sample I.D. **Sample Date**	**MW 1** **1/11/05** **(ug/l)**	**MW 2** **1/11/05** **(ug/l)**	**MW 3** **1/11/05** **(ug/l)**	**MW 4** **1/12/05** **(ug/l)**	**MW 5** **1/11/05** **(ug/l)**	**MW 6** **1/11/05** **(ug/l)**	**MW 7** **1/11/05** **(ug/l)**	**MW 8** **1/12/05** **(ug/l)**	**MW 9** **1/12/05** **(ug/l)**	**MW 10** **1/12/05** **(ug/l)**	**Trip Blank** **(ugl)**	**Groundwater** **Standard**
Benzene	**1,290**	**474**	0.659	ND	**122**	**385**	**5,330**	**170**	ND	ND	ND	1
Toluene	**5,160**	**2,320**	ND	ND	53.6	**1,210**	**12,600 D**	64.9	ND	0.526	ND	600
Ethylbenzene	**1,030**	**992**	ND	ND	526	313	**3,790**	315	ND	ND	ND	700
Xylenes	**6,590**	**5,240**	ND	ND	**1,270**	**4,110**	**25,100**	**2,190**	ND	ND	ND	1,000
TBA	**540**	**833**	**732 D**	**2,190 D**	ND	ND	ND	89.8	51.5	34.5	ND	100
MTBE	**753**	**223**	**116**	**865**	**86.2**	**483**	**254**	**75.5**	36.7	2.09	ND	70
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
1,1,2 Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Volatile Targets	15,400	10,100	849	3,060	2,060	6,500	47,100	2,910	88.2	37.1	ND	-
TIC's	**21,100**	**18,800**	**849**	**3,060**	**14,800**	**13,000**	**62,600**	**4,980**	88.2	45.8	ND	500 total
Inorganics (ug/l)												
Lead	NA	NA	NA	2.77	NA	NA	NA	NA	ND	NA	NA	5

TBA : Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TICs: Tentatively Identifiable Compounds
ug/l: micro grams per liter = parts per billion
ND : None detected
122: Concnetration exceeds NJDEP standard
NA: Not analyzed

Table 19
Summary of Groundwater Samples Collected December 5 and 6, 2007 by Redhawk
North Brunswick Gulf - North Brunswick, NJ

Well Number	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	TBA (ug/l)	Total Targeted VOCs (ug/l)	Total TICs (ug/l)	Total VOCs & TICs (ug/l)
MW 1 *	**3,700**	**14,000**	**1,900**	**10,000**	**1,600**	<1,000*	**31,200**	**3,500**	**34,700**
MW 2 *	**470**	**1,800**	**850**	**3,600**	**71**	<1,000*	**6,791**	**4,730**	**11,521**
MW 3 *	**2.2**	<5.0	<5.0	<10	**2,800**	<100	**2,802.2**	124	**2,926**
MW 4	<1.0	<5.0	<5.0	<10	**120**	<100	120	9.1	129.1
MW 5 *	**23**	160	350	840	<10	<200*	**1,373**	**4,110**	**5,483**
MW 6 *	**570**	480	270	710	**240**	<200*	**2,270**	**1,235**	**3,505**
MW 7 *	**5,200**	**5,900**	**3,500**	**21,000**	**390**	<2,000*	**35,990**	**7,950**	**43,940**
MW 8	**170**	16	150	330	**370**	<100	**1,036**	**472**	**1,508**
MW 9	<1.0	<5.0	<5.0	<10	27	<100	27	<5.0	27
MW 10	<1.0	<5.0	<5.0	<10	<5.0	<100	ND	<5.0	ND
RW 1	<1.0	<5.0	<5.0	<10	7.5	<100	7.5	<5.0	7.5
Trip Blank	<1.0	<5.0	<5.0	<10	<5.0	<100	ND	<5.0	ND
Class IIA GWQS	1	600	700	1,000	70	100	1,000	100/500	1,000

23: Exceed groundwater standard.
ND: non detected
MTBE: Methyl tertiary butyl ether
TIC: Tentatively Identifiable Compound
*: Due to matrix interference and or sample dilution the detection limits for this sample have been elevated.

Table 20: Water Level 12/5/07 Data

WELL ID	WELL DEPTH from TOC (feet)	T.O.C. ELEVATION (feet)	Depth to Screen from TOC (feet)	DTW (feet)	DTP (feet)	PRODUCT THICKNESS (feet)	PRODUCT ELEVATION (feet)	PRODUCT GRAVITY	HYDRO. EQUIV.	CORRECTED DTW (feet)	CORRECTED WATER ELEVATION (feet)
MW 1	20.10 mud	109.95	5	6.97							102.98
MW 2	20.29	109.25	5	5.58							103.67
MW 3	20.25	105.65	5	5.35							100.30
MW 4	21.08 mud	107.42	6.03	3.05							104.37
MW 5	19.43	110.27		7.41							102.86
MW 6	19.48	110.02		7.08							102.94
MW 7	19.37	109.83		6.81							103.02
MW 8	18.20 mud	107.70		3.32							104.38
MW 9	18.82	105.81		2.46							103.35
MW 10	19.32	106.02		1.48							104.54
RW 1	12.60	109.12	5	6.04							103.08

T.O.C. : Top of Casing DTW: Depth to Top of Water DTP: Depth to Top of Product

Table 21
Summary of Soil Analytical Results (mg/kg)
North Brunswick Gulf

Sample I.D. **Sample Depth** **Sample Date**	**F 1** **9 - 9.5'** **8/25/08**	**F 2** **9 - 9.5'** **8/25/08**	**F 2** **12 - 12.5'** **8/25/08**	**F 3** **8.5 - 9'** **8/25/08**	**F 4** **6.5 - 7'** **8/25/08**	**F 4** **9 - 9.5'** **8/25/08**	**F 5** **8 - 9'** **8/26/08**	**F 5** **11 - 12'** **8/26/08**	**F 5** **13 -14'** **8/26/08**	**F 5** **15 - 16'** **8/26/08**	**F 5** **16 - 17'** **8/26/08**	**F 5** **18 - 19'** **8/25/08**	**F 5** **19 - 20'** **8/26/08**	**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019 Default** **IGW** **Screening** **Level**
Benzene	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.66	2	0.73	1.1	0.91	2	**2.3**	2	5	0.005
Toluene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.8	29	0.56	6.3	<0.1	30	<0.2	6,300	91,000	7
Ethylbenzene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	13.00	16.00	1.60	21.0	<0.1	19.00	<0.2	7,800	110,000	13
Xylenes	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	49.5	100	5.46	78	0.29	111	0.58	12,000	170,000	19
TBA	<6	<6	<6	<6	<6	<6	<12	<12	<12	<12	<6	<12	<12	1,400	11,000	0.3
MTBE	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.05	<0.2	<0.2	110	320	0.2
EDC	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.2	<0.2	<0.1	<0.2	<0.2	0.9	3	0.005
EDB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.008	0.04	0.005
Acetone	<1	<1	<1	<1	<1	<1	<2	<2	<2	<2	0.51	<2	<2	70,000	-	19
Naphthalene	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**8.3**	**7.9**	2.2	**12**	<0.1	**7.7**	<0.2	6	17	25
VOC TICs	NF	NF	NF	NF	NF	NF	281	203	29.1	410	NF	295	NF			
TPH as gasoilne	<2	<2	<2	<2	<2	<2	84	840	32	330	6	420	3			
in unsaturated zone per average DTW as of 4/4/17	no	no	no	no	no	no	no	no	no	no	no	no	no			

Sample I.D. **Sample Depth** **Sample Date**	**F 7** **1 - 2'** **8/26/08**	**F 7** **2 - 3'** **8/26/08**	**F 7** **6 - 7'** **8/26/08**	**F 7** **7.5 - 8'** **8/26/08**	**F 8** **7 - 8'** **8/26/08**	**F 8** **8 - 9'** **8/26/08**	**F 8** **9 - 10'** **8/26/08**	**F 9** **6 - 7'** **8/26/08**	**F 9** **9 - 10'** **8/26/08**	**F 9** **13 - 14'** **8/26/08**				**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019 Default** **IGW** **Screening** **Level**
Benzene	<0.06	<0.06	<0.03	<0.06	<0.12	<0.12	<0.15	<0.3	<0.6	<0.3				2	5	0.005
Toluene	<0.1	<0.1	<0.05	<0.1	<0.2	<0.2	<0.25	<0.5	<1	<0.5				6,300	91,000	7
Ethylbenzene	<0.1	<0.1	<0.05	<0.1	0.3	0.9	<0.25	<0.5	<1	<0.5				7,800	110,000	13
Xylenes	<0.2	<0.2	<0.1	<0.2	1.7	4.6	<0.5	<1.0	<2	<1				12,000	170,000	19
TBA	<6	<6	<3	<6	<12	<12	<15	<30	<60	<30				1,400	11,000	0.3
MTBE	<0.1	<0.1	<0.05	<0.1	<0.2	<0.2	<0.25	<0.5	<1	<0.5				110	320	0.2
EDC	<0.1	<0.1	<0.1	<0.1	<0.2	<0.2	<0.25	<0.5	<1	<0.5				0.9	3	0.005
EDB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA				0.008	0.04	0.005
Acetone	<1	<1	<0.5	<1	<2	<2	<2.5	<5	<10	<5				70,000	-	19
Naphthalene	<0.1	<0.1	<0.1	<0.1	0.51	1.5	<0.25	<0.5	<1	<0.5				6	17	25
VOC TICs	NF	NF	2.1	NF	30.0	77.1	NF	NF	NF	NF						
TPH as gasoilne	<2	<2	<2	<2	98	250	<2	<2	<2	3						
in unsaturated zone per average DTW as of 4/4/17	yes	yes	maybe	no	no	no	no	maybe	no	no						

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
TPH: Total Petroleum Hydrocarbons
NF: Not found
2.3 : concentration exceeds residential direct contact standard.
RDC: Residential Direct Contact Soil Standard
NRDC: Non-residential Direct Contact Soil Standard
IGW: Impact to Groundwater Soil Standard
EDC: 1,2-Dichloroethane
NA: Not available

Note: Samples analyzed by F&B

<0.06 Detection limit above screening level.

Table 22: Summary of Groundwater Samples analyzed by F&B 8/26/08 (ug/l)									
Sample I.D. Sample Date	**F 1 8/26/08**	**F 2 8/26/08**	**F 3 8/26/08**	**F 4 8/26/08**	**F 6 8/26/08**	**F 7 8/26/08**	**Trip**	**2019 Groundwater Standard**	**2019 Groundwater Screening Level for Vapor Intrusion**
Analyte									
Benzene	<1	<1	**690 ve**	<1	**1.9**	**490 ve**	<1	1	20
Toluene	<1	<1	4.8	<1	<1	15	<1	600	330,000
Ethylbenzene	<1	<1	5	<1	<1	31	<1	700	700
Xylenes	<2	<2	58	<2	<2	112.1	<2	1,000	8,600
Acetone	50	34	<10	<10	<10	<10	<10	6,000	21,000,000
TBA	**2,500 ve**	**740**	**420**	<50	<50	**460**	<50	100	-
MTBE	**300ve**	49	70	<1	<1	**210ve**	<1	70	900,000
EDC	<1	<1	**3.4**	<1	<1	<1	<1	2	3
Methyl Chloride	<3	<3	<3	<3	<3	<3	7.2 lc	3	920
Total VOC Target Compounds	2,850	823	1,251.20	ND	1.9	1,318.10	7.2 lc		
VOC Tics	247.8	48.3	**646**	NF	NF	**1002**	NF	500 total	

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
ve: Value exceeded calibration range therefore value is an estimate
lc: The presence of this compound is likely due to laboratory contamination.
420 : Concentration exceeds NJDEP standard
NF: Not foumd
ND: Non detectable

Table 23:
Summary of Soil Analytical Results for Samples Collected on 2/18 19/09: (mg/kg)
Analyzed by FB

Sample I.D. **Sample Depth** **Sample Date**	**F 11** **4'** **2/18/09**	**F 11** **8'** **2/18/09**	**F 17** **4-5'** **2/19/09**	**F 17** **13-14'** **2/19/09**	**F 18** **10-11'** **2/19/09**	**F 19** **10-12'** **2/19/09**	**F 20** **5-6'** **2/19/09**	**F 20** **10-11'** **2/19/09**	**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019 Default** **IGW** **Screening** **Level**
Benzene	NA	NA	**0.13**	<0.03	<0.03	0.038	**10**	0.73	2	5	0.005
Toluene	NA	NA	3.4	<0.05	<0.05	<0.05	**67**	10	6,300	91,000	7
Ethylbenzene	NA	NA	2.0	0.16	<0.05	<0.05	**63**	6.8	7,800	110,000	13
Xylenes	NA	NA	16	<0.1	<0.1	0.166	**430 ve**	33 ve	12,000	170,000	19
TBA	NA	NA	<3.0	<3.0	<3.0	<3.0	<30	<6.0	1,400	11,000	0.3
MTBE	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	110	320	0.2
EDC	NA	NA	<0.05	<0.05	<0.05	<0.05	<0.5	<0.1	0.9	3	0.005
EDB	NA	NA	NA	NA	NA	NA	NA	NA	0.008	0.04	0.005
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	70,000	-	19
Naphthalene	NA	NA	1.6	0.11	<0.05	<0.05	**28**	2.4	6	17	25
VOC TICs	NA	NA	45.3	3	ND	ND	1,240	58			
TPH as gasoilne	<2.0	<2.0	NA	NA	<2.0	<2.0	NA	NA			
Lead	NA	NA	6.97	7.19	2.87	1.34	11.1	3.97	400	800	
TOC	0.125%	0.146%	NA	NA	0.114%	0.145%	NA	NA			
in unsaturated zone per average DTW as of 4/4/17	no	no	yes	no	no	no	yes	no			
Sample I.D. **Sample Depth** **Sample Date**	**F 21** **7-8'** **2/19/09**	**F 23** **9-10'** **2/19/09**	**F 23** **13-14'** **2/19/09**	**F 24** **3-4'** **2/19/09**	**F 24** **9-10'** **2/19/09**	**Method** **Blank**			**2019** **RDC** **Standard**	**2019** **NRDC** **Standard**	**2019 Default** **IGW** **Screening** **Level**
Benzene	NA	<0.3	0.41	**2.3**	<0.03	<0.03			2	5	0.005
Toluene	NA	25	<0.05	0.95	<0.05	<0.05			6,300	91,000	7
Ethylbenzene	NA	38	<0.05	4.80	<0.05	<0.05			7,800	110,000	13
Xylenes	NA	199 ve	<0.1	17.3	<0.1	<0.1			12,000	170,000	19
TBA	NA	<30	<3.0	<3.0	<3.0	<3.0			1,400	11,000	0.3
MTBE	NA	<0.5	<0.05	<0.05	<0.05	<0.05			110	320	0.2
EDC	NA	<0.5	<0.05	<0.05	<0.05	<0.05			0.9	3	0.005
EDB	NA	NA	NA	NA	NA	NA			0.008	0.04	0.005
Acetone	NA	NA	NA	NA	NA	NA			70,000	-	19
Naphthalene	NA	**14**	<0.05	**9.7**	0.1				6	17	25
VOC TICs	NA	456	ND	139.6	1.71	ND					
TPH as gasoilne	<2.0	NA	NA	NA	NA	<2.0					
Lead	NA	5.83	16.8	**1,490**	5.42	<1.0			400	800	
TOC	0.079%	NA	NA	NA	NA	NA					
in unsaturated zone per average DTW as of 4/4/17	no	no	no	**yes**	no						

NA: Not Analyzed
ND: Non Detectable
ve: The value reported exceeded the calibration range established for the analyte
TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
TOC: Total Organic Carbon
TICs: Tentatively Identifiable Compounds
2.3 : Exceeds old and or standard. New site specific soil to groundwater standards have to be developed.
Samples collected in saturated zone should not be compared to IGW standards
<3.0 Detection level above standard

Table 24:
Summary of Groundwater Samples Collected 2/19/09: (ug/l)
Analyzed by Fand B

Sample I.D. Sample Date	F 10 2/18/09	F 13 2/19/09	F 14 2/19/09	F 15 2/19/09	F 16 2/19/09	F 17 2/19/09	F 18 2/19/09	F 20 2/19/09	Trip Blank	2019 Groundwater Standard	2019 Groundwater Screening Level for Vapor Intrusion
Analyte											
Benzene	<1.0	<1.0	<1.0	**38**	<1.0	**270** ve	**35**	**4,200**	<1.0	1	20
Toluene	<1.0	<1.0	<1.0	15	<1.0	380 ve	<1.0	**20,000**	<1.0	600	330,000
Ethylbenzene	<1.0	<1.0	<1.0	1.3	<1.0	220 ve	46	**3,700**	<1.0	700	700
Xylenes	<2.0	<2.0	<2.0	52	<2.0	**1,240** ve	5.9	**20,800**	<2.0	1,000	8,600
Acetone	NA	NA	NA	NA	NA	NA	NA	NA	NA	6,000	21,000,000
TBA	<50 ca	<50 ca	<50 ca	**210** ca	<50 ca	**300** ca	**210** ca	<5,000 ca	<50 ca	100	-
MTBE	<1.0	<1.0	3.4	23	<1.0	9.2	19	<100	<1.0	70	900,000
EDC	<1.0	<1.0	<1.0	**3.1**	<1.0	**3.7**	<1.0	<100	<1.0	2	3
Methyl Chloride	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<300	<3.0	3	920
Total VOC Target Compounds	ND	ND	3.4	342.4	ND	2,422.9	315.9	48,700	ND		
VOC Tics	ND	ND	ND	**546**	ND	**3,310**	**421**	**19,600**	ND	500 total	

TBA: Tertiary Butyl Alcohol
MTBE: Methyl Tertiary Butyl Ether
EDC: 1,2-Dichloroethane
ve: The value reported exceeded the calibration range established for the analyte.
ca: The calibration results for this range fell outside of acceptance criteria.
421 : Concentration exceeds NJDEP standard
ND: Non detectable

Table 25: Water Level 3-27-09 Data

WELL ID	WELL DEPTH from TOC (feet)	T.O.C. ELEVATION (feet)	Depth to Screen from TOC (feet)	DTW (feet)	DTP (feet)	PRODUCT THICKNESS (feet)	PRODUCT ELEVATION (feet)	PRODUCT GRAVITY	HYDRO. EQUIV.	CORRECTED DTW (feet)	CORRECTED WATER ELEVATION (feet)
MW 1	20.10 mud	109.95	5	4.47							105.48
MW 2	20.29	109.25	5	4.86							104.39
MW 3	20.25	105.65	5	1.82							103.83
MW 4	21.08 mud	107.42	6.03	3.45							103.97
MW 5	19.43	110.27		4.92							105.35
MW 6	19.48	110.02		4.58							105.44
MW 7	19.37	109.83		4.29							105.54
MW 8	18.20 mud	107.70		1.78							105.92
MW 9	18.82	105.81		1.71							104.10
MW 10	19.32	106.02		1.43							104.59
RW 1	12.60	109.12	5	3.52							105.60

T.O.C. : Top of Casing DTW: Depth to Top of Water DTP: Depth to Top of Product

Table 26
Summary of Groundwater Samples Collected October 19 and 20, 2009
North Brunswick Gulf - North Brunswick, NJ

Well Number	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	TBA (ug/l)	Acetone (ug/l)	2-Butanone (ug/l)	Chloroethane (ug/l)	2-Hexanone (ug/l)	4-Methyl-2-pentanone	Total Targeted VOCs (ug/l)	Total TICs (ug/l)	Total VOCs & TICs (ug/l)
MW 1	**4,500**	**21,000**	**2,900**	**16,000**	**730**	**290**	76	27	<2	<10	<10	**45,523**	**3,920**	**49,443**
MW 2	**530**	**1,700**	**890**	**3,900**	**96**	**820**	<50	38	3.4	11	<10	**7,988**	**4,440**	**12,428**
MW 3	**1.7**	<2	<2	<10	**2,000**	**6,300**	<50	<10	<2	<10	<10	**8,302**	17	**8,319**
MW 4	<1	<2	<2	<10	**150**	**810**	<50	<10	<2	<10	<10	960	<8	960
MW 5	**120**	17	190	340	<2	<100	<50	<10	<2	<10	<10	667	**4,900**	**5,567**
MW 6	**1,800**	**2,300**	**870**	**3,300**	**470**	**340**	<50	21	<2	<10	<10	**9,101**	**3,590**	**12,691**
MW 7	**4,600**	**6,500**	**3,400**	**21,000**	**390**	**380**	150	51	<2	26	25	**36,522**	**4,437**	**40,959**
MW 8	**32**	2.2	17	12	**280**	**340**	<50	<10	<2	<10	<10	683	44.5	728
MW 9	<1	<2	<2	<10	12	<100	<50	<10	<2	<10	<10	12	<8	12
MW 10	<1	<2	<2	<10	<2	<100	<50	<10	<2	<10	<10	0	<8	0
MW 11	<1	<2	<2	<10	<2	<100	<50	<10	<2	<10	<10	0	<8	0
MW 12	<1	<2	10	15	<2	<100	<50	<10	<2	<10	<10	25	280	305
MW 13	<1	<2	<2	<10	7.7	<100	<50	<10	<2	<10	<10	8	<8	8
MW 14	<1	<2	<2	<10	<2	<100	<50	<10	<2	<10	<10	0	<8	0
MW 15	<1	<2	<2	<10	<2	<100	<50	<10	<2	<10	<10	0	<8	0
MW 16	<1	<2	<2	<10	3.7	<100	<50	<10	<2	<10	<10	4	<8	4
RW 1	**9.0**	<2	<2	<10	6.5	<100	<50	<10	<2	<10	<10	16	29.0	45
Trip Blank	<1	<2	<2	<10	<2	<100	<50	<10	<2	<10	<10	0	<8	0
Class IIA GWQS	1	600	700	1,000	70	100	6,000	300	5	40	-	1,000	500	1,000
Groundwater Screening Level for Vapor Intrusion	20	330,000	700	8,600	580	-	21,000,000	2,500,000	-	-	900,000			

Shaded numbers exceed groundwater standard.
Samples analyzed by Test America
MTBE: Methyl tertiary butyl ether
TBA: Teriary butyl alcohol
TIC: Tentatively Identifiable Compound

Table 27: Water Level 10/19/09 Data

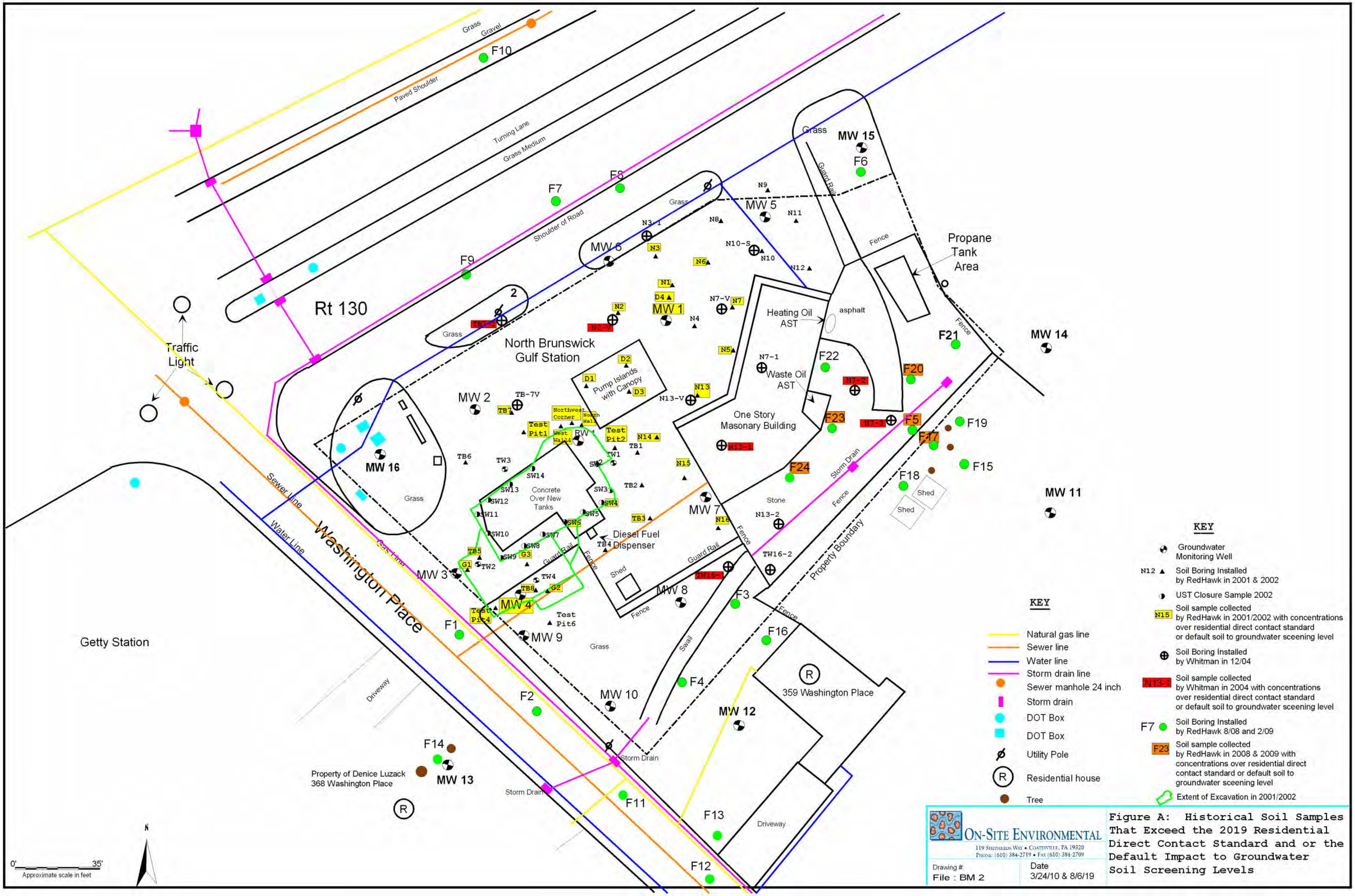
WELL ID	WELL DEPTH from TOC (feet)	T.O.C. ELEVATION (feet)	Depth to Screen from TOC (feet)	DTW (feet)	DTP (feet)	PRODUCT THICKNESS (feet)	PRODUCT ELEVATION (feet)	PRODUCT GRAVITY	HYDRO. EQUIV.	CORRECTED DTW (feet)	CORRECTED WATER ELEVATION (feet)
MW 1	20.10 mud	109.95	5	6.38							103.57
MW 2	20.29	109.25	5	5.33							103.92
MW 3	20.25	105.65	5	2.77							102.88
MW 4	21.08 mud	107.42	6.03	3.59							103.83
MW 5	19.43	110.27		7.00							103.27
MW 6	19.48	110.02		6.54							103.48
MW 7	19.37	109.83		6.21							103.62
MW 8	18.20 mud	107.70		2.46							105.24
MW 9	18.82	105.81		3.88							101.93
MW 10	19.32	106.02		8.39							97.63
MW11	19.10	106.24	4.10	7.41							98.83
MW12	19.09	106.33	4.09	3.87							102.46
MW13	19.05	105.79	4.05	3.18							102.61
MW14	18.54 mud	106.47	3.59	0.10							106.37
MW15	17.53	109.49	2.53	6.49							103.00
MW16	18.65	108.72	3.68	4.09							104.63
RW 1	12.60	109.12	5	5.33							103.79

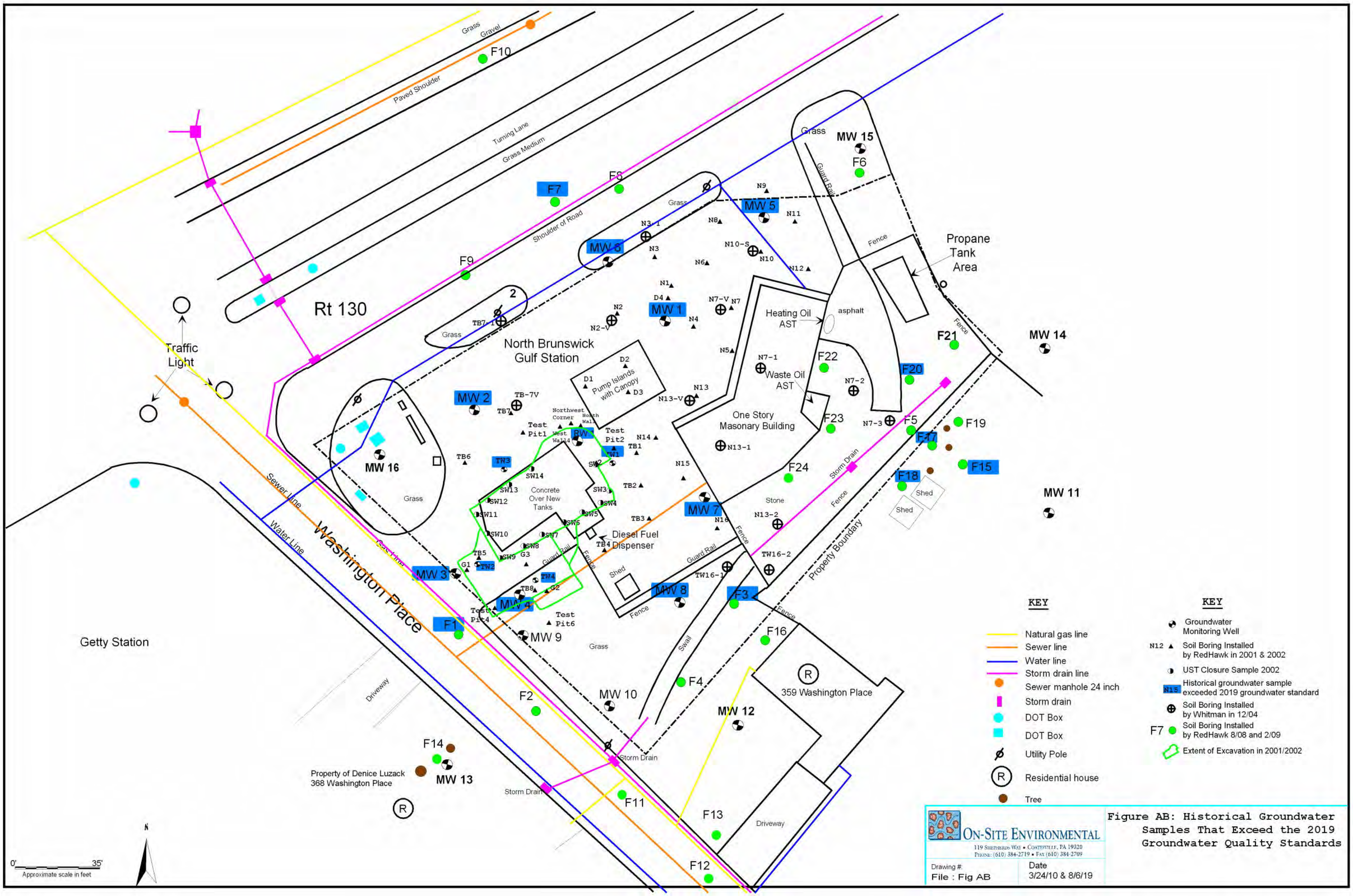
T.O.C. : Top of Casing DTW: Depth to Top of Water DTP: Depth to Top of Product

Table 28: Water Level 11-25-09 Data

WELL ID	WELL DEPTH from TOC (feet)	T.O.C. ELEVATION (feet)	Depth to Screen from TOC (feet)	DTW (feet)	DTP (feet)	PRODUCT THICKNESS (feet)	PRODUCT ELEVATION (feet)	PRODUCT GRAVITY	HYDRO. EQUIV.	CORRECTED DTW (feet)	CORRECTED WATER ELEVATION (feet)
MW 1	20.10 mud	109.95	5	5.97							103.98
MW 2	20.29	109.25	5	4.92							104.33
MW 3	20.25	105.65	5	4.13							101.52
MW 4	21.08 mud	107.42	6.03	2.18							105.24
MW 5	19.43	110.27		6.40							103.87
MW 6	19.48	110.02		6.07							103.95
MW 7	19.37	109.83		5.82							104.01
MW 8	18.20 mud	107.70		2.99							104.71
MW 9	18.82	105.81		2.64							103.17
MW 10	19.32	106.02		1.52							104.50
MW11	19.10	106.24	4.10	5.52							100.72
MW12	19.09	106.33	4.09	3.09							103.24
MW13	19.05	105.79	4.05	0.68							105.11
MW14	18.54 mud	106.47	3.59	0.94							105.53
MW15	17.53	109.49	2.53	5.79							103.70
MW16	18.65	108.72	3.68	3.23							105.49
RW 1	12.60	109.12	5	5.11							104.01

T.O.C. : Top of Casing DTW: Depth to Top of Water DTP: Depth to Top of Product


Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
F7
F8
Shoulder of Road
Rt 130
F9
Traffic Light
MW 6
MW 5
MW 15
F6
Grass
Guard Rail
Fence
Propane Tank Area
N9
N11
N8
N3-1
N10-S
N10
N12
N3
N6
N1
D4
N7-V
N7
MW 1
N4
N2
N2-V
Grass
North Brunswick Gulf Station
Heating Oil AST
asphalt
F21
MW 14
N5
D2
D1
Pump Islands with Canopy
D3
N7-1
F22
Waste Oil AST
F20
N7-2
N13
N13-V
MW 2
TB-7V
TB7
One Story Masonary Building
F23
N7-3
F5
F19
F17
Northwest Corner
North Wall
Test Pit1
Test Wall4
RW 1
Test Pit2
N14
TB1
TW1
SW2
TB6
TW3
SW14
N15
N13-1
F24
Storm Drain
F15
SW13
Concrete Over New Tanks
TB2
SW3
SW4
SW12
SW11
SW5
MW 7
N16
Stone
N13-2
F18
Shed
Shed
MW 11
SW10
SW7
TB3
Diesel Fuel Dispenser
TB4
SW9
SW8
G3
TB5
G1
TW2
Guard Rail
Fence
Shed
TW16-2
TW16-1
MW 3
TW4
TB8
G2
MW 8
F3
Property Boundary
MW 4
Test Pit4
Test Pit6
F1
MW 9
Grass
Swale
F16
Getty Station
Sewer Line
Water Line
Gas Line
Washington Place
Driveway
F4
F2
MW 10
MW 12
R
359 Washington Place
F14
Property of Denice Luzack
368 Washington Place
MW 13
R
Storm Drain
F11
F13
Driveway
F12
N
0'
35'
Approximate scale in feet
KEY
Natural gas line
Sewer line
Water line
Storm drain line
Sewer manhole 24 inch
Storm drain
DOT Box
DOT Box
Utility Pole
Residential house
Tree
KEY
Groundwater Monitoring Well
N12 Soil Boring Installed by RedHawk in 2001 & 2002
UST Closure Sample 2002
N15 Soil sample collected by RedHawk in 2001/2002 with concentrations over residential direct contact standard or default soil to groundwater sceening level
Soil Boring Installed by Whitman in 12/04
N13-1 Soil sample collected by Whitman in 2004 with concentrations over residential direct contact standard or default soil to groundwater sceening level
F7 Soil Boring Installed by RedHawk 8/08 and 2/09
F23 Soil sample collected by RedHawk in 2008 & 2009 with concentrations over residential direct contact standard or default soil to groundwater sceening level
Extent of Excavation in 2001/2002
ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709
Drawing #:
File : BM 2
Date
3/24/10 & 8/6/19
Figure A: Historical Soil Samples That Exceed the 2019 Residential Direct Contact Standard and or the Default Impact to Groundwater Soil Screening Levels



ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: File : Fig AB

Date 3/24/10 & 8/6/19

Figure AB: Historical Groundwater Samples That Exceed the 2019 Groundwater Quality Standards

B:	474 ppb
T:	2,320 ppb
EB:	992 ppb
X:	5,240 ppb
TBA:	833 ppb
MTBE:	223 ppb
TICs:	18,800 ppb

B:	1,290 ppb
T:	5,160 ppb
EB:	1,030 ppb
X:	6,590 ppb
TBA:	540 ppb
MTBE:	753 ppb
TICs:	21,100 ppb

B:	385 ppb
T:	1,210 ppb
EB:	313 ppb
X:	4,110 ppb
TBA:	ND
MTBE:	483 ppb
TICs:	13,000 ppb

B:	122 ppb
T:	53.6 ppb
EB:	526 ppb
X:	1,270 ppb
TBA:	ND
MTBE:	86.2 ppb
TICs:	14,800 ppb

B:	0.659 ppb
T:	ND
EB:	ND
X:	ND
TBA:	732 ppb
MTBE:	116 ppb
TICs:	849 ppb

B:	ND
T:	ND
EB:	ND
X:	ND
TBA:	2,190 ppb
MTBE:	856 ppb
TICs:	3,060 ppb

B:	ND
T:	ND
EB:	ND
X:	ND
TBA:	51.5 ppb
MTBE:	36.7 ppb
TICs:	88.2 ppb

B:	ND
T:	0.526
EB:	ND
X:	ND
TBA:	34.5 ppb
MTBE:	2.09 ppb
TICs:	45.8 ppb

B:	5,330 ppb
T:	12,600 ppb
EB:	3,790 ppb
X:	25,100 ppb
TBA:	ND
MTBE:	254 ppb
TICs:	62,600 ppb

B:	170 ppb
T:	64.9 ppb
EB:	315 ppb
X:	2,190 ppb
TBA:	89.8 ppb
MTBE:	75.5 ppb
TICs:	4,980 ppb

Grass Medium
Rt 130
Shoulder of Road
Grass
Guard Rail
Grass
Fence
Propane Tank Area
MW 5
MW 6
Asphalt
MW 1
Grass
North Brunswick Gulf Station
asphalt
Fence
Traffic Light
Pump Islands with Canopy
Waste Oil AST
Storm Drain
MW 2
One Story Masonary Building
Property Boundary
RW 1
Grass
Concrete over Tanks
Asphalt
MW 7
Storm Drain
Fence
Stone
Diesel Fuel Dispenser
Washington Place
MW 3
Guard Rail
Guard Rail
Fence
MW 4
MW 8
MW 9
Grass
Fence
Fence
Swail
Key
Groundwater Monitoring Well
MW 10
0'
45'
Approximate scale in feet
Storm Drain

Source: RedHawk Draft SI Report
Note: Samples were collected by the Whitman Co.

ON-SITE ENVIRONMENTAL
119 Stephens Way • Coatesville, PA 19320
(800) 384-2719 • Fax (610) 384-2709
Drawing # File: Fig 8 Fig 8 GWJA05
Date 1/2018

Figure B: Concentrations in Groundwater 1/11&12/05
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

B: 470 ppb
T: 1,800 ppb
EB: 850 ppb
X: 3,600 ppb
MTBE: 71 ppb
TBA: <1,000
TICs: 4,730 ppb

B: <1 ppb
T: <5 ppb
EB: <5 ppb
X: 10 ppb
MTBE: 7.5 ppb
TBA: <1,000
TICs: <5 ppb

B: 3,700 ppb
T: 14,000 ppb
EB: 1,900 ppb
X: 10,000 ppb
MTBE: 1,600 ppb
TBA: <1,000 ppb
TICs: 3,500 ppb

B: 570 ppb
T: 480 ppb
EB: 270 ppb
X: 710 ppb
MTBE: 240 ppb
TBA: <200
TICs: 1,235 ppb

B: 23 ppb
T: 160 ppb
EB: 350 ppb
X: 840 ppb
MTBE: <10ppb
TBA: <200
TICs: 4,110 ppb

Grass Medium

Rt 130

Shoulder of Road

Grass

Grass

Guard Rail

Fence

Propane Tank Area

MW 5

MW 6

Asphalt

MW 1

Grass

North Brunswick Gulf Station

Traffic Light

Pump Islands with Canopy

asphalt

Waste Oil AST

Fence

Storm Drain

Property Boundary

MW 2

RW 1

One Story Masonary Building

Grass

Concrete over Tanks

Asphalt

MW 7

Storm Drain

Fence

Stone

Diesel Fuel Dispenser

Guard Rail

Guard Rail

Fence

MW 3

MW 4

MW 8

MW 9

Grass

Fence

Swail

Fence

Washington Place

MW 10

Storm Drain

B: 2.2 ppb
T: <5 ppb
EB: <5 ppb
X: <10 ppb
MTBE: 2,800 ppb
TBA: <100
TICs: 124 ppb

All compounds were non-detect except
MTBE: 120 ppb
TICs: 9.1 ppb

All compounds were non-detect except
MTBE: 27 ppb

B: 170 ppb
T: 16 ppb
EB: 150 ppb
X: 330 ppb
MTBE: 370 ppb
TBA: <100
TICs: 472 ppb

All compounds were non-detect

B: 5,200 ppb
T: 5,900 ppb
EB: 3,500 ppb
X: 21,000 ppb
MTBE: 390 ppb
TBA: <2,000 ppb
TICs: 7,950 ppb

Key

Groundwater Monitoring Well

0' 45'

Approximate scale in feet

Source: RedHawk draft SI report

ON-SITE ENVIRONMENTAL

Drawing File: Fig 8 Fig 9 GWDe07

Date 1/2018

Figure C Concentrations in Groundwater 12/5&6/07
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Rt 130

Grass Medium

Shoulder of Road

Grass

Guard Rail

Grass

Fence

Propane Tank Area

MW 5
(23)

MW 6
(570)

1

1,000

Asphalt

Grass

MW 1
(3,700)

asphalt

Fence

Traffic Light

Pump Islands with Canopy

Waste Oil AST

Storm Drain

MW 2
(470)

One Story Masonary Building

RW 1
(<1.0)

Storm Drain

Fence

Property Boundary

Grass

Concrete over Tanks

Asphalt

MW 7
(5,200)

Stone

Diesel Fuel Dispenser

Fence

Washington Place

MW 3
(2.2)

Guard Rail

Guard Rail

MW 4
(<1.0)

MW 8
(170)

MW 9
(<1.0)

Grass

Fence

Fence

Swail

MW 10
(<1.0)

Storm Drain

Key

MW 1	Groundwater Monitoring Well
(23)	Benzene Concentration in Groundwater (ug/l)
—1,000—	1,000 ug/l contour line, dashed where approximated
—1—	1ug/l contour line, dashed where approximated

0' 45'

Approximate scale in feet

Source:Draft SI report 2012

ON-SITE ENVIRONMENTAL

Drawing File : Fig 8 Fig 10 B2DE07

Date 1/2018

Figure D Benzene in Groundwater 12/5&6/07

North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Rt 130

Grass Medium

Shoulder of Road

Grass

Guard Rail

Fence

Propane Tank Area

MW 5 (<10)

MW 6 (240)

Asphalt

Grass

MW 1 (1,600)

asphalt

Fence

Traffic Light

Pump Islands with Canopy

Waste Oil AST

Storm Drain

MW 2 (71)

70

One Story Masonary Building

RW1 (7.5)

Grass

Concrete over Tanks

Asphalt

MW 7 (390)

Storm Drain

Fence

Property Boundary

Stone

Diesel Fuel Dispenser

Fence

Washington Place

MW 3 (2,800)

Guard Rail

Guard Rail

MW 4 (120)

MW 8 (370)

Grass

Fence

Fence

MW 9 (27)

Swell

MW 10 (<5)

Storm Drain

N

0' 45'

Approximate scale in feet

Key

MW 1	Groundwater Monitoring Well
(71)	MTBE Concentration in Groundwater (ug/l)
—70—	70 ug/l contour line, dashed where approximated

Source: RedHawk draft SI report

ON-SITE ENVIRONMENTAL

Drawing File: Fig 11 MTBE2DE07

Date 1/2018

Figure E MTBE in Groundwater
12/5 & 6/07
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Rt 130

Grass Medium

Shoulder of Road

Grass

Guard Rail

Grass

MW 5
(102.86)

103'

MW 6
(102.94)

Asphalt

Fence

Propane
Tank
Area

103.5'

Grass

MW 1
(102.98)

North Brunswick
Gulf Station

asphalt

Fence

Traffic
Light

Pump Islands
with Canopy

Waste Oil
AST

Storm Drain

MW 2
(103.67)

RW 1
(103.08)

One Story
Masonary Building

Grass

Concrete
over Tanks

Asphalt

MW 7
(103.02)

Storm Drain

Stone

Fence

Property Boundary

Diesel Fuel
Dispenser

Fence

Washington Place

MW 3
(100.80)

Guard Rail

104'

Guard Rail

MW 4
(104.37)

MW 8
(104.38)

MW 9
(103.35)

Grass

Fence

Fence

Swail

Water Line

Sewer Line

Gas Line

MW 10
(104.54)

103'

103'

103.5'

Storm Drain

Key

- Groundwater Monitoring Well
- Direction of Groundwater Flow
- (104.54) Elevation of Water Table (ft)
- Direction of Traffic

0' 45'

Approximate scale in feet

Source: RedHawk draft SI report

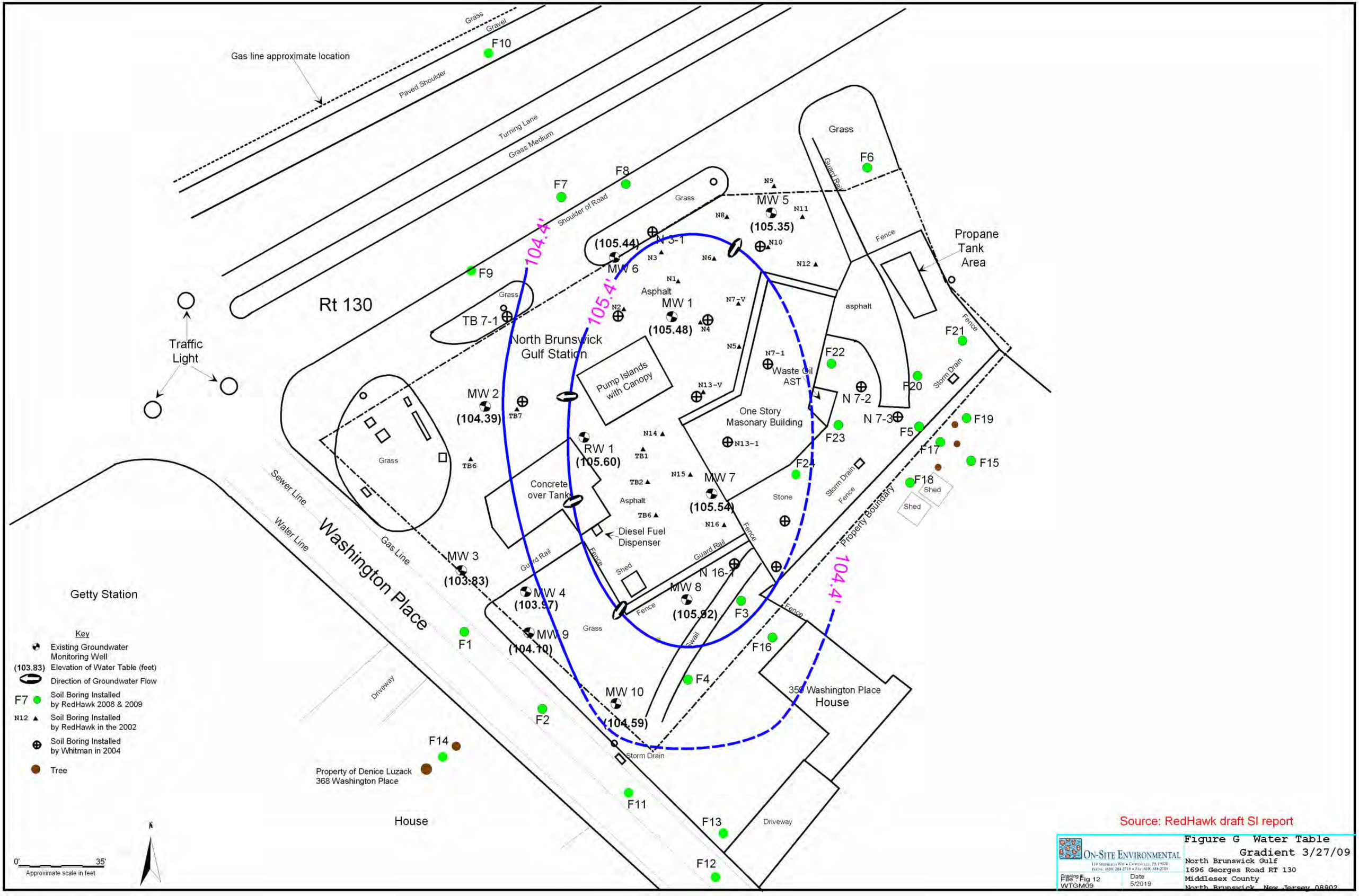
ON-SITE ENVIRONMENTAL

File : Fig 12 WTGd07b

Date 1/2018

Figure F Water Table Gradient 12/5/07

North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902



Source: RedHawk draft SI report

ON-SITE ENVIRONMENTAL

Drawing File: Fig 12 WTGM09

Date 5/2019

Figure G Water Table Gradient 3/27/09

North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Gas line approximate location

Grass

Gravel

Paved Shoulder

Turning Lane

Grass Medium

F10 (<1)

Rt 130

Shoulder of Road

F7 (490)

F8

F9

Grass

MW 6 (1,800)

N3-1

N3

N6

N8

N9

MW 5 (120)

N11

N10-S

N10

N12

N1

Asphalt

MW 1 (4,500)

N2

N2-V

N7

N7-V

N4

N5

TB7-1

Grass

North Brunswick Gulf Station

Pump Islands with Canopy

Traffic Light

Grass

MW 15 (<1)

F6 (1.9)

Guard Rail

Fence

Propane Tank Area

asphalt

Fence

F21

MW 14 (<1)

F22

F20 (4,200)

N7-1

Waste Oil AST

N7-2

N7-3

F5

F17

F19

(270)

F15 (38)

F18 (35)

Shed

Shed

MW 2 (530)

TB-7V

TB7

RW 1 (9)

N13

N13-V

One Story Masonary Building

N13-1

F23

F24

Stone

Storm Drain

Fence

N14

TB1

TB6

MW 16 (<1)

Grass

Concrete over Tanks

TB2

Asphalt

TB3

MW 7 (4,600)

N15

N16

N13-2

TW16-2

TW16-1

Diesel Fuel Dispenser

Fence

Guard Rail

Guard Rail

Fence

Shed

Property Boundary

MW 11 (<1)

Sewer Line

Water Line

Gas Line

Washington Place

1

MW 3 (1.7)

MW 4 (<1)

MW 8 (32)

F3 (690)

Fence

F1 (<1)

MW 9 (<1)

Grass

Swail

F16 (<1)

Driveway

F4 (<1)

MW 10 (<1)

359 Washington Place House

MW 12 (<1)

F2

F14 (<1)

Property of Denice Luzack 368 Washington Place

MW 13 (<1)

Storm Drain

F11

F13 (<1)

Driveway

House

F12

Getty Station

Key

Existing Groundwater Monitoring Well

F7 Soil Boring Installed by RedHawk 2008 & 2009

N12 Soil Boring Installed by RedHawk in 2001 & 2002

Soil Boring Installed by Whitman in 2004

(530) Benzene concentration in monitoring well on 10/19&20/09 (ppb)

1 ppb contour line (dashed were approximated)

(270) Benzene concentration (ppb) in temporary well 8/25 & 26/08 or 2/18 &19/09

Tree

0' 35'

Approximate scale in feet

N

Source: RedHawk draft SI report

On-Site Environmental

119 Shepherds Way • Glenmoore, PA 19320

Phone: (610) 384-2719 • Fax (610) 384-2709

Figure H Benzene in Groundwater 10/19 & 20/09

North Brunswick Gulf

1696 Georges Road RT 130

Middlesex County

North Brunswick, New Jersey 08902

Drawing #: File : Fig H ben OCT09

Date 5/13/19

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
(<1)
Rt 130
Traffic Light
Shoulder of Road
F7
(210)
F8
F9
Grass
TB7-1
MW 6
(470)
N3-1
N3
N6
N8
N9
N10
N10-S
N11
N12
MW 5
(<2)
Guard Rail
Fence
Propane Tank Area
Grass
MW 15
(<2)
F6
(<1)
N1
Asphalt
N2
N2-V
MW 1
(730)
N4
N5
N7-V
N7
North Brunswick Gulf Station
Pump Islands with Canopy
asphalt
F21
MW 14
(<2)
Fence
F22
N7-1
Waste Oil AST
F20
(<100)
Storm Drain
MW 2
(96)
TB-7V
TB7
N13
N13-V
One Story Masonary Building
N7-2
F5
F19
F17
(9.2)
F15
(23)
RW 1
(6.5)
N14
TB1
F23
N13-1
F24
MW 16
(3.7)
TB6
TB2
N15
MW 7
(390)
Concrete over Tanks
Asphalt
TB3
N16
Diesel Fuel Dispenser
Stone
N13-2
Storm Drain
Fence
F18
(19)
Shed
Shed
Property Boundary
MW 11
(<2)
Sewer Line
Water Line
Gas Line
Washington Place
Guard Rail
Fence
Shed
MW 3
(2000)
MW 4
(150)
MW 8
(280)
F3
(70)
TW16-1
TW16-2
Fence
Guard Rail
Fence
F1
(300)
MW 9
(12)
Grass
Swale
F16
(<1)
70
Driveway
F4
(<1)
F2
(49)
MW 10
(<2)
359 Washington Place House
MW 12
(<2)
Storm Drain
F14
(3.4)
Property of Denice Luzack
368 Washington Place
MW 13
(7.7)
F11
F13
(<1)
Driveway
House
F12

Note: Only recent analytical data is shown.
Borings F 1 through F 9 installed 8/25 & 26/08
Borings F 10 through F 24 installed 2/18 & 19/09

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 ● Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ Soil Boring Installed by RedHawk in 2001 & 2002
- ⊕ Soil Boring Installed by Whitman in 2004
- (730) MTBE concentration in monitoring well on 10/19&20/09(ppb)
- —70— 70 ppb contour line (dashed were approximated)
- (300) MTBE concentration (ppb) in temporary boring 8/25 & 26/08 or 2/18 &19/09
- Tree

N

0' 35'
Approximate scale in feet

Source: RedHawk draft SI report

ON-SITE ENVIRONMENTAL
119 SOUDERTON WAY • COURTDALE, PA 19320
PHONE: (610) 384-2715 • FAX (610) 384-2769

Drawing #: File : Fig I MTBE OCT09
Date 5/13/19

Figure I MTBE in Groundwater 10/19 & 20/09
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Median
F10
(<50)
Rt 130
Traffic Light
F7
(460)
F8
Shoulder of Road
Grass
N9
MW 5
(<100)
N11
N8
N3-1
MW 6
(340)
N10-S
N10
N3
N6
F9
N12
N1
Asphalt
Grass
TB7-1
N2
N2-V
MW 1
(290)
N7
N7-V
N4
North Brunswick Gulf Station
N5
Pump Islands with Canopy
N7-1
Waste Oil AST
N13
N13-V
TB-7V
MW 2
(820)
TB7
RW 1
(<100)
N14
TB1
One Story Masonary Building
N13-1
F23
F24
Stone
Storm Drain
N13-2
N15
MW 7
(380)
TB2
Asphalt
TB6
N16
Concrete over Tanks
Diesel Fuel Dispenser
Fence
Guard Rail
TW16-2
TW16-1
Shed
MW 3
(6,300)
MW 4
(810)
MW 8
(340)
F3
(420)
Property Boundary
Grass
MW 9
(<100)
Swale
F1
(2,500)
F4
(<50)
F16
(<50)
MW 10
(<100)
F2
(740)
MW 12
(<100)
359 Washington Place House
F14
(<50)
Property of Denice Luzack
368 Washington Place
MW 13
(<100)
100
Storm Drain
F11
F13
(<50)
Driveway
F12
House
Sewer Line
Water Line
Gas Line
Washington Place
MW 16
(<100)
TB6
Grass
Guard Rail
Fence
Grass
MW 15
(<100)
F6
(<50)
Fence
Propane Tank Area
asphalt
Fence
F21
MW 14
(<100)
F20
(<5,000)
Storm Drain
N7-2
N7-3
F5
F17
(300)
F19
F18
(210)
F15
(210)
Shed
Shed
MW 11
(<100)

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 Soil Boring Installed by RedHawk 2008 & 2009
- N12 Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- (290) TBA concentration in monitoring well on 10/19&20/09(ppb)
- 100 100 ppb contour line (dashed were approximated)
- (740) TBA concentration (ppb) in temporary boring 8/25 & 26/08 or 2/18 &19/09
- Tree

N

0' 35'
Approximate scale in feet

Source: RedHawk draft SI report

On-Site Environmental
119 Sycamore Way • Chatsworth, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing # File : Fig J TBA OCT09
Date 5/13/19

Figure J TBA in Groundwater 10/19 & 20/09
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
Rt 130
Traffic Light
Grass
Shoulder of Road
F7
F8
F9
MW 6
N3-1
N3
N6
N8
N9
MW 5
N11
N10-S
N10
N12
N1
Asphalt
MW 1
N7
N7-V
N2
N2-V
N4
TB7-1
North Brunswick Gulf Station
N5
Pump Islands with Canopy
TB-7V
MW 2
TB7
N13
N13-V
RW 1
N14
TB1
TB6
MW 16
Grass
Concrete over Tanks
TB2
Asphalt
TB3
N15
MW 7
N16
Diesel Fuel Dispenser
Shed
Guard Rail
Fence
TW16-1
TW16-2
MW 3
MW 4
MW 8
F3
1
70
100
F1
MW 9
Grass
Swale
F4
F2
MW 10
MW 12
F14
MW 13
Property of Denice Luzack
368 Washington Place
House
F11
F13
F12
Driveway
Storm Drain
Sewer Line
Water Line
Gas Line
Washington Place
Getty Station
Grass
MW 15
F6
Guard Rail
Fence
Quick Out Convience Store
Valet Dry Cleaners
Propane Tank Area
asphalt
F21
MW 14
F22
F20
Storm Drain
Waste Oil AST
N7-1
N7-2
N7-3
One Story Masonary Building
F23
F5
F17
F19
F15
N13-1
F24
Stone
N13-2
Storm Drain
Fence
F18
Shed
Shed
MW 11
Property Boundary
Fence
F16
359 Washington Place House
Driveway

Key

- Existing Groundwater Monitoring Well
- F7 Soil Boring Installed by RedHawk 2008 & 2009
- N12 Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- 1 1 ppb Benzene contour line
- 70 70 ppb MTBE contour line
- 100 100 ppb TBA contour line
- Tree

N

0' 35'
Approximate scale in feet

Source: RedHawk draft SI report

ON-SITE ENVIRONMENTAL
119 Sheffield Way • Coatesville, PA 19320
Phone: (610) 384-2750 • Fax (610) 384-2709

Drawing #: File : Fig K extent OCT09
Date 5/13/19

Figure K Extent of Groundwater Plume October 2009
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
F7
F8
Shoulder of Road
Grass
N9
(103.27)
N11
MW 5
N3-1
N8
N10-S
N10
(103.48)
MW 6
N3
N6
N12
F9
N1
Rt 130
Grass
TB7-1
Asphalt
(103.57)
MW 1
N7-V
N2
N2-V
N4
N5
North Brunswick
Gulf Station
Pump Islands
with Canopy
N7-1
Waste Oil
AST
N13
N13-V
TB-7V
TB7
MW 2
(103.92)
One Story
Masonary Building
N7-2
N7-3
N13-1
RW 1
(103.79)
TB1
N14
MW 16
(104.63)
TB6
Concrete
over Tanks
TB2
N15
MW 7
(103.62)
Asphalt
TB6
Diesel Fuel
Dispenser
N16
N13-2
TW16-2
TW16-1
Sewer Line
Water Line
Gas Line
Washington Place
Grass
Guard Rail
Fence
Shed
MW 3
(102.88)
MW 4
(103.83)
MW 8
(105.24)
Fence
Grass
MW 9
(101.93)
F1
F3
F16
F4
MW 10
(97.63)
F2
359 Washington Place
House
MW 12
(102.46)
Storm Drain
F14
Property of Denice Luzack
368 Washington Place
MW 13
(102.61)
House
F11
F13
F12
Driveway
104'
103'
102'
103'
Grass
MW 15
(103.00)
F6
Guard Rail
Fence
Propane
Tank
Area
asphalt
104'
105'
F21
MW 14
(106.37)
F22
F20
Storm Drain
F19
F5
F23
F17
F15
F24
Storm Drain
Stone
Fence
F18
Shed
Shed
Property Boundary
MW 11
(98.83)
Traffic
Light

Getty Station

Key

- Existing Groundwater Monitoring Well
- (97.63) Elevation of water table in feet
- Dirction of groundwater flow
- F7 Soil Boring Installed by RedHawk recently
- N12 Soil Boring Installed by RedHawk in the past
- Soil Boring Installed by Whitman
- Tree

0' 35'
Approximate scale in feet

N

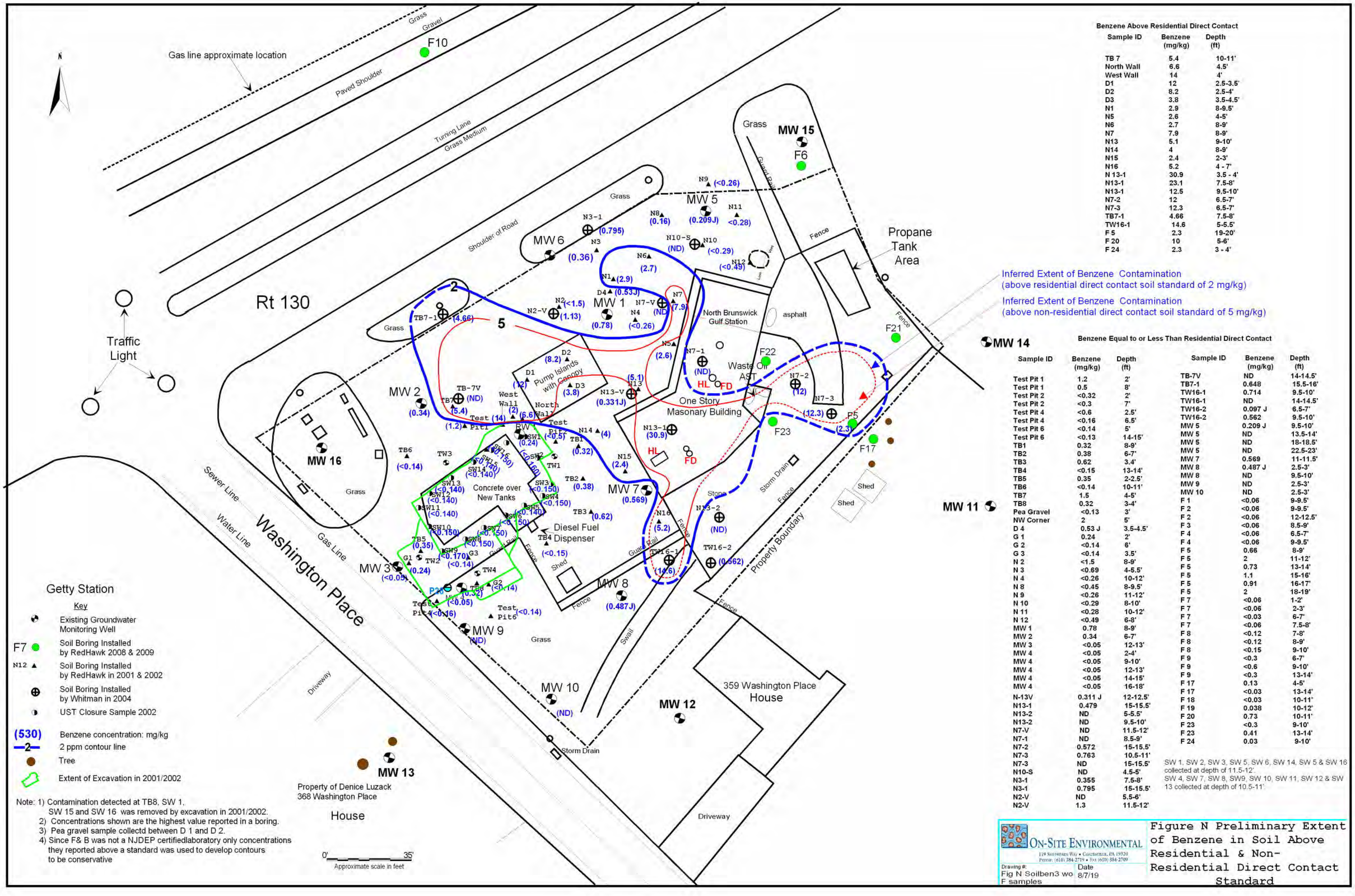
Source: RedHawk draft SI report

ON-SITE ENVIRONMENTAL
119 Somerville Road • Somerville, NJ 08876
Phone: (908) 704-2719 • Fax (908) 704-2709

Drawing #: File : Fig L WTG OCT09
Date 5/13/19

Figure L Water Table Gradient
10/19/09
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
F10
F7
F8
F9
Rt 130
Shoulder of Road
Grass
TB7-1
Traffic Light
104'
105'
103'
Grass
N9
(103.87)
MW 5
N11
N3-1
N8
N10-S
N10
(103.95)
MW 6
N3
N6
N12
N1
Asphalt
(103.98)
MW 1
N4
N7-V
N2
N2-V
North Brunswick Gulf Station
Pump Islands with Canopy
N5
N7-1
Waste Oil AST
N13
N13-V
TB-7V
MW 2
TB7
(104.33)
One Story Masonary Building
N13-1
N14
RW 1
(104.01)
TB1
TB6
MW 16
(105.49)
Grass
Concrete over Tanks
TB2
Asphalt
TB6
N15
MW 7
(104.01)
N16
Diesel Fuel Dispenser
N13-2
TW16-2
TW16-1
Guard Rail
Fence
Shed
MW 3
(101.52)
MW 4
(105.25)
MW 8
(104.71)
MW 9
(103.17)
Grass
Swale
Fence
F1
F2
F3
F4
F10
F11
F12
F13
MW 10
(104.50)
MW 12
(103.24)
Storm Drain
359 Washington Place House
Property of Denice Luzack
368 Washington Place
MW 13
(105.11)
House
Driveway
Sewer Line
Water Line
Gas Line
Washington Place
Property Boundary
Grass
MW 15
(103.70)
F6
Guard Rail
Fence
Propane Tank Area
asphalt
F21
MW 14
(105.53)
F22
N7-2
F20
Storm Drain
N7-3
F5
F19
F17
F15
F23
F24
Storm Drain
Stone
F18
Shed
Shed
MW 11
(100.72)
Getty Station
Getty Station
Key
Existing Groundwater Monitoring Well
(104.50) Elevation of water table in feet
Dirction of groundwater flow
F7 Soil Boring Installed by RedHawk recently
N12 Soil Boring Installed by RedHawk in the past
Soil Boring Installed by Whitman
Tree
N
0' 35'
Approximate scale in feet
Source: RedHawk draft SI report
ON-SITE ENVIRONMENTAL
Drawing #
File : Fig M WTG Nov 09
Date 5/13/19
Figure M Water Table Gradient
11/25/09
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902



Benzene Above Residential Direct Contact

Sample ID	Benzene (mg/kg)	Depth (ft)
TB 7	5.4	10-11'
North Wall	6.6	4.5'
West Wall	14	4'
D1	12	2.5-3.5'
D2	8.2	2.5-4'
D3	3.8	3.5-4.5'
N1	2.9	8-9.5'
N5	2.6	4-5'
N6	2.7	8-9'
N7	7.9	8-9'
N13	5.1	9-10'
N14	4	8-9'
N15	2.4	2-3'
N16	5.2	4 - 7'
N 13-1	30.9	3.5 - 4'
N13-1	23.1	7.5-8'
N13-1	12.5	9.5-10'
N7-2	12	6.5-7'
N7-3	12.3	6.5-7'
TB7-1	4.66	7.5-8'
TW16-1	14.6	5-5.5'
F 5	2.3	19-20'
F 20	10	5-6'
F 24	2.3	3 - 4'

Benzene Equal to or Less Than Residential Direct Contact

Sample ID	Benzene (mg/kg)	Depth (ft)
Test Pit 1	1.2	2'
Test Pit 1	0.5	8'
Test Pit 2	<0.32	2'
Test Pit 2	<0.3	7'
Test Pit 4	<0.6	2.5'
Test Pit 4	<0.16	6.5'
Test Pit 6	<0.14	5'
Test Pit 6	<0.13	14-15'
TB1	0.32	8-9'
TB2	0.38	6-7'
TB3	0.62	3.4'
TB4	<0.15	13-14'
TB5	0.35	2-2.5'
TB6	<0.14	10-11'
TB7	1.5	4-5'
TB8	0.32	3-4'
Pea Gravel	<0.13	3'
NW Corner	2	5'
D 4	0.53 J	3.5-4.5'
G 1	0.24	2'
G 2	<0.14	6'
G 3	<0.14	3.5'
N 2	<1.5	8-9'
N 3	<0.69	4-5.5'
N 4	<0.26	10-12'
N 8	<0.45	8-9.5'
N 9	<0.26	11-12'
N 10	<0.29	8-10'
N 11	<0.28	10-12'
N 12	<0.49	6-8'
MW 1	0.78	8-9'
MW 2	0.34	6-7'
MW 3	<0.05	12-13'
MW 4	<0.05	2-4'
MW 4	<0.05	9-10'
MW 4	<0.05	12-13'
MW 4	<0.05	14-15'
MW 4	<0.05	16-18'
N-13V	0.311 J	12-12.5'
N13-1	0.479	15-15.5'
N13-2	ND	5-5.5'
N13-2	ND	9.5-10'
N7-V	ND	11.5-12'
N7-1	ND	8.5-9'
N7-2	0.572	15-15.5'
N7-3	0.763	10.5-11'
N7-3	ND	15-15.5'
N10-S	ND	4.5-5'
N3-1	0.355	7.5-8'
N3-1	0.795	15-15.5'
N2-V	ND	5.5-6'
N2-V	1.3	11.5-12'
TB-7V	ND	14-14.5'
TB7-1	0.648	15.5-16'
TW16-1	0.714	9.5-10'
TW16-1	ND	14-14.5'
TW16-2	0.097 J	6.5-7'
TW16-2	0.562	9.5-10'
MW 5	0.209 J	9.5-10'
MW 5	ND	13.5-14'
MW 5	ND	18-18.5'
MW 5	ND	22.5-23'
MW 7	0.569	11-11.5'
MW 8	0.487 J	2.5-3'
MW 8	ND	9.5-10'
MW 9	ND	2.5-3'
MW 10	ND	2.5-3'
F 1	<0.06	9-9.5'
F 2	<0.06	9-9.5'
F 2	<0.06	12-12.5'
F 3	<0.06	8.5-9'
F 4	<0.06	6.5-7'
F 4	<0.06	9-9.5'
F 5	0.66	8-9'
F 5	2	11-12'
F 5	0.73	13-14'
F 5	1.1	15-16'
F 5	0.91	16-17'
F 5	2	18-19'
F 7	<0.06	1-2'
F 7	<0.06	2-3'
F 7	<0.03	6-7'
F 7	<0.06	7.5-8'
F 8	<0.12	7-8'
F 8	<0.12	8-9'
F 8	<0.15	9-10'
F 9	<0.3	6-7'
F 9	<0.6	9-10'
F 9	<0.3	13-14'
F 17	0.13	4-5'
F 17	<0.03	13-14'
F 18	<0.03	10-11'
F 19	0.038	10-12'
F 20	0.73	10-11'
F 23	<0.3	9-10'
F 23	0.41	13-14'
F 24	0.03	9-10'

SW 1, SW 2, SW 3, SW 5, SW 6, SW 14, SW 5 & SW 16 collected at depth of 11.5-12'.
SW 4, SW 7, SW 8, SW9, SW 10, SW 11, SW 12 & SW 13 collected at depth of 10.5-11'.

On-Site Environmental
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Fig N Soilben3 wo F samples
Date 8/7/19

Figure N Preliminary Extent of Benzene in Soil Above Residential & Non-Residential Direct Contact Standard

Gas line approximate location

Grass
Gravel
Paved Shoulder
Turning Lane
Grass Median
Shoulder of Road
Rt 130
Traffic Light
Grass
Guard Rail
Fence
Shed
Asphalt
Waste Oil AST
Storm Drain
Shade
Sewer Line
Water Line
Gas Line
Washington Place
Driveway
Property Boundary
Concrete over Tanks
Diesel Fuel Dispenser
Pump Islands with Canopy
One Story Masonary Building
North Brunswick Gulf Station
Propane Tank Area
359 Washington Place House
Property of Denice Luzack 368 Washington Place
House

F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 F15 F16 F17 F18 F19 F20 F21 F22 F23 F24

MW 1 MW 2 MW 3 MW 4 MW 5 MW 6 MW 7 MW 8 MW 9 MW 10 MW 11 MW 12 MW 13 MW 14 MW 15 MW 16

TB1 TB2 TB3 TB4 TB5 TB6 TB7 TB7-1 TB-7V

N1 N2 N2-V N3 N3-1 N4 N5 N6 N7 N7-V N7-1 N7-2 N7-3 N8 N9 N10 N10-S N11 N12 N13 N13-V N13-1 N13-2 N14 N15 N16

D1 D2 D3 D4

TW1 TW2 TW3 TW4 TW16-1 TW16-2

G1 G2 G3

SW8 SW14

Test Pit1 Test Pit2 Test Pit4 Test Pit6

RW

HL FD

(1.5) (<0.39) (0.07) (<0.43) (0.62) (<0.73) (7.8) (3.6) (10) (5.2) (10) (20) (13) (<0.4) (11) (6.5) (3.9) (9.0) (2.8) (11) (2.6) (29) (13) (<0.05) (14) (16) (<0.05) (<0.05) (9.7) (14) (28) (22) (11.6)

6 17

Default Soil to Ground Water Standard is 25 mg/kg)

Inferred Extent of Naphthalene Contamination (that exceeds residential direct contact standard of 6 mg/kg)

Inferred Extent of Naphthalene Contamination (that exceeds non-residential direct contact standard of 17 mg/kg) and Impact to Ground Water of 25 mg/kg

Naphthalene Above Residential Direct Contact

Sample ID	Naphthalene (mg/kg)	Depth (ft)
Test Pit 2	29	7'
D2	6.5	2.5-4' unsaturated
D3	9	3.5-4.5' unsaturated
TB 7	11	10-11'
N1	10	8-9.5'
N 2	10	8-9'
N 3	7.8	4-5.5' unsaturated
N5	11	4-5' unsaturated
N7	20	8-9'
N13	13	9-10'
N14	13	8-9'
N15	14	2-3' unsaturated
N16	16	4 - 7' unsaturated
MW 1	13	8-9'
F 5	8.3	8-9'
F 5	7.9	11-12'
F 5	12	15-16'
F 5	7.7	18-19'
F 20	28	5-6 unsaturated zone'
F 23	14	9-10'
F 24	9.7	3 - 4' unsaturated

Naphthalene Less Than Residential Direct Contact

Sample ID	Naphthalene (mg/kg)	Depth (ft)
Test Pit 1	0.98	2' unsaturated
Test Pit 1	3.1	8'
Test Pit 2	4.4	2' unsaturated
D 1	3.9	2.5-3.5' unsaturated
D 4	5.2	3.5-4.5' unsaturated
N 4	<0.4	10-12'
N 6	3.6	8-9'
N 8	0.07	8-9.5'
N 9	<0.39	11-12'
N 10	0.62	8-10'
N 11	<0.43	10-12'
N 12	0.96	6-8'
MW 1	0.78	8-9'
MW 2	2.8	6-7'
MW 3	<0.05	12-13'
MW 4	<0.05	2-4' unsaturated
MW 4	<0.05	9-10'
MW 4	<0.05	12-13'
MW 4	<0.05	14-15'
MW 4	<0.05	16-18'
F 1	<0.1	9-9.5'
F 2	<0.1	9-9.5'
F 2	<0.1	12-12.5'
F 3	<0.1	8.5-9'
F 4	<0.1	6.5-7'
F 4	<0.1	9-9.5'
F 5	2.2	13-14'
F 5	<0.1	16-17'
F 5	<0.2	19-20'
F 7	<0.1	1-2' unsaturated
F 7	<0.1	2-3' unsaturated
F 7	<0.1	6-7'
F 7	<0.1	7.5-8'
F 8	0.51	7-8'
F 8	1.5	8-9'
F 8	<0.25	9-10'
F 9	<0.5	6-7'
F 9	<1	9-10'
F 9	<0.5	13-14'
F 17	1.6	4-5' unsaturated
F 17	0.11	13-14'
F 18	<0.05	10-11'
F 19	<0.05	10-12'
F 20	2.4	10-11'
F 23	<0.05	13-14'
F 24	0.1	9-10'

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 Soil Boring Installed by RedHawk 2008 & 2009
- N12 Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- UST Closure Sample 2002
- (14) Naphthalene concentration: mg/kg
- --6-- 6 ppm contour line
- Extent of Excavation in 2001/2002
- Tree

Note: 1) Since F& B was not a NJDEP certifiedlaboratory only concentrations they reported above a standard was used to develop contours to be conservative

0' 35'
Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2715 • Fax (610) 384-2799

Drawing #: Fig O Soilnap2 wo r samples drw
Date 8/7/19

Figure O Preliminary extent of Naphthalene in Soil Above Residential & Non-Residential Direct Contact & Impact to Ground Water Screening Level

Samples Analyzed for Lead

Sample ID	Concentration (mg/kg)	Depth (ft)
Test pit 1	72	2'
	5	8'
Test pit 2	34	2'
	8	7'
TB 1	21.2	8-9'
TB 2	7.4	6-7'
TB 3	66	3-4'
TB 4	12.9	13-14'
TB 5	15.7	2-2½' dug out
TB 6	6.3	10-11'
TB 7	13	4-5'
	7	10-11'
TB 8	675	3-4' dug to 3'
N 1	13	8-9½'
N 2	14	8-9'
N 3	29	4-5'
N 4	7	10-12'
N 5	6	4-5'
N 6	9	8-9'
N 7	2	8-9'
N 8	9	8-9½'
N 9	3	11-12'
N 10	2	8-10'
N 11	<1	10-12'
N 12	3	6-8'
N 13	8	9-10'
N 14	19	8-9'
N 15	7	2-3'
N 16	10	4-7'
F 17	6.97	4-5'
	7.19	13-14'
F 18	2.87	10-11'
F 19	1.34	10-12'
F 20	11.1	5-6'
	3.97	10-11'
F 23	5.83	9-10'
	16.8	13-14'
F 24	1,490	3-4'
	5.42	9-10'

Gas line approximate location
Grass
Gravel
Paved Shoulder
Turning Lane
Grass Medium
Shoulder of Road
Rt 130
Traffic Light
Grass
Guard Rail
Fence
Propane Tank Area
asphalt
Fence
MW 15
MW 5
MW 6
MW 1
MW 14
MW 16
MW 2
MW 7
MW 8
MW 3
MW 4
MW 9
MW 10
MW 12
MW 13
MW 11
North Brunswick Gulf Station
Pump Islands with Canopy
Waste Oil AST
One Story Masonary Building
Concrete over Tanks
Diesel Fuel Dispenser
Shed
Storm Drain
Swale
Sewer Line
Water Line
Gas Line
Washington Place
Getty Station
Property of Denice Luzack
368 Washington Place
House
359 Washington Place
House
Driveway
Inferred Extent of Lead Contamination (that exceeds non- residential direct contact standard of 800 mg/kg)
Inferred Extent of Lead Contamination (that exceeds residential direct contact standard of 400 mg/kg)
Property Boundary

Key

- Existing Groundwater Monitoring Well
- F7 Soil Boring Installed by RedHawk 2008 & 2009
- N12 Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- UST Closure Sample 2002
- (8) Lead concentration: mg/kg
- 400 400 ppm contour line
- Concentration exceeds default soil to groundwater screening level of 90 mg/kg
- Extent of Excavation in 2001/2002
- Tree

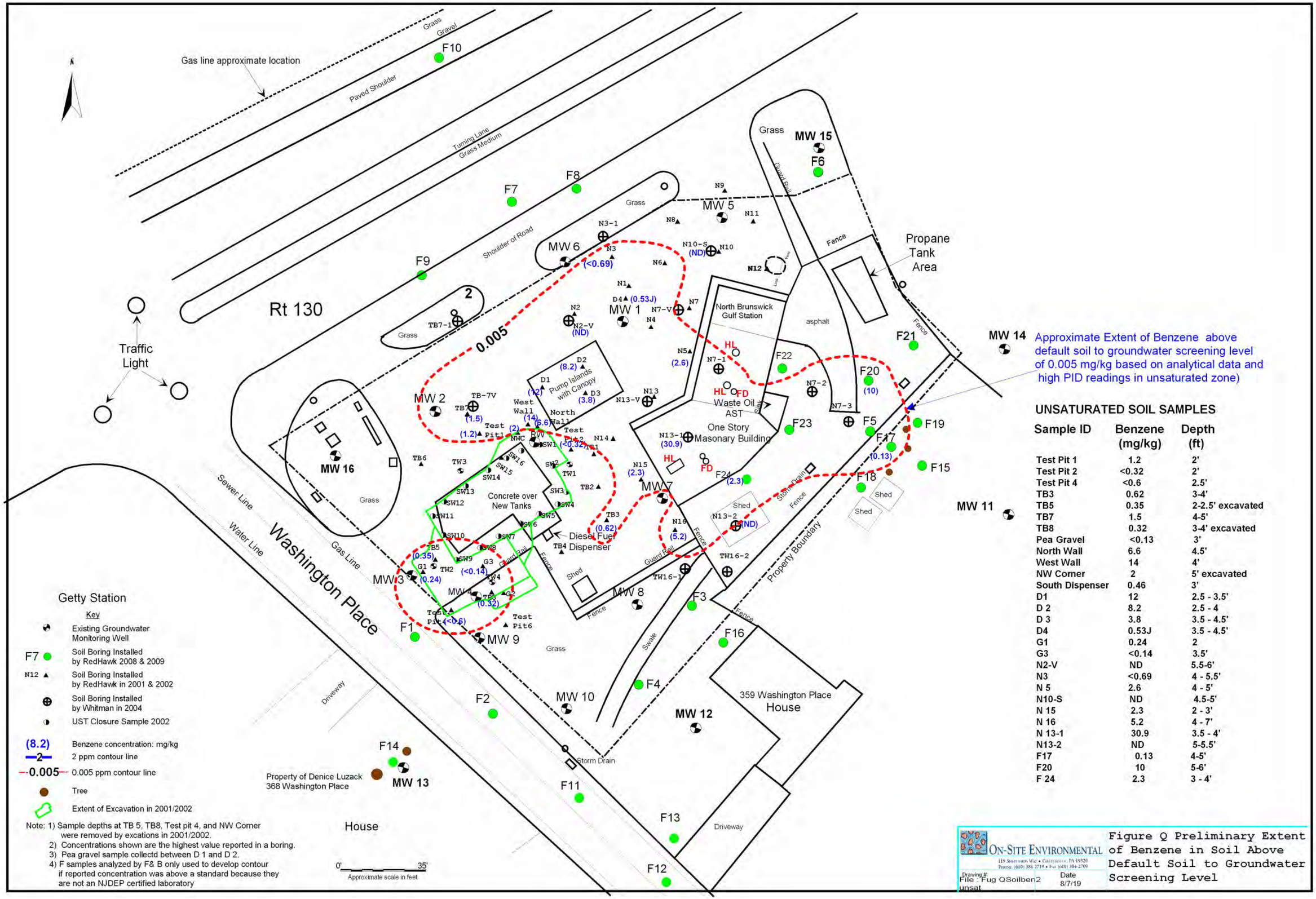
0' 35' Approximate scale in feet

Note: 1) Since F& B was not a NJDEP certifiedlaboratory only concentrations they reported above a standard was used to develop contours to be conservative

ON-SITE ENVIRONMENTAL
119 Sycamore Way • Collegeville, PA 19320
Phone: (610) 584-2719 • Fax (610) 584-2799

Drawing #: File :Fig P Soillead.drw
Date 8/7/19

Figure P Preliminary Extent of LEAD in Soil Above Resiential & Non Residential Direct Contact & Default Soil to Groundwater Screening Level



UNSATURATED SOIL SAMPLES

Sample ID	Benzene (mg/kg)	Depth (ft)
Test Pit 1	1.2	2'
Test Pit 2	<0.32	2'
Test Pit 4	<0.6	2.5'
TB3	0.62	3-4'
TB5	0.35	2-2.5' excavated
TB7	1.5	4-5'
TB8	0.32	3-4' excavated
Pea Gravel	<0.13	3'
North Wall	6.6	4.5'
West Wall	14	4'
NW Corner	2	5' excavated
South Dispenser	0.46	3'
D1	12	2.5 - 3.5'
D 2	8.2	2.5 - 4
D 3	3.8	3.5 - 4.5'
D4	0.53J	3.5 - 4.5'
G1	0.24	2
G3	<0.14	3.5'
N2-V	ND	5.5-6'
N3	<0.69	4 - 5.5'
N 5	2.6	4 - 5'
N10-S	ND	4.5-5'
N 15	2.3	2 - 3'
N 16	5.2	4 - 7'
N 13-1	30.9	3.5 - 4'
N13-2	ND	5-5.5'
F17	0.13	4-5'
F20	10	5-6'
F 24	2.3	3 - 4'

ON-SITE ENVIRONMENTAL
119 Stevenson Way • Chesterville, PA 19320
Phone: (610) 384-2719 • Fax: (610) 384-2799

Drawing #: File : Fug QSoilben2 unsat

Date 8/7/19

Figure Q Preliminary Extent of Benzene in Soil Above Default Soil to Groundwater Screening Level

Inferred Extent of Ethylbenzene
(above default soil to groundwater screening level
of 13 mg/kg based on analytical data
and high PID readings in unsaturated zone)

UNSATURATED SOIL SAMPLES

Sample ID	Ethylbenzene (mg/kg)	Depth (ft)
Test Pit 1	4.1	2'
Test Pit 2	9.8	2'
Test Pit 4	<2.4	2.5'
TB3	0.81	3-4'
TB5	<0.62	2-2.5' excated
TB7	4.8	4-5'
TB8	0.18	3-4' excavated
Pea Gravel	<0.52	3'
North Wall	70	4.5'
West Wall	89	4'
NW Corner	17	5' excavated
South Dispenser	4.2	3'
D1	58	2.5 - 3.5'
D 2	42	2.5 - 4
D 3	18	3.5 - 4.5'
D4	16	3.5 - 4.5'
G1	<0.13	2
G3	<0.56	3.5'
N2-V	5.48	5.5-6'
N3	15	4 - 5.5'
N 5	27	4 - 5'
N10-S	ND	4.5-5'
N 15	29	2 - 3'
N 16	32	4 - 7'
N 13-1	156	3.5 - 4'
N13-2	ND	5-5.5'
F17	2	4-5'
F20	63	5-6'
F 24	4.8	3 - 4'

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 — Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- UST Closure Sample 2002
- (51) — Ethylbenzene concentration: mg/kg
- —13— 7 ppm contour line
- Tree
- Extent of Excavation in 2001/2002

Note: 1) Sample depths at TB5, TB8, Test pit 4, and NW Corner were removed by excavation in 2001/2002.
2) Concentrations shown are the highest value reported in a boring.
3) Pea gravel sample collectd between D 1 and D 2.
4) Ethylbenzene impact to ground water standard is 13 mg/kg.
5) F samples analyzed by F & B only used to develop contour if reported concentration was above a standard because they are not a NJDEP certified laboratory

0' 35' Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: File - Soil Fig R ethylbenzene2 unsat wo F samples
Date 8/7/19

Figure R Preliminary Extent of Ethylbenzene in Soil Above Default Soil to Groundwater Screening Level

Inferred Extent of Toluene above default soil to groundwater screening level of 7 mg/kg based on analytical data and high PID readings in unsaturated zone)

UNSATURATED SOIL SAMPLES

Sample ID	Toluene (mg/kg)	Depth (ft)
Test Pit 1	0.59	2'
Test Pit 2	<0.32	2'
Test Pit 4	4.4	2.5'
TB3	0.37	3-4'
TB5	<0.77	2-2.5' excavetd
TB7	11	4-5'
TB8	2.4	3-4'excavated
Pea Gravel	<0.66	3'
North Wall	140	4.5'
West Wall	220	4'
NW Corner	42	5' excavated
South Dispenser	<0.66	3'
D1	160	2.5 - 3.5'
D 2	160	2.5 - 4
D 3	55	3.5 - 4.5'
D4	3.2	3.5 - 4.5'
G1	0.52	2
G3	<0.70	3.5'
N2-V	0.59	5.5-6'
N3	6.9	4 - 5.5'
N 5	56	4 - 5'
N10-S	0.073	4.5-5'
N 15	7.9	2 - 3'
N 16	69	4 - 7'
N 13-1	281	3.5 - 4'
N13-2	ND	5-5.5'
F17	3.4	4-5'
F20	67	5-6'
F 24	0.95	3 - 4'

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 — Soil Boring Installed by RedHawk 2008 & 2009
- N12 — Soil Boring Installed by RedHawk in 2001 & 2002
- Soil Boring Installed by Whitman in 2004
- UST Closure Sample 2002
- (220) Toluene concentration: mg/kg
- —7— 7 ppm contour line
- Tree
- Extent of Excavation in 2001/2002

Note: 1) Sample depths at TB 5,TB8, and NWCorner were moved by excavation in 2001/2002.
2) Concentrations shown are the highest value reported in a boring.
3) Pea gravel sample collectd between D 1 and D 2.
4) Toluene impact to ground water standard is 7 mg/kg.
5) F samples analyzed by F & B only used to develop contour if reported concentration was above standard becasue F & B not an NJDEP certified laboratory

0' 35' Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shipyard Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2799

Drawing # Fig S Soil Toluene2 unsat wo F samples

Date 8/7/19

Figure S Preliminary Extent of Toluene in Soil Above Default Soil to Groundwater Screening Level

Inferred Extent of Xylene above default soil to groundwater screening level of 19 mg/kg based on analytical data and high PID readings in unsaturated zone)

UNSATURATED SOIL SAMPLES

Sample ID	Xylenes (mg/kg)	Depth (ft)
Test Pit 1	11.37	2'
Test Pit 2	18	2'
Test Pit 4	22	2.5'
TB3	1.8	3-4'
TB5	0.15	2-2.5' excavated
TB7	32	4-5'
TB8	3.7	3-4' excavated
Pea Gravel	<0.66	3'
North Wall	480	4.5'
West Wall	590	4'
NW Corner	110	5' excavated
South Dispenser	0.97	3'
D1	380	2.5 - 3.5'
D 2	290	2.5 - 4
D 3	130	3.5 - 4.5'
D4	96	3.5 - 4.5'
G1	0.53	2
G3	<0.70	3.5'
N2-V	35.3	5.5-6'
N3	69	4 - 5.5'
N 5	195	4 - 5'
N10-S	ND	4.5-5'
N 15	235	2 - 3'
N 16	193	4 - 7'
N 13-1	1,100	3.5 - 4'
N13-2	ND	5-5.5'
F17	16	4-5'
F20	430	5-6'
F 24	17.3	3 - 4'

Getty Station

Key

- Existing Groundwater Monitoring Well
- F7 ● Soil Boring Installed by RedHawk 2008 & 2009
- N12 ▲ Soil Boring Installed by RedHawk in 2001 & 2002
- ⊕ Soil Boring Installed by Whitman in 2004
- ◑ UST Closure Sample 2002
- (130) Xylene concentration: mg/kg
- —19— 19 ppm contour line
- Tree
- Extent of Excavation in 2001/2002

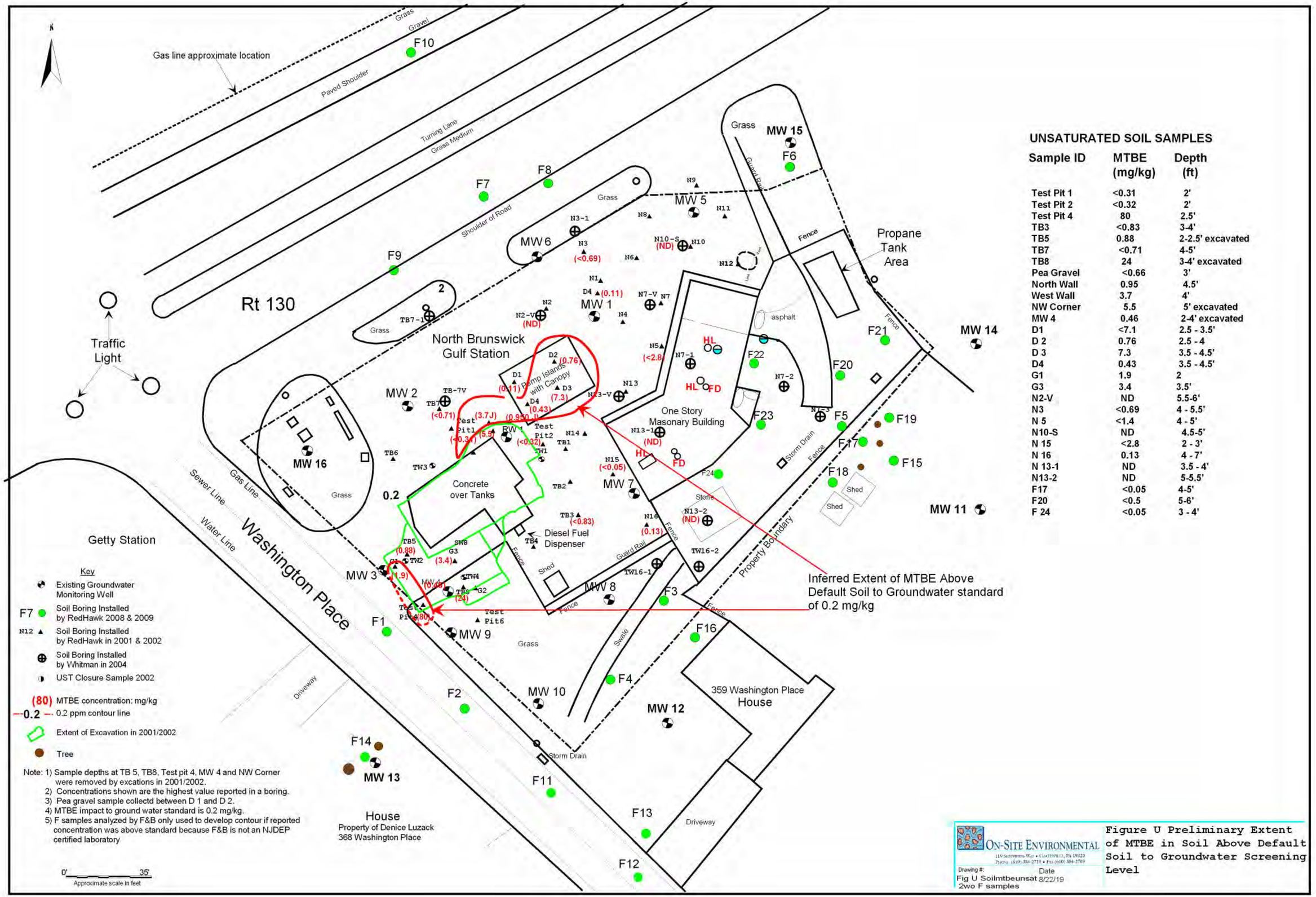
Note: 1) Sample depths at TB5, TB8 and NW Corner were removed by excavation in 2001/2002.
2) Concentrations shown are the highest value reported in a boring.
3) Pea gravel sample collectd between D 1 and D 2.
4) Xylene impact to ground water standard is 19 mg/kg.
5) F samples analyzed by F&B only used to develop contours if reported concentration was above standard because F&B is not an NJDEP certified laboratory

0' 35' Approximate scale in feet

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: Fig T Soilxyleneunsat 2wo F samples
Date: 8/7/19

Figure T Preliminary Extent of Xylenes in Soil Above Default Soil to Groundwater Screening Level



UNSATURATED SOIL SAMPLES

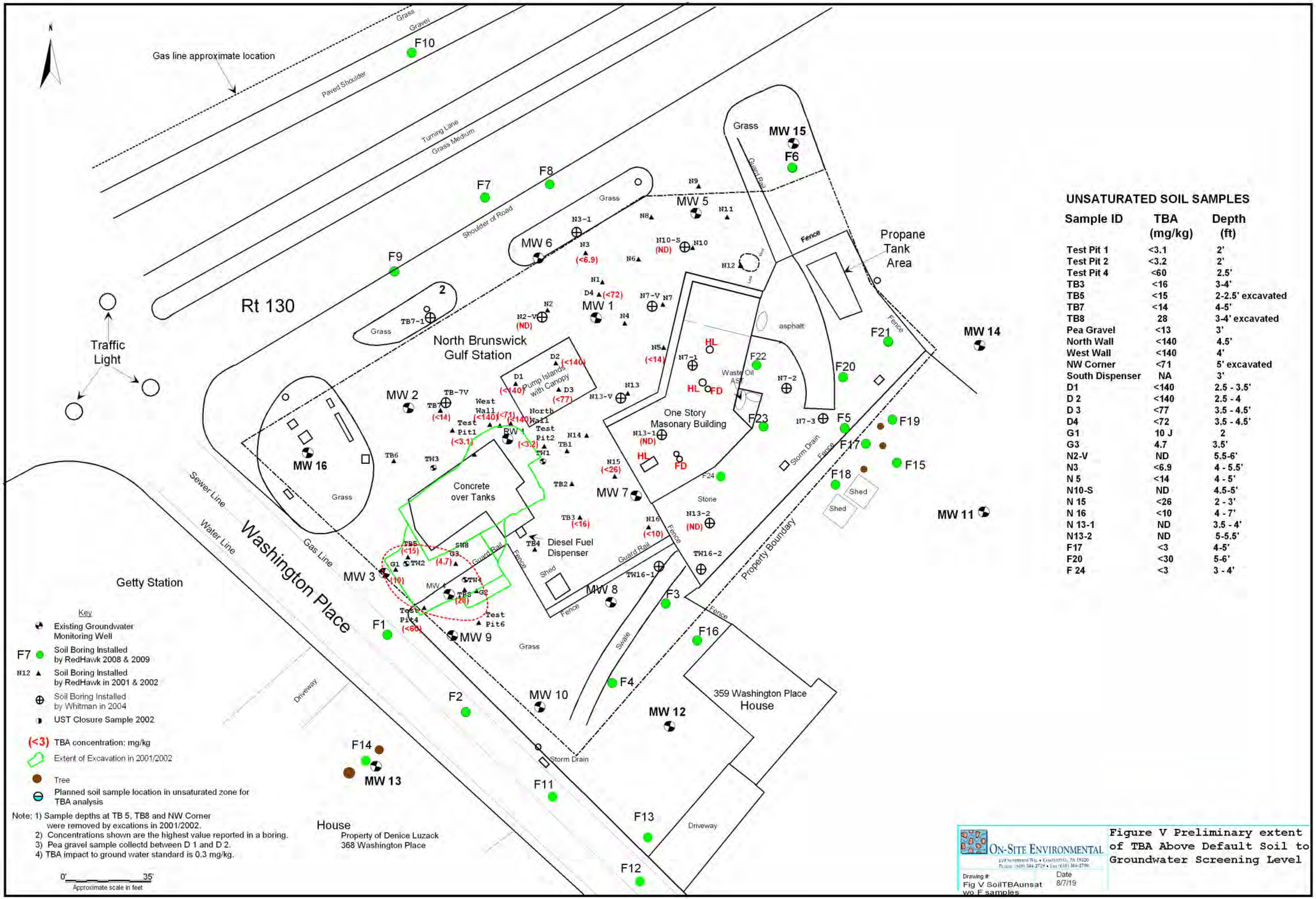
Sample ID	MTBE (mg/kg)	Depth (ft)
Test Pit 1	<0.31	2'
Test Pit 2	<0.32	2'
Test Pit 4	80	2.5'
TB3	<0.83	3-4'
TB5	0.88	2-2.5' excavated
TB7	<0.71	4-5'
TB8	24	3-4' excavated
Pea Gravel	<0.66	3'
North Wall	0.95	4.5'
West Wall	3.7	4'
NW Corner	5.5	5' excavated
MW 4	0.46	2-4' excavated
D1	<7.1	2.5 - 3.5'
D 2	0.76	2.5 - 4
D 3	7.3	3.5 - 4.5'
D4	0.43	3.5 - 4.5'
G1	1.9	2
G3	3.4	3.5'
N2-V	ND	5.5-6'
N3	<0.69	4 - 5.5'
N 5	<1.4	4 - 5'
N10-S	ND	4.5-5'
N 15	<2.8	2 - 3'
N 16	0.13	4 - 7'
N 13-1	ND	3.5 - 4'
N13-2	ND	5-5.5'
F17	<0.05	4-5'
F20	<0.5	5-6'
F 24	<0.05	3 - 4'

ON-SITE ENVIRONMENTAL

Drawing #: Fig U SoilmtbeunsatF samples 2wo

Date 8/22/19

Figure U Preliminary Extent of MTBE in Soil Above Default Soil to Groundwater Screening Level



UNSATURATED SOIL SAMPLES

Sample ID	TBA (mg/kg)	Depth (ft)
Test Pit 1	<3.1	2'
Test Pit 2	<3.2	2'
Test Pit 4	<60	2.5'
TB3	<16	3-4'
TB5	<15	2-2.5' excavated
TB7	<14	4-5'
TB8	28	3-4' excavated
Pea Gravel	<13	3'
North Wall	<140	4.5'
West Wall	<140	4'
NW Corner	<71	5' excavated
South Dispenser	NA	3'
D1	<140	2.5 - 3.5'
D 2	<140	2.5 - 4
D 3	<77	3.5 - 4.5'
D4	<72	3.5 - 4.5'
G1	10 J	2
G3	4.7	3.5'
N2-V	ND	5.5-6'
N3	<6.9	4 - 5.5'
N 5	<14	4 - 5'
N10-S	ND	4.5-5'
N 15	<26	2 - 3'
N 16	<10	4 - 7'
N 13-1	ND	3.5 - 4'
N13-2	ND	5-5.5'
F17	<3	4-5'
F20	<30	5-6'
F 24	<3	3 - 4'

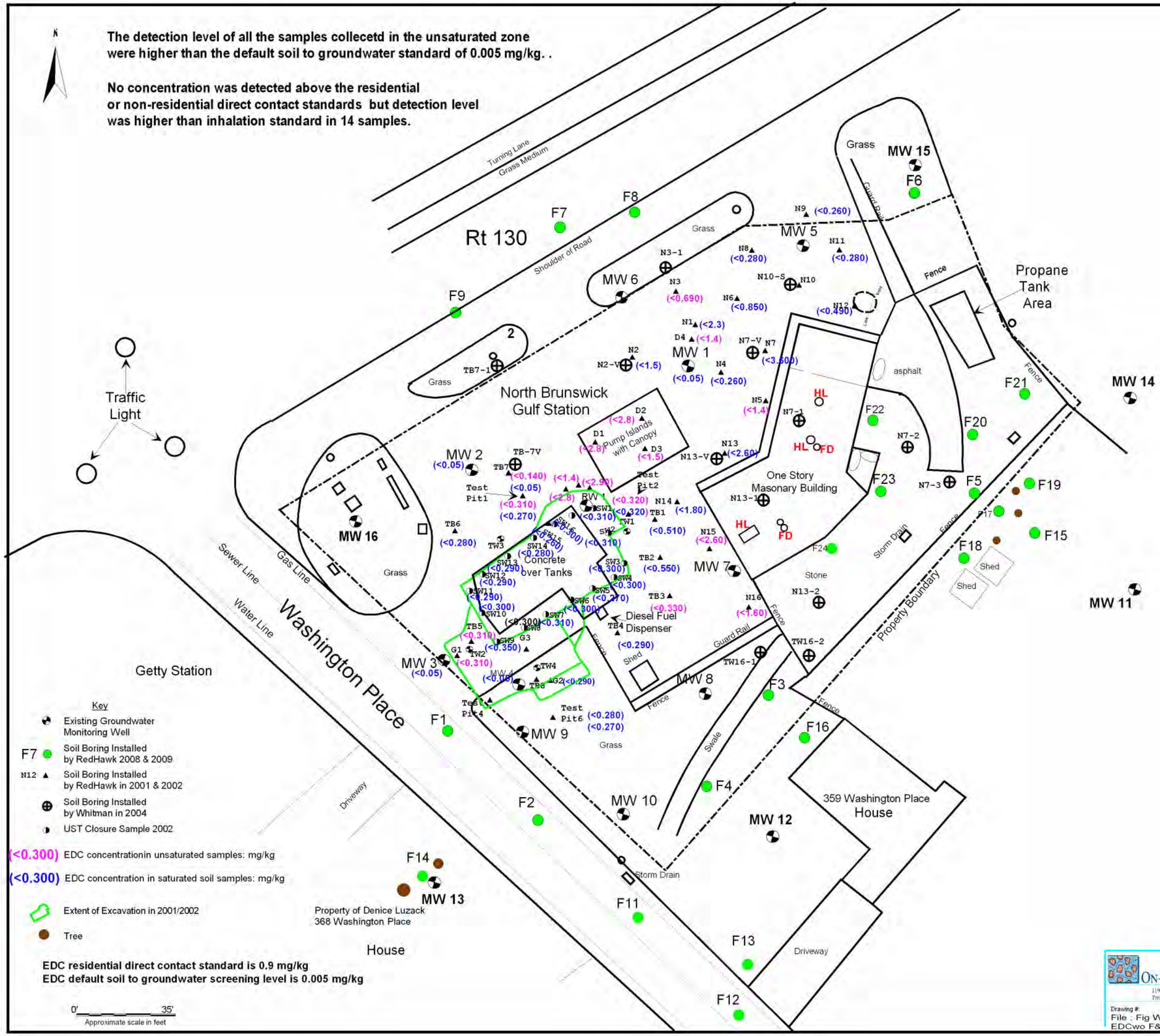
ON-SITE ENVIRONMENTAL
219 Norristown Road • Conshohocken, PA 19020
Phone: (610) 834-2710 • Fax: (610) 834-2796

Drawing #: Fig V SoilTBAunsat wo F samples
Date: 8/7/19

Figure V Preliminary extent of TBA Above Default Soil to Groundwater Screening Level

The detection level of all the samples collecetd in the unsaturated zone were higher than the default soil to groundwater standard of 0.005 mg/kg. .

No concentration was detected above the residential or non-residential direct contact standards but detection level was higher than inhalation standard in 14 samples.



UNSATURATED SOIL SAMPLES

Sample ID	EDC (mg/kg)	Depth (ft)
Test Pit 1	<0.310	2'
Test Pit 2	<0.320	2'
TB3	<0.330	3-4'
TB 5	<0.310	2 - 2.5'
TB7	<0.140	4-5'
TB 8	<0.310	3 - 4'
Pea Gravel	<0.260	3'
North Wall	<2.9	4.5'
West Wall	<2.8	4'
D1	<2.8	2.5 - 3.5'
D 2	<2.8	2.5 - 4
D 3	<1.5	3.5 - 4.5'
D4	<1.4	3.5 - 4.5'
G 1	<0.310	2'
G 3	<0.280	3.5'
N3	<0.690	4 - 5.5'
N 5	<1.4	4 - 5'
N 15	<2.6	2 - 3'
N 16	<1.6	4 - 7'

SATURATED SOIL SAMPLES

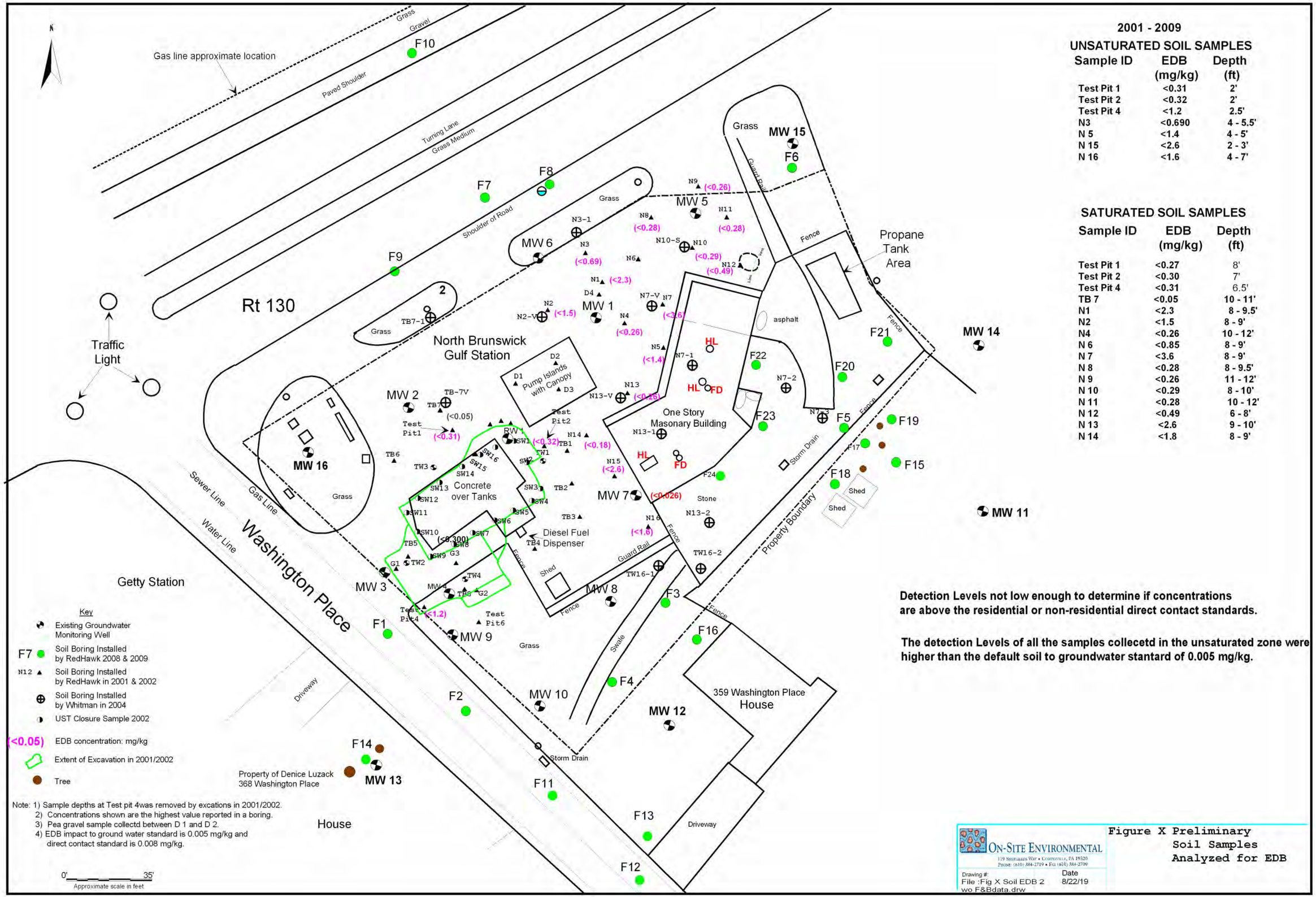
Sample ID	EDC (mg/kg)	Depth (ft)
Test Pit 1	<0.270	8'
Test Pit 2	<0.320	7'
Test Pit 6	<0.280	5'
Test Pit 6	<0.270	14 - 15'
TB 1	<0.510	8 - 9'
TB 2	<0.550	6 - 7'
TB 4	<0.290	13- 14'
TB 6	<0.280	10 - 11'
TB7	<0.05	10 - 11'
SW 1	<0.310	11.5 - 12'
SW 2	<0.310	11.5 - 12'
SW 3	<0.300	11.5 - 12'
SW 4	< 0.300	10.5 - 11'
SW 5	<0.270	11.5 - 12'
SW 6	<0.300	11.5 - 12'
SW 7	<0.310	10.5 - 11'
SW 8	<0.300	10.5 - 11'
SW 9	<0.350	10.5 - 11'
SW 10	<0.300	10.5 - 11'
SW 11	<0.290	10.5 - 11'
SW 12	<0.290	10.5 - 11'
SW 13	<0.290	10.5 - 11'
SW 14	<0.280	11 - 11.5'
SW 15	<0.260	11 - 11.5'
SW 16	<0.300	11 - 11.5'
G 2	<0.290	6'
N 1	<2.3	8 - 8.5'
N 2	<1.5	8 - 9'
N 4	<0.260	10 - 12'
N 6	<0.85	8 - 9'
N 7	<3.6	8 - 9'
N 8	<0.28	8 - 9.5'
N 9	<0.26	11 -12'
N 10	<0.290	8 - 10'
N 11	<0.280	10 - 12'
N 12	<0.490	6 - 8'
N 13	<2.6	9 - 10'
N 14	<1.8	8 - 9'

ON-SITE ENVIRONMENTAL
119 Spotswood Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2799

Drawing #: File : Fig W Soil EDCwo F&B data.drw

Date 8/22/19

Figure W Preliminary Soil Samples Analyzed for EDC



2001 - 2009

UNSATURATED SOIL SAMPLES

Sample ID	EDB (mg/kg)	Depth (ft)
Test Pit 1	<0.31	2'
Test Pit 2	<0.32	2'
Test Pit 4	<1.2	2.5'
N3	<0.690	4 - 5.5'
N 5	<1.4	4 - 5'
N 15	<2.6	2 - 3'
N 16	<1.6	4 - 7'

SATURATED SOIL SAMPLES

Sample ID	EDB (mg/kg)	Depth (ft)
Test Pit 1	<0.27	8'
Test Pit 2	<0.30	7'
Test Pit 4	<0.31	6.5'
TB 7	<0.05	10 - 11'
N1	<2.3	8 - 9.5'
N2	<1.5	8 - 9'
N4	<0.26	10 - 12'
N 6	<0.85	8 - 9'
N 7	<3.6	8 - 9'
N 8	<0.28	8 - 9.5'
N 9	<0.26	11 - 12'
N 10	<0.29	8 - 10'
N 11	<0.28	10 - 12'
N 12	<0.49	6 - 8'
N 13	<2.6	9 - 10'
N 14	<1.8	8 - 9'

Detection Levels not low enough to determine if concentrations are above the residential or non-residential direct contact standards.

The detection Levels of all the samples collecetd in the unsaturated zone were higher than the default soil to groundwater stantard of 0.005 mg/kg.

ON-SITE ENVIRONMENTAL
119 Shefields Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #:
File :Fig X Soil EDB 2 wo F&Bdata.drw

Date
8/22/19

Figure X Preliminary Soil Samples Analyzed for EDB

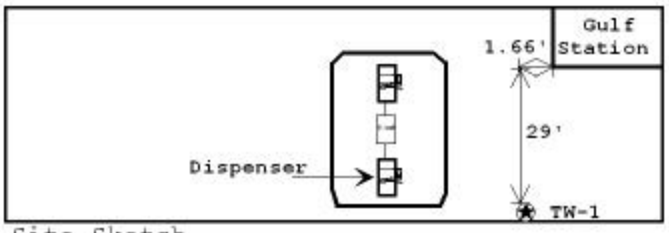
Appendix B

Boring & Well Logs

Temporary Well Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 2/02/02 Boring NUMBER: TW 1

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 20 ft.
Completion: Set 15 ft of screen temporarily to secure water sample.



Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & crushed stone
1	1			1	Clay with silt, sand & some quartz pebbles, light brown/grey, slightly moist with interbedded layers of sand and silt
2				2	
3				3	
4				4	
5	2			5	
6				6	
7				7	
8				8	
9	3			9	Clay with sand, pebbles and some silt, brown, moist
10				10	
11				11	
12				12	Wet
13	4			13	
14				14	
15				15	
16				16	Sand, light brown & grey, wet
17	5			17	
18				18	
19				19	
20				20	Bottom @ 20'

Note: Hole collapsed to 13.5 ft. Set 15 ft of screen but 1.4 ft was above ground. DTW next day was 6.95 ft from top of casing.

Temporary Well Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 2/02/02 Boring NUMBER: TW 2

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 20 ft.
Completion: Set 5 ft of solid & 15 ft of screen temporarily to secure water sample.



Site Sketch

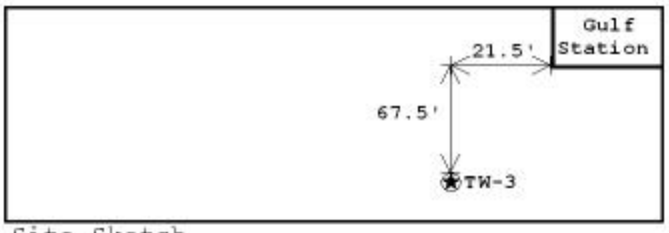
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & crushed stone
1	1			1	Crushed stone
2				2	Clay with silt, sand & pebbles, brown, slightly moist with interbedded layers of sand and silt
3				3	
4				4	
5	2			5	
6				6	
7				7	
8				8	
9	3			9	
10				10	
11				11	Sand with some clay, grey/light brown, moist/wet
12				12	Clay & very large grained sand, grey/light brown wet
13	4			13	
14				14	
15				15	
16				16	
17	5			17	
18				18	Clay, dark grey, wet
19				19	
20				20	Bottom @ 20'

Note: Installed 5 ft. of solid & 15 ft of screen temporarily to secure water sample. Ten inches of solid casing was above ground. DTW next day was 8.64 ft from top of casing.

Temporary Well Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 2/02/02 Boring NUMBER: TW 3

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 20 ft.
Completion: Set 5 ft of solid & 15 ft of screen temporarily to secure water sample.



Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & crushed stone
1	1			1	Silt, light brown/grey, slightly moist, with interbedded layers of more sandy material and/or more clayey material
2				2	
3				3	
4				4	
5	2			5	
6				6	
7				7	
8	3			8	Clay with some sand and silt, brown/grey, moist
9				9	
10				10	
11				11	Clay with sand and large quartz pebbles, brown, moist to wet
12	4			12	
13				13	
14				14	Sand (large grain) and some clay, grey, wet
15				15	
16	5			16	
17				17	
18				18	
19				19	
20				20	Bottom @ 20'

Note: Installed 5 ft. of solid & 15 ft of screen temporarily to secure water sample. Five inches of solid casing was above ground. DTW next day was 9.31 ft from top of casing.

Temporary Well Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 2/02/02 Boring NUMBER: TW 4

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 20 ft.
Completion: Set 5 ft of solid & 15 ft of screen temporarily to secure water sample.



Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0	1			0	Grass & topsoil Clay with pebbles some ash and woody material, brown, dry
4	2			4	Clay with some silt, grey, moist Sand, grey, wet Clay with pebbles and some sand, reddish brown, moist
8	3			8	
12	4			12	Note: Installed 5 ft. of solid & 15 ft of screen temporarily to secure water sample. Eleven inches of solid casing was above ground. DTW next day was 6.92 ft from top of casing.
16	5			16	Sand with some clay, brown, wet Sand with some clay, dark grey, wet
20				20	Bottom @ 20'

Test Pit Log

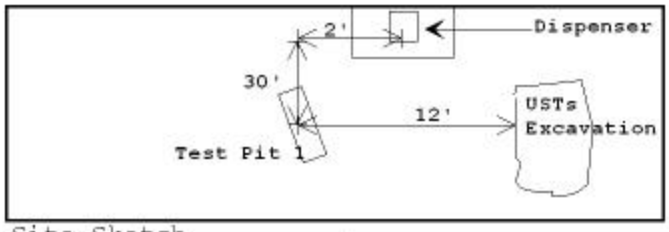
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
Excavator: EMC - Frank
LOGGED BY: Frank Jasiulewicz
DATE: 1/22/02 Test Pit # 1

Hole Demensions: 2' x 6' x 11.3'

Depth of excavation below ground surface: 11.3'

Completion: backfill with original material



Site Sketch

Depth (feet)	PID (ppm)	LITHOLOGIC DESCRIPTION	Comments
		Ground Surface	
0		Macadum & Stone Subbase (0 - 10")	
	318	Dark, moist, SILTY CLAY	Gas odor
	830	Grey, moist, SILTY CLAY	slight gas odor
	733	Grey, damp, SILTY CLAY - balling up	slight gas odor
5	936	Grey & dark mix, damp, CLAYEY SILT, trace of ½" gravel	slight odor
	818	Grey, damp/moist, SILTY CLAY	slight odor
		Grey, damp, very hard CLAY, trace 1" gravel & fine roots	gas odor
	926		
		Orange, damp, SANDY CLAY, trace 1" gravel	slight gas odor
	1001		
10		Grey, damp, SANDY CLAY, little 1" gravel	slight gas odor
	855	Bottom @ 11.3'	
15			
20			

Test Pit left open for more than 1 hour and no water accumulated in test pit. Only a trace of water weeped into test pit from north wall at a depth of 7 feet.

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%

Test Pit Log

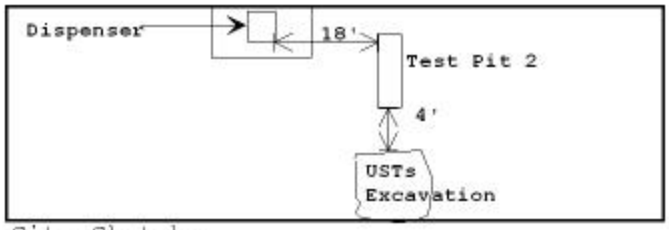
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
Excavator: EMC - Frank
LOGGED BY: Frank Jasiulewicz
DATE: 1/22/02 Test Pit # 2

Hole Demensions: 2' x 7' x 10.5'

Depth of excavation below ground surface: 10.5'

Completion: backfill with original material



Site Sketch

Depth (feet)	PID (ppm)	LITHOLOGIC DESCRIPTION	Comments
		Ground Surface	
0		Macadum & Stone Subbase (0 - 1')	
		Concrete debre (1' - 1.5')	
	7	Black, moist/wet, FILL = sand & gravel	
	795	Grey, moist, CLAY, trace silt	gas odor
	650	Grey & black, moist, SILTY CLAY	slight gas odor
	955	Grey, moist, plastic CLAY, trace silt	slight gas odor
5	1007	Grey, damp, SILTY SANDY CLAY, plastic hard	slight gas odor
	720	Grey, damp, SILTY SANDY CLAY	slight gas odor
	1141	Same	
	443	Grey & Orangish, damp, SILTY SANDY CLAY,trace	slight gas odor
	250	½" & 1½" gravel	
10	95	Same	
	780?	Bottom @ 10.5'	
15			
20			

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%

Test Pit Log

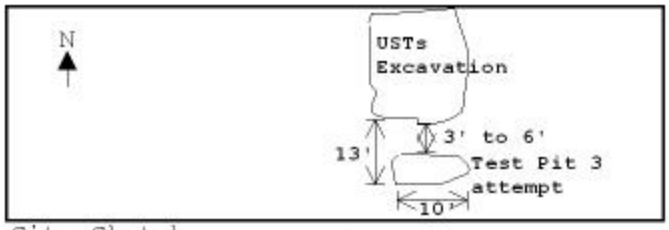
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
Excavator: EMC - Frank
LOGGED BY: Frank Jasiulewicz
DATE: 1/22/02 Test Pit # 3

Hole Demensions: 10' x 10' x 2'

Depth of excavation below ground surface: 2'

Completion: backfill with original material



Site Sketch

Depth (feet)	PID (ppm)	LITHOLOGIC DESCRIPTION	Comments
		Ground Surface	
0		Macadum & Stone Subbase (0 - 8") Dark black, damp, FILL with wood, brick & dirt Concrete slab at 2 feet depth encountered at 4 locations Bottom @ 2'	
5			
10			
15			
20			

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%

Test Pit Log

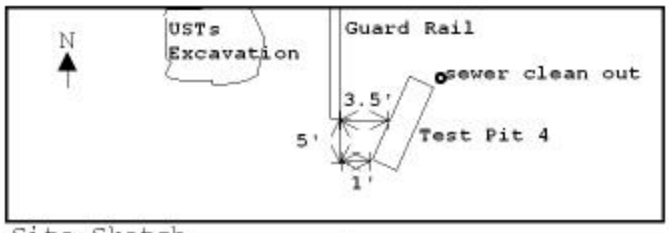
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
Excavator: EMC - Frank
LOGGED BY: Frank Jasiulewicz
DATE: 2/6/02 Test Pit # 4

Hole Demensions: 3' x 10.5' x 13''

Depth of excavation below ground surface: 13'

Completion: backfill with original material



Site Sketch

Depth (feet)	PID (ppm)	LITHOLOGIC DESCRIPTION	Comments
		Ground Surface	
0		Grass Topsoil (.3 - 1.5') Fill from 1.5 ' to 3'	
	160		
	850	Grey, damp, SILTY CLAY, trace of fine sand and gravel	old terra cotta sewer line at 3' in NW corner of excavation. Some water ran into excavation by old pipe - not much water/PID of wet soil = 250 ppm.
	440		
5	42		
	0		
	0		
10	0		
	0	No water entered test pit. Pit open for approximately ½ hour before backfilling	
		Bottom @ 13'	
15			
20			

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%

Test Pit Log

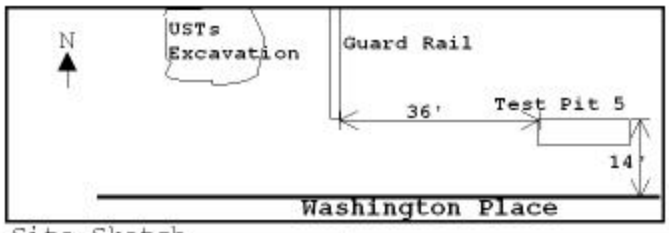
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
Excavator: EMC - Frank
LOGGED BY: Frank Jasiulewicz
DATE: 2/6/02 Test Pit # 5

Hole Demensions: 3' x 10.5' x 5''

Depth of excavation below ground surface: 5'

Completion: backfill with original material



Site Sketch

Depth (feet)	PID (ppm)	LITHOLOGIC DESCRIPTION	Comments
		Ground Surface	
0		Grass Topsoil (.3 - 3') Grey, damp, SILTY CLAY, trace of fine sand and gravel Bottom @ 5'	No odors in test pit therefore abandon at depth of 5 feet
5			
10			
15			
20			

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%

Test Pit Log

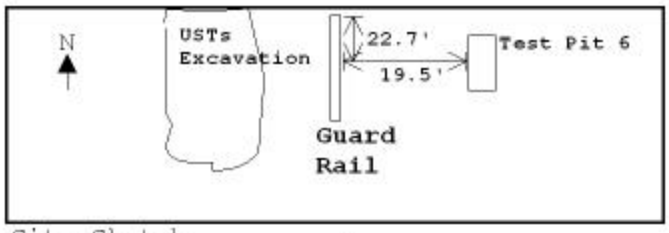
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
Excavator: EMC - Frank
LOGGED BY: Frank Jasiulewicz
DATE: 2/6/02 Test Pit # 6

Hole Demensions: 3' x 10' x 16''

Depth of excavation below ground surface: 16'

Completion: backfill with original material



Site Sketch

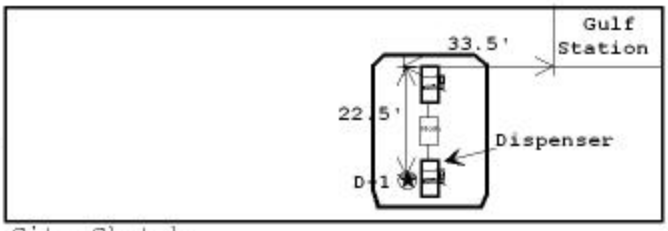
Depth (feet)	PID (ppm)	LITHOLOGIC DESCRIPTION	Comments
		Ground Surface	
0		Grass Topsoil (.3 - 2')	
	0	Clean 1½" Stone FILL from 2 to 3 feet	
	0	Grey, damp, SILTY CLAY, trace of fine sand and gravel	
5	80		
	14		
	6		
	6		
10			
	9		
	18	Grey, moist, fine GRAVEL AND CLAY: loose and granular gritty feel	No water entered test pit. Pit left open approx. 1 hour before backfilling.
15	10	Grey, damp,very dense CLAY: waxy feel Bottom @ 16'	
20			

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: EMC: Geoprobe
LOGGED BY: Frank Jasiulewicz
DATE: 2/8/02 Boring NUMBER: D-1

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 2' sampler
Depth of boring below ground surface: 5.5 ft.
Completion: Fill hole with cuttings & bentonite



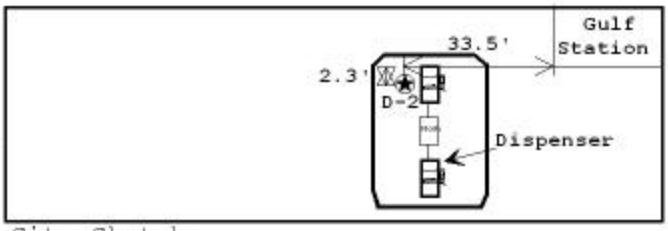
Site Sketch

Comments	Sample Number	Blows 6"	Recovery	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
					0	Concrete (7.3" thick)
Hydrocarbon odor				4		Stone subbase: pea gravel
Hydrocarbon odor	1		75%	600		Greenish grey, damp, SILTY CLAY
Strong Odor				1800		Grey, damp, SILTY SAND
Hydrocarbon odor	2		100%			Grey, damp, SILTY CLAY, trace 1/8" gravel
				1500	5	
Hydrocarbon odor	3		100%	758		END @ 5.5'
Sample collected at 2½ - 3½' for analysis					10	
					15	
					20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: EMC: Geoprobe
LOGGED BY: Frank Jasiulewicz
DATE: 2/8/02 Boring NUMBER: D-2

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 2' sampler
Depth of boring below ground surface: 4.5 ft.
Completion: Fill hole with cuttings & bentonite



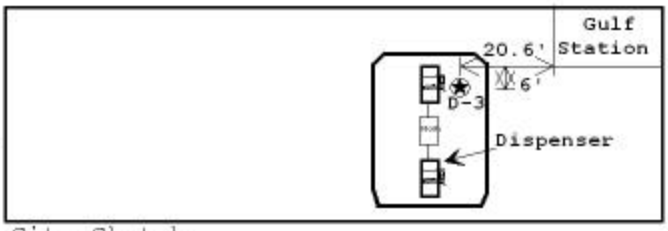
Site Sketch

Comments	Sample Number	Blows 6"	Recovery	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
					0	Concrete
					1	Stone subbase: pea gravel
	1		100%	282	2	Brown, damp, FINE SAND Grey, moist, SILTY CLAY
Hydrocarbon odor				1348	3	Brown, damp, FINE SAND (collapse ?)
Hydrocarbon odor	2		75%	1580	4	Greensih grey, moist, SILTY CLAY, trace brick?
					5	END @ 4.6'
Sample collected at 2½ - 4' for analysis					10	
					15	
					20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: EMC: Geoprobe
LOGGED BY: Frank Jasiulewicz
DATE: 2/8/02 Boring NUMBER: D-3

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 2' sampler
Depth of boring below ground surface: 4.5 ft.
Completion: Fill hole with cuttings & bentonite



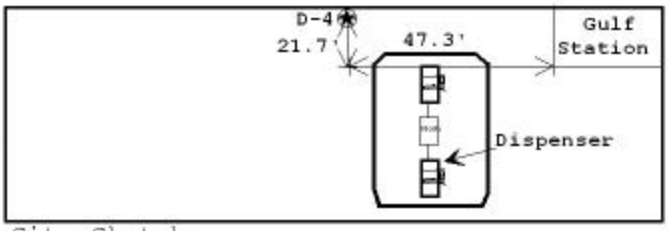
Site Sketch

Comments	Sample Number	Blows 6"	Recovery	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
					0	Concrete
				180	1	Stone subbase: pea gravel
Hydrocarbon odor	1		100%	1167	2	Brown, damp, FINE SAND Greenish grey, damp, SILTY CLAY
Hydrocarbon odor	2		100%	1320 1505	3	Brown, damp, FINE SAND (collapse ?) Greenish grey, moist, SILTY CLAY
					4	
					5	END @ 4.6'
Sample collected at 3½ - 4½' for analysis					10	
					15	
					20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: EMC: Geoprobe
LOGGED BY: Frank Jasiulewicz
DATE: 2/8/02 Boring NUMBER: D-4

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 2' sampler
Depth of boring below ground surface: 4.5 ft.
Completion: Fill hole with cuttings & bentonite



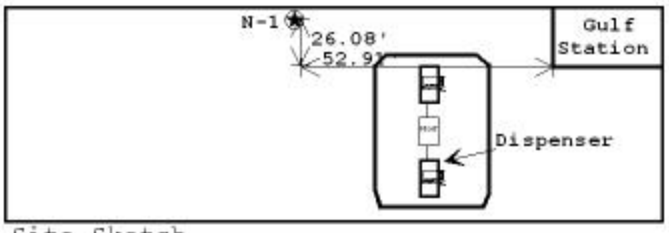
Site Sketch

Comments	Sample Number	Blows 6"	Recovery	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
			0		0	Macadum
					1	Stone subbase
Older Hydrocarbon odor	1		75%	106 195	2 3	Brown, damp, MEDIUM SAND Greenish grey, moist, SILTY CLAY
Older Hydrocarbon odor	2		100%	508	4	END @ 4.5'
Sample collected at 3½ - 4½' for analysis					5	
					10	
					15	
					20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/25/02 Boring NUMBER: N-1

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

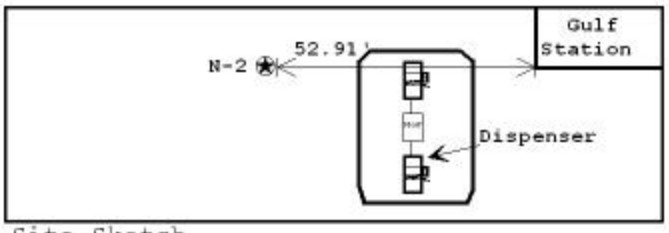
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase
1	1	70%	1425	1	Brown, damp, MEDIUM SAND and ¼" gravel FILL
2			1435	2	Grey, damp, plastic CLAY, trace silt: gasoline odor
3				3	
4	2	100%	1798	4	Brown, moist, FINE SAND AND CLAY: slightly plastic, odor
5				5	Grey, damp, SILTY CLAY, little fine sand: hard, gasoline odor
6			1530	6	
7			1390	7	White, damp, FINE SAND AND CLAY: gasoline odor
8	3	100%	1910	8	Grey/whitish, moist, FINE SAND: gasoline odor
9				9	
10			420	10	Light brown, moist, FINE SAND: gasoline odor wet @ 10 ft.
11				11	Light brown, wet, MEDIUM SAND: gasoline odor
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/25/02 Boring NUMBER: N-2

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 16 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

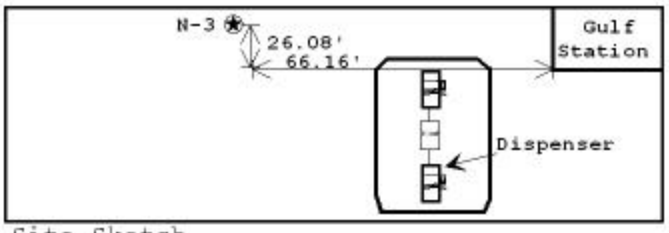
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0	1	50%	7	0	Asphalt & Stone subbase
1				1	Brown, damp, MEDIUM SAND
2			207	2	Grey, moist, SILTY CLAY
3				3	
4	2	75%	720	4	Grey, damp, FINE SANDY CLAY: slightly plastic
5				5	
6				6	Grey, damp, CLAY, little ¼" to ½" gravel: hard
7			819	7	
8	3	100%	744	8	Red, damp, CLAY AND ¼" GRAVEL: hard
9				9	Grey brown, moist, FINE SANDY CLAY: slight gasoline odor
10			150	10	Red, damp, SILTY CLAY AND ½" GRAVEL: hard
11				11	
12	4	100%	730	12	Wet @ 12 ft.
13				13	Same but damp
14			78	14	White, moist, fine/medium clean SAND
15				15	
16				16	Bottom @ 16'
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/26/02 Boring NUMBER: N-3

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

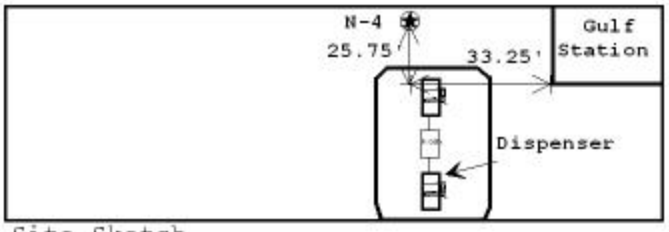
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase
1	1	75%	327	1	Black, damp, SILTY CLAY: old hydrocarbon odor
2				2	Dark grey, moist SILTY CLAY: plastic, old odor
3			441	3	
4				4	gasoline odor
5	2	100%	1400	5	
6			1200	6	Lighter grey, damp, SILTY CLAY
7				7	
8				8	Grey/white, moist, FINE/MEDIUM SAND Dark grey, damp, plastic SILTY CLAY
9			605	9	Light brown, moist, FINE/MEDIUM SAND
10	3	100%		10	wet @ 10 ft.
11			505	11	
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/25/02 Boring NUMBER: N-4

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

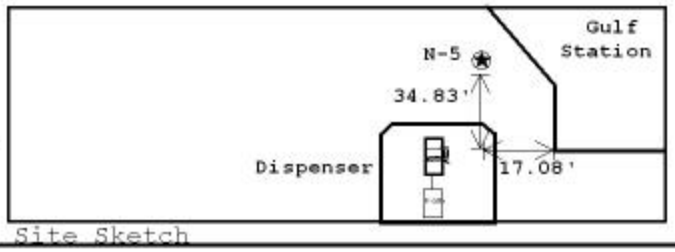
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase
1	1	50%	1550	1	
2				2	Brown, damp, FINE/MEDIUM SAND: gasoline odor
3			1387	3	
4				4	Grey, moist, FINE/MEDIUM SAND, little clay: gas odor Brown, damp, MEDIUM SAND: gasoline odor
5	2	90%	1577	5	Whiteish, damp, FINE/MEDIUM SAND: strong gasoline odor
6			772	6	
7			1600	7	
8				8	Whitish, moist, MEDIUM SAND: gasoline odor
9			280	9	
10	3	100%		10	wet @ 10 ft.
11			1640	11	
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/25/02 Boring NUMBER: N-5

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

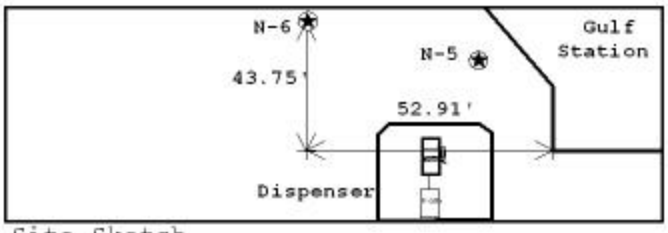
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase: dark stone
1	1	50%	956	1	Black & brown, damp, FINE SAND, trace ½" gravel: gas odor
2				2	Orange brown, damp, MEDIUM SAND, trace clay: gas odor
3			1460	3	
4				4	Dark grey, damp, FINE SANDY CLAY, trace ¼" gravel: gas odor
5	2	100%	1700	5	Light grey, damp, FINE SANDY CLAY: semi hard, gasoline odor
6				6	
7			1220	7	
8				8	Grey, damp, MEDIUM SAND AND CLAY, little ½" gravel: gas odor
9			1511	9	White, moist, MEDIUM CLEAN SAND: less odor
10	3	100%	800	10	
11			101	11	
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/25/02 Boring NUMBER: N-6

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

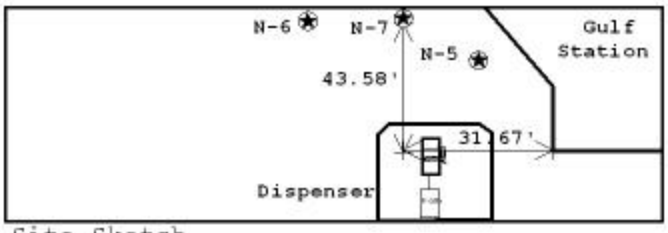
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase
1	1	50%	1510	1	Brown, damp, MEDIUM SAND
2			1573	2	Dark grey, damp, SILTY CLAY: slightly plastic, gasoline odor
3			500	3	Same but greyish
4				4	Dark brown, damp, MEDIUM SAND, little clay: gas odor
5	2	100%	1260	5	
6			1100	6	Grey, damp, FINE SANDY CLAY: hard
7			1200	7	Redish, brown, grey, MEDIUM SANDY CLAY, some ¼" to ½" gravel
8				8	Grey, damp, SILTY CLAY, trace ¼" gravel
9	3	100%	1651	9	Light brown & red, moist, MEDIUM SAND, trace clay, little ¼" gravel
10			1140	10	wet @ 10 ft.
11			418	11	Whitish grey MEDIUM SAND
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/25/02 Boring NUMBER: N-7

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

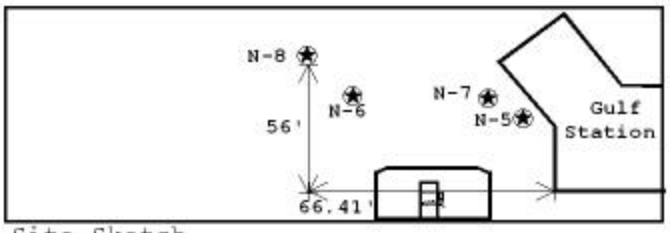
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0	1	50%	98	0	Asphalt & Stone subbase
1				1	Brown, damp, MEDIUM SAND
2			72	2	slight gas odor
3				3	
4	2	100%	103	4	Grey, damp, FINE SANDY CLAY: hard
5				5	Sewage odor
6			103	6	
7			94	7	Grey, damp, crumbly, FINE SANDY CLAY, trace ½" gravel
8	3	30%	109	8	Light brown, damp, MEDIUM SAND, little clay
9			11	9	White, damp, FINE SAND
10				10	
11				11	
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/25/02 Boring NUMBER: N-8

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

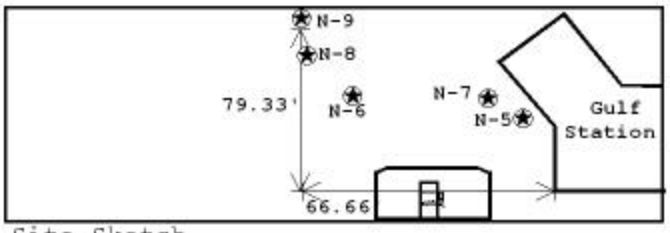
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase
1	1	100%	515	1	Dark brown, damp silty clay and rock dust, FILL: slightly plastic
2				2	Grey orange, damp, SILTY CLAY: hard, slightly plastic
3			520	3	
4				4	Grey, damp, SILTY CLAY, trace 1" gravel: hard
5	2	100%	294	5	
6			210	6	Orangish, damp, SILTY CLAY: hard
7			347	7	
8			68	8	Orange brown, damp, SILTY CLAY, trace fine sand Grey, damp, FINE SANDY CLAY: hard
9				9	
10	3	100%		10	White, wet, MEDIUM SAND: sewage odor
11			43	11	
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/25/02 Boring NUMBER: N-9

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

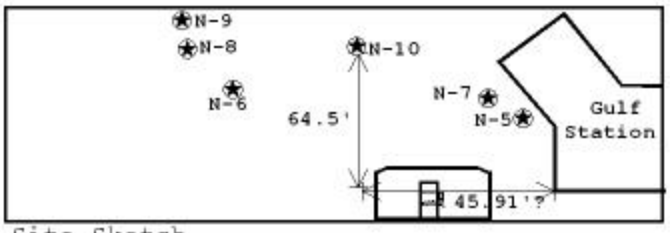
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase
1	1	100%	153	1	Dark grey, damp, SILTY CLAY: slightly plastic
2				2	
3			84	3	Orange, damp, SILTY CLAY: hard
4				4	Grey, damp, SILTY CLAY: hard
5	2	100%	49	5	Grey, damp, SILTY CLAY, trace fine sand: hard
6			36	6	
7			42	7	Grey, damp, plastic CLAY: hard
8				8	Brown, damp, SILTY CLAY: hard, plastic
9	3	100%	50	9	Light brown, damp, FINE SANDY CLAY: hard
10			77	10	White, damp, clean FINE/MEDIUM SAND, trace clay
11				11	
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/26/02 Boring NUMBER: N-10

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

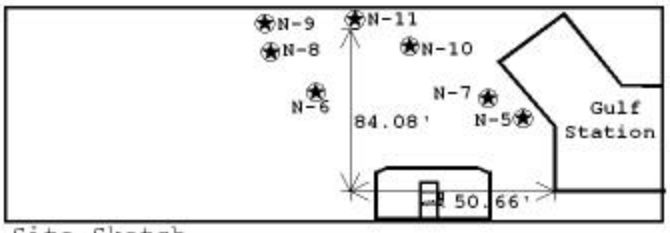
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase
1	1	100%	5	1	Orange, damp, MEDIUM SAND
2				2	Dark, damp, FINE SAND, trace clay
3			5	3	White, damp, FINE SAND Light grey, damp, FINE SAND, trace clay
4				4	White, damp, MEDIUM SAND
5	2	100%	13	5	
6			426	6	Grey & orange, damp, SILTY CLAY, trace ¼" gravel: hard
7				7	gasoline odor
8	3	100%	1650	8	Grey, moist, FINE SAND: whiter with depth, trace clay
9				9	
10				10	wet @ 10 ft: slight gas odor
11			51	11	
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/26/02 Boring NUMBER: N-11

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

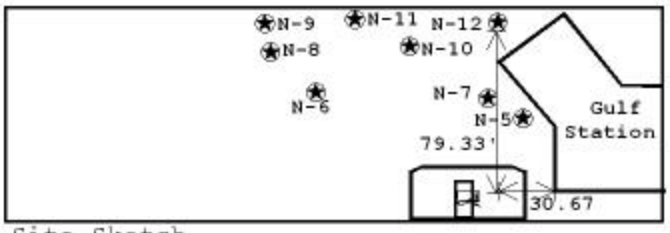
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase
1	1	75%	0	1	Orange, damp, MEDIUM SAND
2			0	2	Whiteish, damp, FINE SAND
3				3	
4				4	
5	2	100%	2	5	
6			2	6	Greyish, damp, FINE SANDY CLAY: hard
7				7	
8				8	White, damp, MEDIUM SAND
9	3	75%	5	9	
10				10	wet @ 10 ft
11			35	11	maybe slight gas odor
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/26/02 Boring NUMBER: N-12

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

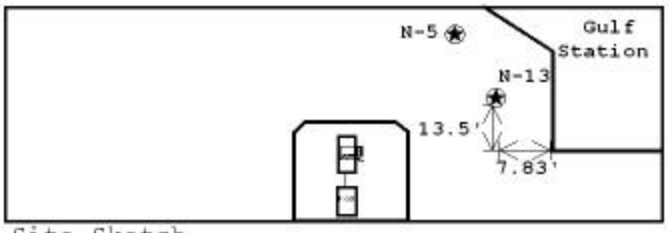
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase
1	1	90%	4	1	Light brown, dry, MEDIUM SAND
2				2	Whitish, dry, FINE SAND, trace clay
3			7	3	
4			10	4	White,damp, clean FINE SAND
5	2	50%		5	
6				6	slight fuel oil odor @ 6 ft. to 8 ft.
7			1400	7	
8			644	8	
9	3	100%	66	9	Grey, wet, FINE SAND
10				10	
11			26	11	White, wet, clean FINE SAND
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/26/02 Boring NUMBER: N-13

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

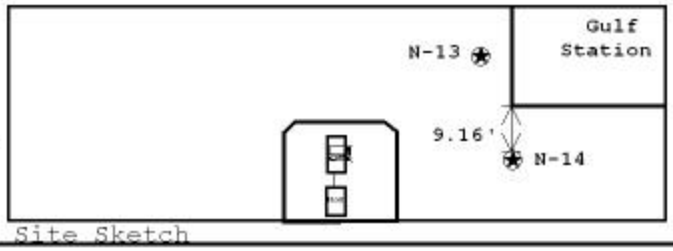
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase: dark stone
1	1	75%		1	Light brown, damp, FINE SAND: gas odor
2			1700	2	
3				3	
4				4	gas odor
5	2	50%		5	
6			1555	6	Darker brown, damp, FINE SAND, trace clay: gas odor
7			1700	7	Grey, damp, SILTY CLAY, trace fine sand: hard
8				8	Greyish green, damp, FINE SAND: gas odor
9			2000	9	Brown, damp, FINE/MEDIUM SAND: gas odor
10	3	100%	214	10	Red & grey, moist, SILTY CLAY, little ¼" gravel: gas odor
11			230	11	Whitish green, wet FINE SAND
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/26/02 Boring NUMBER: N-14

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

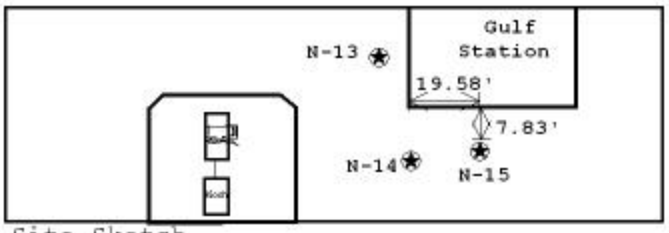
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	LITHOLOGIC DESCRIPTION
0				Asphalt & Stone subbase: dark stone
1	1	100%	48	Light brown, damp, MEDIUM SAND
2			566	Grey, damp, SILTY CLAY, trace ¼" gravel, trace fine sand;semi plastic
3			733	Brown, damp, MEDIUM SAND, little clay
4	2	50%		
5				
6			1326	Greenish, moist/wet, FINE SANDY CLAY, trace ½" gravel: gas odor
7				
8	3	100%	1510	gas odor
9			70	Orange, damp, FINE SAND, little 1½" gravel
10	4	25%	12	
11			199	Orange, wet MEDIUM SAND AND CLAY, little 1½" gravel
12				Bottom @ 12'
13				
14				
15				
16				
17				
18				
19				
20				

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/26/02 Boring NUMBER: N-15

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

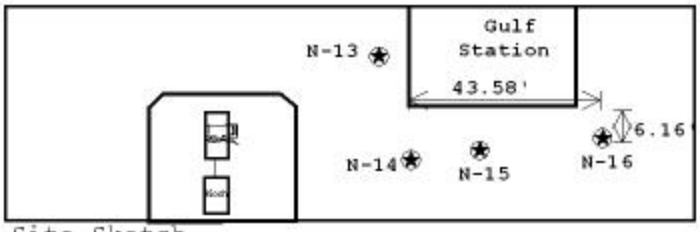
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase: dark stone
1	1	75%	1023	1	Blackish brown, damp, MEDIUM SAND: petroleum odor
2			1680	2	
3			1404	3	Greenish, damp, slightly plastic CLAY: odor
4				4	
5	2	50%		5	
6				6	Greenish, wet, FINE SANDY CLAY: semi plastic; strong odor
7			1401	7	Greyish white, moist FINE SAND, trace 1½" gravel, trace clay: odor
8			1633	8	Grey, wet, FINE SANDY CLAY, trace 1½" gravel: water staining sample tube black
9	3	100%	1000 512	9	Brown, wet, MEDIUM SAND Orange, wet, FINE SAND AND CLAY: semi hard
10	4	100%	980	10	Grey, wet FINE SANDY CLAY, little 1" gravel: oily
11				11	
12				12	Orange, wet, Silty CLAY Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Total Quality Drilling. L.L.C.
LOGGED BY: RedHawk
DATE: 2/26/02 Boring NUMBER: N-16

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 12 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

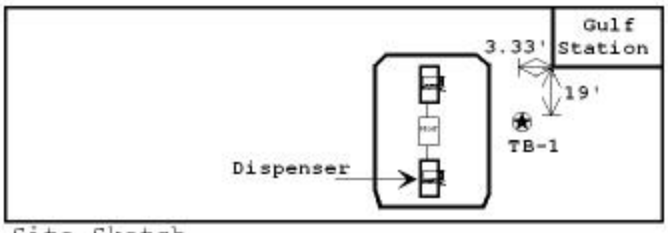
Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Stone subbase: dark stone
1	1	100%	340	1	Light brown, damp, FINE SAND
2			560	2	Black grey, damp, fine sandy clay, trace wood: FILL
3				3	Dark grey, moist, SILTY CLAY
4				4	Light grey, damp, SILTY CLAY: hard
5	2	100%	600	5	
6				6	
7			55	7	Light grey, moist, MEDIUM SAND
8	3	100%	76	8	wet
9			83	9	Orange, moist FINE SANDY CLAY: hard
10	4	100%	111	10	Greyish, wet, MEDIUM SAND: odd smell
11			300	11	
12				12	Bottom @ 12'
13				13	
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectabl

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 1/31/02 Boring NUMBER: TB 1

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 14 ft.
Completion: Fill hole with cuttings & bentonite



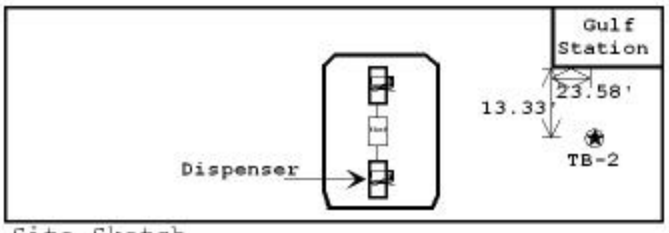
Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt FILL material, some sand, dry
1	1			1	
2			17	2	CLAY with some sand, pebbles & fill material mixed in (some black ash), brown, sl. moist, petroleum odor
3				3	
4				4	Same, moist
5	2		10	5	
6			18	6	
7				7	
8			45	8	Same, light brown/grey interbedded, more large grained sand & quartz pebble, wet, odor
9	3		30	9	
10			1	10	
11				11	Wet (saturated), Clay with some sand (large grain) & pebbles
12				12	estimated Groundwater 11.5 12 ft.
13	4			13	
14			0	14	Bottom @ 14'
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 1/31/02 Boring NUMBER: TB 2

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 14 ft.
Completion: Fill hole with cuttings & bentonite



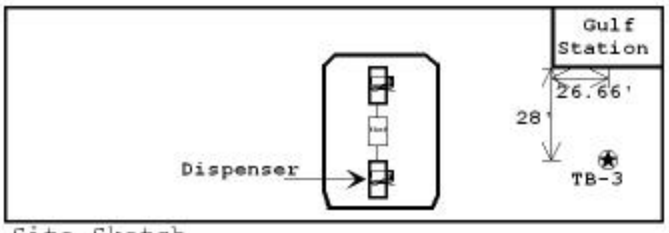
Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt
1	1			1	Clay with some sand, light grey/green & brown with FILL material (pebbles & brick), sl. moist
2				2	
3			3	3	
4			0	4	Same, no fill material, moist
5				5	
6	2		23	6	
7			11	7	
8				8	
9				9	
10	3		1	10	
11				11	Large cobbles Clay, sand & pebbles, light brown/tan, wet - saturated
12				12	
13	4		0	13	Sand, coarse grained, whiteish, wet Sand, lite grey, wet, odor
14				14	Bottom @ 14'
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 1/31/02 Boring NUMBER: TB 3

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 13 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt
1				1	Clay, sand &pebbles, slightly moist
2	1			2	2" concrete layer Dark grey/black CLAY, some ash material, sl. moist
3			28	3	
4				4	Clay some sand & pebbles, green/light brown mottled, moist
5				5	
6				6	
7	2		9	7	
8			0	8	Same but wet (saturated)
9			0	9	Sand & Clay, light brown/light green & whiteish mottled with some bebbles, moist
10			2	10	
11	3			11	Same but wet (saturated)
12				12	Same but less wet and only light brown
13				13	Bottom @ 13'
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 1/31/02 Boring NUMBER: TB 4

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 16 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Grass & topsoil
					Sand & ash fill material, brown/black, moist
1				1	
2	1		0	2	
3				3	Clay, sand, brown/green, some pebbles, moist/wet
4			0	4	Clay, sand & pebbles, light gre/green mottled, mois/wett
5			0	5	
6	2			6	
7			0	7	
8				8	
9			0	9	
10	3			10	Same less sand, mostly clay
11			0	11	
12				12	
					Clay, brown, with coarse sand, moist
13			0	13	
14	4		0	14	Same, wet (saturated) - groundwater
15				15	Sand, light grey/green & whiteish, wet (saturated)
16			0	16	Bottom @ 16'
17				17	
18				18	
19				19	
20				20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 1/31/02 Boring NUMBER: TB 5

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 14 ft.
Completion: Fill hole with cuttings & bentonite



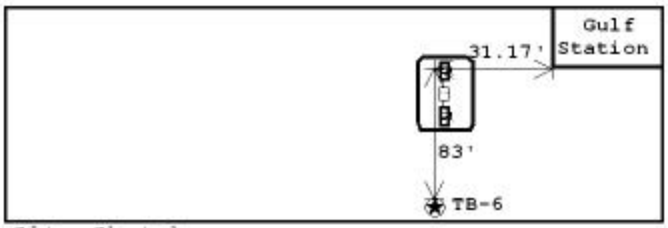
Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt & Fill
1	1		33	1	
2				2	Pea gravel & sand, black, very smelly Clay, some sand, light gray
3				3	
4	2		2	4	Clay, some sand, light grey/light brown mottled, moist
5				5	
6				6	Sand, grey, very moist, odor
7				7	Clay, some sand, light grey/light brown mottled, moist
8	3		3	8	Clay with some sand & pebbles, brown
9				9	
10				10	
11				11	
12	4		5	12	Same, smelly, Clay & sand, light grey/whitish, wet (saturated) groundwater
13				13	
14				14	Bottom @ 14'
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 1/31/02 Boring NUMBER: TB 6

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 13 ft.
Completion: Fill hole with cuttings & bentonite



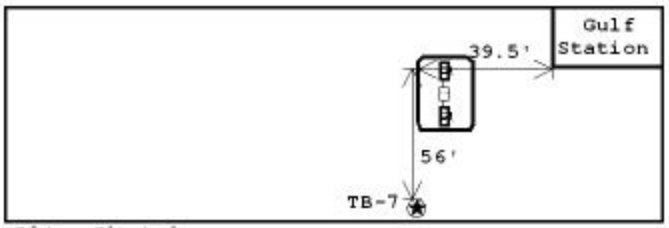
Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt Gravel & FILL
1				1	
2	1			2	Clay & some sand, brown, moist
3				3	
4				4	
5				5	
6				6	
7	2			7	
8				8	Clay, some sand, light greenish grey/light brown, wet/staurated possibly surface water
9				9	
10			0	10	Same, moist
11	3		0	11	Same, wet (saturated)
12				12	Groundwater at 11.5 -12 ft.
13				13	Bottom @ 13'
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 1/31/02 Boring NUMBER: TB 7

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 15 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Asphalt
1				1	Clay, some sand, brown/dark brown, slightly moist, odor
2	1			2	
3			20	3	
4			64	4	Clay some sand, light grey/light brown, moist strong odor
5			86	5	
6			59	6	
7	2		62	7	
8			68	8	
9			72		Mostly sand, some clay, light grey, odor
10			74	9	
11	3		23	10	Clay & sand, light brown, slight odor, slightly moist
12			92	11	
13			5	12	
14	4		22	13	Same, wet (groundwater), slight odor
15			2	14	Clay & sand, whiteish, wet
16				15	Bottom @ 15'
17				16	
18				17	
19				18	
20				19	
				20	

Boring Log
RedHawk Environmental

CLIENT: AIG
LOCATION: North Brunswick Gulf
DRILLER: Tri State from Bensalem
LOGGED BY: Jason
DATE: 1/31/02 Boring NUMBER: TB 8

Hole diameter: 1½"
Drilling method: Geoprobe
Sampling method: Continious with 4' sampler
Depth of boring below ground surface: 13 ft.
Completion: Fill hole with cuttings & bentonite



Site Sketch

Depth (feet)	Sample Number	Recovery (%)	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
0				0	Grass & topsoil
1				1	Clay, brown, some sand, slightly moist
2	1			2	
3			21	3	
4				4	Clay, light grey, moist/wet, strange smell
5			20	5	
6	2			6	Clay, light grey/light brown, some sand, moist, no odor
7				7	Same, wet, saturated
8			15	8	
9				9	Clay & sand, light brown, moist
10	3		0	10	Clay & some sand, wet (saturated), strong odor (sweet)
11			8	11	
12				12	
13				13	Bottom @ 13'
14				14	
15				15	
16				16	
17				17	
18				18	
19				19	
20				20	

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project Location: 1696 Georges Road, North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. F 1 **Recorded:** Frank Jasiulewicz

Depth of Boring: 21 ft BG **Date :** August 25, 2008

Groundwater Depth: 19.10' bgs **Driller:** Tri State : Rob

Drill Rig: GeoProbe with 3 ft X 1¼" OD rods **Weather:** 85

Sample Depth	PID (ppmv)	Depth (ft)	Materials
		0 - 2	Asphalt & sub base stone
	2	2 - 3.5	Grey CLAY
	4	3.5 - 4.5	Grey CLAY, little fine sand
	4	4.5 - 6	Orange & Grey CLAY, dry, hard
	3	6 - 9	Grey CLAY with 3" of stone fill at 8.5' (may be fill around utility lines)
9 – 9.5	6	9 - 10	Grey & Tan CLAY
	4	10 - 12	Grey CLAY
	3	12 - 13	Grey & Tan CLAY
	0	13 - 15	Grey CLAY
	4	15 - 16.5	Same
	0	16.5 - 18	Same
	5	18 - 19	Same, moist
	2	19 - 21	Same but dry & hard

NOTES: Installed 15 ft of screen and 6 solid as temporary well.
Next day groundwater was at 6.02 ft bg.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project Location: 1696 Georges Road, North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. F 2 **Recorded:** Frank Jasiulewicz

Depth of Boring: 15 ft BG **Date :** August 25, 2008

Groundwater Depth: 12.55' bgs **Driller:** Tri State : Rob

Drill Rig: GeoProbe with 3 ft X 1¼" OD rods **Weather:** 85

Sample Depth	PID (ppmv)	Depth (ft)	Materials
		0 - 1.5	Asphalt & stone sub base material
	3	1.5 - 1.75	Grey CLAY
	4	1.75 - 3	Tan & orange CLAY
		3 - 4.5	Grey CLAY
	3	4.5 - 5.5	Grey CLAY and FINE SAND, moist
	2	5.5 - 6	Orange CLAY and FINE SAND, trace gravel, moist
	3	6 - 7	Grey CLAY and FINE SAND, moist
	3	7 - 8	Grey CLAY
	3	8 - 9	Grey CLAY and COARSE SAND
9 – 9.5	3	9 - 10	Same, wet
	3	10 - 11	Same, wet
	2	11 - 12	Grey CLAY, hard not wet
12 – 12.5	4	12 -13	Grey, CLAY and COARSE SAND, wet
	3	13 - 14	Grey CLAY, not wet
	3	14 - 15	Same

NOTES: Installed 10 ft screen and 5 ft solid as temporary well.
Next day groundwater was at 4.58 ft bg.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project Location: 1696 Georges Road, North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. F 3 **Recorded:** Frank Jasiulewicz

Depth of Boring: 12 ft BG **Date :** August 25, 2008

Groundwater Depth: 6.60' bgs **Driller:** Tri State : Rob

Drill Rig: GeoProbe with 3 ft X 1¼" OD rods **Weather:** 85

Sample Depth	PID (ppmv)	Depth (ft)	Materials
	0	0 - 1.5	Topsoil
	0	1.5 - 3	Same
	0	3 - 4	Grey CLAY
	0	4 - 5	Same
	0	5 - 6	Same
	3	6 - 7	Same
	3	7 - 8	Same
8.5 – 9	4	8 - 9	Tan, FINE SAND, moist
	2	9 - 10	Same but wet
	2	10 - 11	Same but wet
	0	11 - 12	Grey, CLAY, hard & dry

NOTES: Installed 10 ft screen & 2 ft solid as temporary well.
Next day groundwater was at 6.65 ft btoc.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project Location: 1696 Georges Road, North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. F 4 **Recorded:** Frank Jasiulewicz

Depth of Boring: 21 ft BG **Date :** August 25, 2008

Groundwater Depth: 20.75' bgs **Driller:** Tri State : Rob

Drill Rig: GeoProbe with 3 ft X 1¼" OD rods **Weather:** 85

Sample Depth	PID (ppmv)	Depth (ft)	Materials
	0	0 - 3	Topsoil
	0	3 - 4	Same
	0	4 - 5	Grey, CLAY, trace fine sand
	0	5 - 6	Same
6.5 – 7	1	6 - 7	Same with black staining ?
	0	7 - 8	Same, no black material
	0	8 - 9	Grey, CLAY
9 – 9.5	0	9 - 10	Same
	0	10 - 11	Same
	0	11 - 12	Same
	0	12 - 15	Same
	0	15 - 18	Same
	0	18 - 20	Same
	0	20 - 21	Red, CLAY
			No water observed during drilling

NOTES: Installed 15 ft screen and 5 ft solid casing as temporary well.
Next day groundwater was at 14.33 ft BTOC.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project Location: 1696 Georges Road, North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. F 5 **Recorded:** Frank Jasiulewicz

Depth of Boring: 21 ft BG **Date :** August 26, 2008

Groundwater Depth: ____ **Driller:** Tri State : Rob

Drill Rig: GeoProbe with 3 ft X 1¼" OD rods **Weather:** 85

Sample Depth	PID (ppmv)	Depth (ft)	Materials
		0 - 3	FILL with asphalt at 2.5 ft
		3 - 4	Red, STONE & CLAY FILL
	3	4 - 5	Grey, CLAY, trace silt
	3	5 - 6	Grey, CLAY
	6	6 - 7	Grey, CLAY, trace fine sand; gas odor
	109	7 - 8	Grey, CLAY; gas odor
8 – 9	512	8 - 9	Same; gas odor
	180	9 - 10	Same; gas odor
	455	10 - 11	Same; gas odor
11 – 12	925	11 - 12	Same; gas odor
	220	12 - 13	Same; gas odor
13 – 14	290	13 - 14	Same; gas odor
	53	14 - 15	Same; gas odor
15 – 16	300	15 - 16	Same; gas odor
16 – 17	59	16 - 17	Same; gas odor
	35	17 - 18	Same
18 – 19	150	18 - 19	Same; gas odor
19 – 20	80	19 - 20	Same; gas odor
	14	20 - 21	Same
			No water observed during drilling. Clay was hard & very plastic.

NOTES: Installed 15 ft screen & 5 ft solid casing as temporary well. At end of day only had approximately 4 inches in water in well. Not enough to sample.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project Location: 1696 Georges Road, North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. F 6 **Recorded:** Frank Jasiulewicz

Depth of Boring: 15 ft BG **Date :** August 26, 2008

Groundwater Depth: 7.14' bgs **Driller:** Tri State : Rob

Drill Rig: GeoProbe with 3 ft X 1¼" OD rods **Weather:** 85

Sample Depth	PID (ppmv)	Depth (ft)	Materials
		0 - 1	Topsoil
		1 - 3	Orange, CLAY, trace silt
	0	3 - 6	Orange & grey interbedded, CLAY, very dry
	0	6 - 7	Tan, orange & grey, CLAY, trace fine gravel
	0	7 - 8	Orange, CLAY, trace fine gravel
	0	8 -9	Orange, CLAY, trace fine gravel, trace fine sand
	0	9 - 10	Orange, grey & red, CLAY, trace fine gravel, moist
	0	10 - 11	Whitish/pink, FINE SAND, trace silt
	0	11 12	Same but moist to wet
	0	12 - 13	Tan, FINE SAND, trace silt, wet
	0	13 - 14	Whitish, FINE SAND, wet
	0	14 - 15	Same

NOTES: Installed 10 ft screen & 5 ft solid as temporary well.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project Location: 1696 Georges Road, North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. F 7 **Recorded:** Frank Jasiulewicz

Depth of Boring: 12 ft BG **Date :** August 26, 2008

Groundwater Depth: 7.55' bgs **Driller:** Tri State : Rob

Drill Rig: GeoProbe with 3 ft X 1¼" OD rods **Weather:** 85

Sample Depth	PID (ppmv)	Depth (ft)	Materials
		0 - 1	Asphalt & concrete
1 – 2	15	1 - 2	Grey, CLAY; gas odor
2 – 3	9	2 - 3	Same; gas odor
	7	3 - 4	Orange & grey, CLAY
	14	4 - 5	Same
	9	5 - 6	White, FINE SAND
6 – 7	22	6 - 7	Same
7.5 – 8	13	7 - 8	Grey, MEDIUM/COARSE SAND, wet
	13	8 - 9	Same
	6	9 - 10	Same, wet
	9	10 - 11	Tan, COARSE SAND, wet
	6	11 - 12	Brown, COARSE SAND, wet

NOTES: Installed 10 ft screen & 2 ft casing as temporary well.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project Location: 1696 Georges Road, North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. F 8 **Recorded:** Frank Jasiulewicz

Depth of Boring: 10.5 ft BG **Date :** August 26, 2008

Groundwater Depth: ____ **Driller:** Tri State : Rob

Drill Rig: GeoProbe with 3 ft X 1¼" OD rods **Weather:** 85

Sample Depth	PID (ppmv)	Depth (ft)	Materials
		0 -1	Asphalt & concrete
	0	1 - 2	
	0	2 - 3	Brown, CLAY
	4	3 - 4	Same
	5.5	4 - 5	Grey, CLAY
	6	5 - 6	Same; gas odor
	5	6 - 7	Orange & grey, CLAY, trace fine gravel
7 – 8	125	7 - 8	Same; gas odor
8 – 9	208	8 - 9	Same with trace fine gravel; gas odor
9 – 10	91	9 - 10	Grey, MEDIUM/COARSE SAND, wet
	35	10 - 10.5	Same; hole collapsed
NOTES:			

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project Location: 1696 Georges Road, North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. F 9 **Recorded:** Frank Jasiulewicz

Depth of Boring: 15 ft BG **Date :** August 26, 2008

Groundwater Depth: ____ **Driller:** Tri State : Rob

Drill Rig: GeoProbe with 3 ft X 1¼" OD rods **Weather:** 85

Sample Depth	PID (ppmv)	Depth (ft)	Materials
		0 - 1	Asphalt & concrete
	12	1 - 2	Dark grey, CLAY; odor ?
	8	2 - 3	Same
	4	3 - 4	Dark grey, FINE/MEDIUM SAND and CLAY
	3	4 - 5	Grey, MEDIUM/COARSE SAND, moist
	4	5 - 6	Grey, CLAY, trace medium sand
6 – 7	23	6 - 7	Same
	11	7 - 8	Grey, CLAY and MEDIUM SAND
	10	8 - 9	Same but moist
9 – 10	30	9 - 10	Same
	4	10 - 11.5	Same wit h more coarse sand
	2	11.5 - 12	Tan, CLAY and MEDIUM SAND, moist
	10	12 - 13	Same
13 - 14	10	13 - 14	Same, little wet
	2	14 - 15	Grey, CLAY; hard
NOTES:			

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 1696 Georges Road North Brunswick ,NJ: shoulder of RT 103

Well Boring No. F-10 **Recorded:** Frank Jasiulewicz

Date Drilled: February 18, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 9 feet **Groundwater Depth:** 4.26'

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 0.5	Asphalt
		0.5 – 7	Air knife to clear utilities; no odors; water at 4 ft.
	0	7 - 8	Tan clay, hard, wet
	0	8 - 9	Yellow Medium Sand, wet

NOTES: Set 9 ft screen as temporary well.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 1696 Georges Road North Brunswick ,NJ: in Side Street

Well Boring No. F-11 **Recorded:** Frank Jasiulewicz

Date Drilled: February 18, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 20 feet **Groundwater Depth:** none

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 0.5	Asphalt
		0.5 – 7	Air knife to clear utilities; no odors
4’		4 – 5	Grey clay, trace fine gravel, some fine sand
		5 – 8	Red & grey Clay, trace fine gravel
8’	8	8 – 9	Grey Clay, trace fine gravel
	7	9 - 10	Grey Clay
	7	10 – 11	Same
	6	11 - 12	Same
	7	12 - 13	Same
	5	13 - 14	Same
	6	14 – 15	Same
	8	15 – 16	Same
	6	16 - 18	Same
	6	18 - 20	Same; leave hole open for 3 hours – no water in hole, hole stayed open

NOTES:

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 1696 Georges Road North Brunswick ,NJ in Side Street Road

Well Boring No. F-12 **Recorded:** Frank Jasiulewicz

Date Drilled: February 18, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 7 feet **Groundwater Depth:** 6" from under asphalt

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 0.5	Asphalt
		0.5 – 7	Air knife to clear utilities; no odors
			Water entering hole from under asphalt
			Abandon hole
NOTES:			

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 359 Washington Place North Brunswick ,NJ

Well Boring No. F-13 **Recorded:** Frank Jasiulewicz

Date Drilled: February 18, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 25 feet **Groundwater Depth:** 22.86 ?

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 1	Grass & topsoil
		1 – 3.5	Air knife to clear utilities; no odors
	0	4 - 8	Red/grey Clay
	0	8 - 10	Pinkish Clay, little fine sand
	0	10 - 12	Pinkish turning to Red Clay, little fine sand, dry
	0	12 - 14	Pinkish Clay, turning plastic
	0	14 - 16	Reddish Clay, plastic
	0	16 - 20	Same
	0	20 - 22	Same
	0	22 – 24	Grey Clay, plastic
	0	24 - 25	Red Clay, trace red rock, dry, hard
			No water detected during drilling
			Leave well in until next day: water at 6.01 ft

NOTES: set 15 ft of screen and 10 ft solid casing as temporary point.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 368 Washington Place North Brunswick ,NJ

Well Boring No. F-14 **Recorded:** Frank Jasiulewicz

Date Drilled: February 18, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 15 feet **Groundwater Depth:** 10.31'

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 1.5	Grass then topsoil
	0	1.5 - 4	Light grey Clay, trace fine sand
	0	4 - 5	Same but wet
	0	5 - 8	Grey Clay, dry
	0	8 - 10	Grey Clay, trace fine sand, wet
	0	10 – 11.75	Grey Clay, trace fine gravel, dry, hard
	0	11.75 - 12	Brown Fine Sand
	0	12 - 13	Brown Fine Sand, Some Clay
	0	13 - 14	Brown Fine Sand & Clay, wet
	0	14 - 15	Grey Clay & Fine Sand

NOTES: set 10 ft screen & 5 ft solid as temporary well.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 359 Washington Place North Brunswick ,NJ

Well Boring No. F-15 **Recorded:** Frank Jasiulewicz

Date Drilled: February 18, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 16 feet **Groundwater Depth:** 0.75'

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 1.5	Grass then topsoil
		1.5 – 3	Grey Clay
		3 – 5	Grey Clay, trace fine sand
		5 – 7.5	Grey Clay
	5	7.5 – 8	Tan fine/medium Sand
	6	8 – 9.5	Grey Clay, wet, plastic
	8	9.5 – 12	Orange, red, pink Medium Sand, some clay
	11	12 – 13	Grey Clay & medium Sand
	9	13 – 16	Grey Clay

NOTES: set 10 ft screen & 5 ft solid as temporary well.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 359 Washington Place North Brunswick ,NJ

Well Boring No. F-16 **Recorded:** Frank Jasiulewicz

Date Drilled: February 19, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 12 feet **Groundwater Depth:** 6.46'

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 0.5	Grass then topsoil
		0.5 – 1.5	Tan Clay, trace fine Sand
	0	1.5 - 4	Grey Clay, trace fine Sand
	0	4 – 5	Same
	0	5 – 5.5	Brown fine Sand, little gravel
	0	5.5 - 7	Grey Clay
	0	7 – 7.2	Brown fine Sand
	0	7.2 - 8	Grey Clay
	0	8 - 9	Fine Sand, some Clay, moist/wet
	0	9 - 12	Grey Clay, trace fine gravel
NOTES: set 10 ft screen & 2 ft solid as temporary well.			

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 359 Washington Place North Brunswick ,NJ

Well Boring No. F-17 **Recorded:** Frank Jasiulewicz

Date Drilled: February 19, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 15 feet **Groundwater Depth:** 1.98'

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 0.5	Topsoil
		0.5 - 1	Red Clay, trace fine sand
		1 - 2	Grey/white Clay, trace fine sand
	4	2 - 4	Grey/white Clay, trace fine sand, trace fine gravel
4 - 5	60	4 - 5	Grey Clay, trace fine sand, odor
	7	5 - 6	Same
	5	6 – 8	Grey Clay
	24	8 – 10	Grey Clay, trace medium Sand, wet, sloppy
	13	10 – 11	Grey Clay, trace fine sand, dry, hard
	14	11 – 12	Grey Clay, trace medium Sand, moist
	62	12 – 13	Grey Clay
13 - 14	212	13 – 14	Grey Clay, trace medium Sand; odor
	12	14 - 15	Same

NOTES: set 10 ft screen & 5.2 ft solid as temporary well.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 359 Washington Place North Brunswick ,NJ

Well Boring No. F-18 **Recorded:** Frank Jasiulewicz

Date Drilled: February 19, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 15 feet **Groundwater Depth:** 4.18'

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 1.5	Topsoil
		1.5 – 3.5	Tan Clay, trace fine sand, moist
	5	3.5 – 4	Tan Clay, trace medium Sand
	6	4 – 6	Same but wet with some coarse sand
	5	6 – 8	Grey Clay, trace fine sand, moist
	4	8 – 10	Same
10 - 11	10	10 – 11	Same
	6	11 – 12	Same
	2	12 – 13	Same
	2	13 – 15	Same

NOTES: set 10 ft screen & 4.5 ft solid as temporary well.

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 359 Washington Place North Brunswick ,NJ

Well Boring No. F-19 **Recorded:** Frank Jasiulewicz

Date Drilled: February 19, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 15 feet **Groundwater Depth:** 0.5'

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 - 1	Topsoil, wetish
		1 – 2	Grey Clay
	3	2 - 3	Same
	4	3 – 4	Same
	4	4 – 5	Grey Clay, trace fine Sand, moist
	4	5 – 6	Grey Clay
	4	6 – 8	Grey Clay, trace fine sand
	4	8 – 10	White Fine/medium Sand, Some Clay
10 – 12	37	10 – 12	Same
	10	12 – 13	Same but moist
	10	13 – 14	Whitish grey Clay, trace fine/medium Sand, hard, dry
	7	14 - 15	Same
NOTES:			

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 1696 George Road North Brunswick ,NJ

Well Boring No. F-20 **Recorded:** Frank Jasiulewicz

Date Drilled: February 19, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 12 feet **Groundwater Depth:** 4.5'

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 0.4	Asphalt
		0.4 - 1	Red Clay & stone Fill
	0	1 – 1.5	Tan Sand
	0	1.5 – 4	Red Clay & Stone Fill
	980	4 – 5	Blackish grey Clay; gasoline odor
5 – 6	1670	5 – 6	Greyish Clay, moist, gasoline odor
	1550	6 – 7	Grey Clay, gasoline odor
	1518	7 – 8	Same
	1200	8 – 9	Same
	780	9 – 10	Same
10 - 11	250	10 – 11	Pinkish fine Sand, trace clay, moist/wet
	19	11 – 12	Grey Clay

NOTES: set 10 ft screen and 4.5 ft solid as temporary point

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 1696 Georges Road North Brunswick ,NJ

Well Boring No. F-21 **Recorded:** Frank Jasiulewicz

Date Drilled: February 19, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 12 feet **Groundwater Depth:**

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
	0	0 - 4	Stone & red clay Fill; wet at 4ft
	0	4 – 5	Grey Clay trace fine sand
	1	5 – 6	Same
	1	6 – 7	Same
7 - 8	1	7 – 8	Same
	5	8 – 9	Same
	3	9 – 10	Pinkish Clay, trace fine sand, wetish
	4	10 - 12	Grey Clay
NOTES:			

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 1696 Georges Road North Brunswick ,NJ

Well Boring No. F-22 **Recorded:** Frank Jasiulewicz

Date Drilled: February 19, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 15 feet **Groundwater Depth:**

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 0.4	Asphalt
		0.4 - 4	Tan medium Sand
	0	4 – 5.5	Grey Clay
		5.5 – 5.75	Fine Sand
	0	5.75 – 6	Grey Clay
	0	6 – 8	Grey Clay, trace fine sand, trace gravel
	2	8 – 9	Same
	3	9 – 10	Pinkish Clay, trace fine Sand
	2	10 – 10.25	Pinkish Fine Sand
	1	10.25 – 12	Grey Clay
	1	12 – 13	Layers of Clay & medium Sand, wet
	1	13 – 14	Same
	2	14 – 15	Tan Clay, trace medium sand

NOTES:

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 1696 Georges Road North Brunswick ,NJ

Well Boring No. F-23 **Recorded:** Frank Jasiulewicz

Date Drilled: February 19, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 15.5 feet **Groundwater Depth:**

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 – 1	Black oily clay Fill
	46	1 – 2	Same
	57	3 - 4	Same
	77	4 – 5	Same
	1392	5 – 6	Grey Clay trace fine Sand
	1326	6 – 8	Same
	1339	8 – 9	Same but wet
9 – 10	1529	9 – 10	Grey fine/medium Sand
	876	10 – 12	Grey Clay trace fine Sand
	86	12 – 13	Same
13 – 14	10	13 – 14	Same
	9	14 - 15	Same
NOTES:			

RedHawk Environmental Consulting, Ltd.
214 Sykesville Road
Wrightstown, NJ 08562

Soil Boring Log

Project: North Brunswick Gulf Station

Project Location: 1696 Georges Road North Brunswick ,NJ

Well Boring No. F-24 **Recorded:** Frank Jasiulewicz

Date Drilled: February 19, 2009 **Driller:** Tri State - Rob

Drill Rig: GeoProbe track rig with 4 foot macro samplers

Total Depth of Boring: 12 feet **Groundwater Depth:**

Weather: approx. 35 degrees

Sample	PID (ppmv)	Depth (ft)	Materials
		0 - 2	Stone & tan Sand Fill
	64	2 - 3	Dark grey Clay, trace fine sand; odor
3 – 4	330	3 – 4	Same
	236	4 – 5	Same but wetish
	126	5 – 6	Grey Clay
	117	6 – 7	Same
	146	7 – 8	Same
	145	8 – 9	Grey Clay, trace fine/medium sand, wet
9 - 10	48	9 – 10	Grey Clay
	13	10 – 11	Pinkish Clay, trace fine Sand
	9	11 - 12	Grey Clay, hard

NOTES:

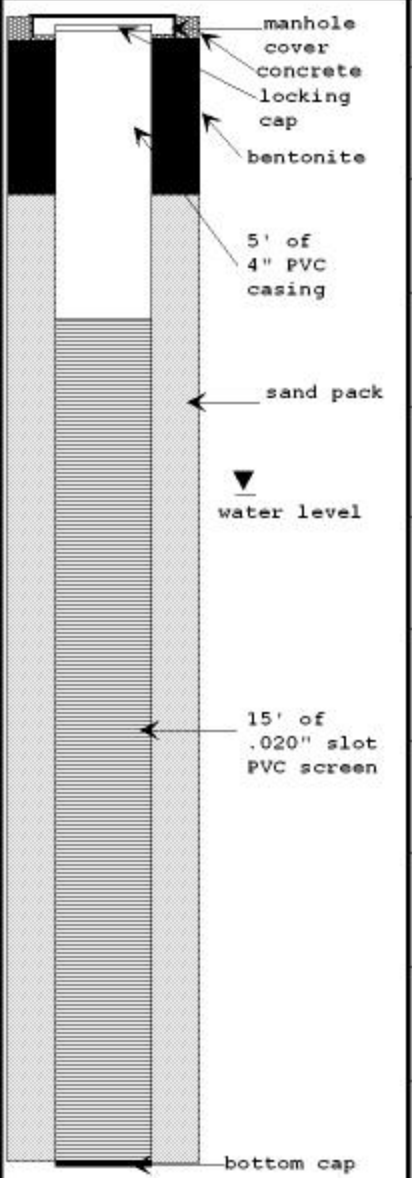
Well Log

RedHawk Environmental

CLIENT: AIG.
LOCATION: North Brunswick Gulf, NJ
DRILLER: Total Quality Drilling
LOGGED BY: RedHawk Environmnetal
DATE: 2/21/02 WELL NUMBER: MW 1

Cased: from .33 ft to 5.33 ft. with 4" SCH 40 PVC
Screened: from 5.33 ft to 20.33 ft with 4" SCH 40 PVC
Screen size: 0.02" slot Filter pack: quartz sand
Depth of well from top of casing: 20.27 ft.
Development method: pumping
Elevation at top of well casing: 100 ft. relative
Annulus completion: 0-0.5' concrete, 0.5'- 3.33' bentonite, 3.33' - 20.33' sand pack
Yield: approx. 2 gpm

Hole diameter: 8.75" O.D.auger/reemed 12"
Drilling method: Hollow Stem Auger
Sampling method: split spoon
Well cover: 8" manhole
Volume of water removed: 55 gallons
Water level below top of casing: 8.6'



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Asphalt Stone fill
1	6 13 6 5	25	43	1	Brown, damp, MEDIUM SAND
2	1 1 1 3	45	1300	3	Grey, moist, SANDY CLAY -gas odor
3	3 6 7 7	60	1865 1445	5	Same but damp White, damp, clean FINE SAND -gas odor
4	7 10 11 11	50	1980	7	Same - gas odor
5	4 7 8 8	50	1631	9	Same - slight gas odor - wet @ 10ft.
6	9 7 8 7	100	1111 305	11	Greyish, wet, MEDIUM SAND - added water Whitish brown, wet, MEDIUM SAND - slight gas odor
7	6 7 7 6	95	908	13	Same
8	9 11 10 14	100	124 213	15	Same but very wet & very loose Pinkish, wet, MEDIUM SAND AND CLAY
9	6 7 7 6	50	318	17	Pinkish, wet, MEDIUM SAND White, wet, MEDIUM SAND
10	8 9 6 5	50	101 72	19	Greyish white, damp, plastic CLAY Bottom of boring @ 20.60'
				21	
				22	
				23	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detecta

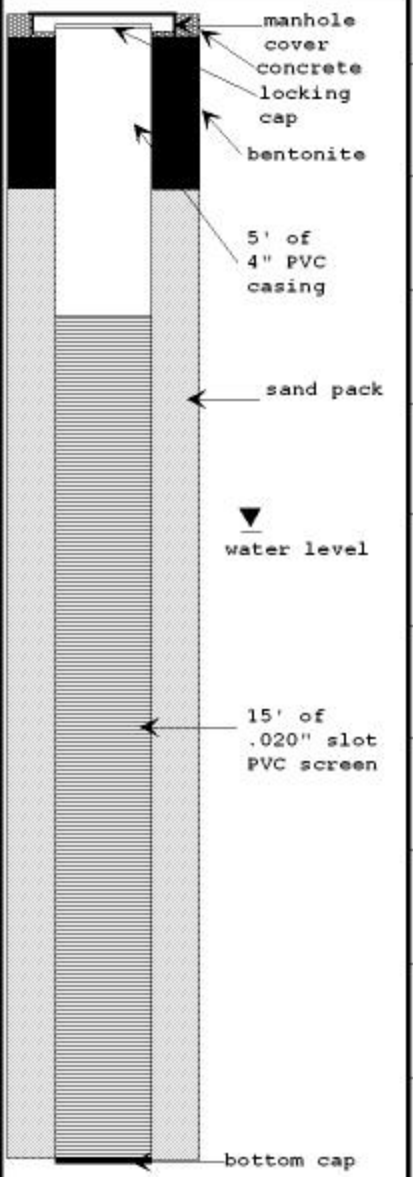
Well Log

RedHawk Environmental

CLIENT: AIG.
LOCATION: North Brunswick Gulf, NJ
DRILLER: Total Quality Drilling
LOGGED BY: RedHawk Environmnetal
DATE: 2/21/02 WELL NUMBER: MW 2

Cased: from .33 ft to 5.33 ft. with 4" SCH 40 PVC
Screened: from 5.33 ft to 20.33 ft with 4" SCH 40 PVC
Screen size: 0.02" slot Filter pack: quartz sand
Depth of well from top of casing: 20.29 ft.
Development method: pumping
Elevation at top of well casing: 99.29 ft relative
Annulus completion: 0-0.5' concrete, 0.5'- 3.33' bentonite, 3.33' - 20.33' sand pack
Yield: less than 1 gpm

Hole diameter: 8.75" O.D.auger
Drilling method: Hollow Stem Auger
Sampling method: split spoon
Well cover: 8" manhole
Volume of water removed: 4 gallons
Water level below top of casing: 9.4'



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Asphalt Stone fill
1	9 6 5 5	25	13	1 2	Brown, damp, SANDY FILL
2	3 5 7 11	50	844	3 4	Grey, damp, SILTY CLAY, trace brown sand, maybe slight gas odor
3	5 6 9 15	75	154 1062	5 6	Dark brown, damp, SILTY CLAY, little fine sand - older odor? Greyish, damp, SANDY CLAY, trace 1½" gravel- slight gas odor
4	9 27 14 10	75	215 804	7 8	Brown,damp,MEDIUM SAND,trace ¼"gravel Greyish, damp, FINE SANDY CLAY, trace ¼" gravel - odor may be increasing
5	9 16 17 9	40	326	9 10	Same
6	7 13 14 16	75	120 24	11 12	Same Brown,wet, FINE/MEDIUM SAND,little 1/8" gravel
7	11 14 13 12	75	130 40	13 14	Same but moist Redish & grey, moist, FINE SANDY CLAY, some ¼" gravel
8	11 12 14 14	60	45 10 4	15 16	Same Red, damp, SILTY CLAY, some ½" gravel Greyish white, damp, SAND AND CLAY, firm
9	10 10 9 10	100	40 9	17 18	Same
10	5 6 8 7	100	19 4 5	19 20	Same Greyish, damp, SANDY CLAY,loose & granular gritty feel Greyish white, damp, plastic CLAY Bottom of boring @ 20.62'
				21 22 23	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%

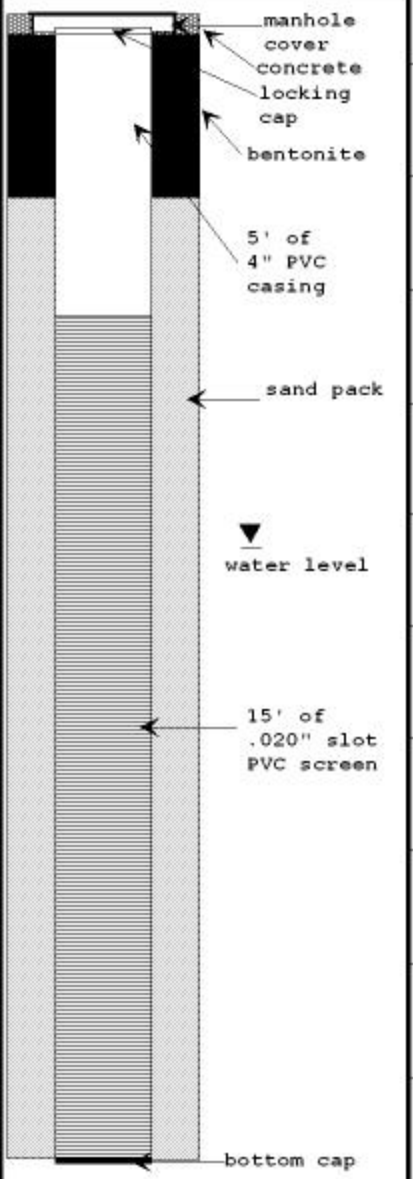
Well Log

RedHawk Environmental

CLIENT: AIG.
LOCATION: North Brunswick Gulf, NJ
DRILLER: Total Quality Drilling
LOGGED BY: RedHawk Environmnetal
DATE: 2/22/02 WELL NUMBER: MW 3

Cased: from .47 ft to 5.47 ft. with 4" SCH 40 PVC
Screened: from 5.47 ft to 20.47 ft with 4" SCH 40 PVC
Screen size: 0.02" slot Filter pack: quartz sand
Depth of well from top of casing: 20.24 ft.
Development method: pumping
Elevation at top of well casing: 95.70 ft.relative
Annulus completion: 0-0.5' concrete, 0.5'- 3.47' bentonite, 3.47' - 20.47' sand pack
Yield: less than 1 gpm

Hole diameter 8.75" O.D.auger
Drilling method: Hollow Stem Auger
Sampling method: split spoon
Well cover: 8" manhole
Volume of water removed: 10 gallons
Water level below top of casing: 9.65'



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Asphalt
					Stone fill
1	12 7 6 6	80	18 4	1	Brown, damp, FINE/MEDIUM SAND
				2	Brown, damp, FINE SAND, trace clay
2	5 6 8 98	50	3	3	Grey,damp,SILTY CLAY,trace fine sand, trace 3/4" gravel
				4	
3	2 2 6 8	50	6	5	Grey,damp,SILTY CLAY,little fine sand
				6	
4	6 8 11 14	5	8	7	Same: only got 2" of sample
				8	
5	8 8 7 13	75	17	9	Redish brown, damp, SILTY CLAY, trace fine sand
				10	
6	11 13 12 12	50	45	11	Pinkish brown,damp, FINE SAND
				12	
7	10 12 12 14	50	44	13	Pinkish brown, damp, FINE SAND, little clay
				14	Grey, damp, FINE GRAVEL AND CLAY, loose & granular gritty feel
8	8 7 6 6	75	10	15	Same but moist Grey, damp,dense CLAY
				16	Same but pinkish brown
9	6 6 7 5	100	6	17	Grey, damp, FINE GRAVEL AND CLAY, loose & granular gritty feel Pinkish Brown, damp, CLAY, waxy/
				18	slippery feel
10	7 6 7 7	75	4	19	Dark grey,damp, platic CLAY
				20	Bottom of boring @ 20.71'
				21	
				22	
				23	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%

Well Log

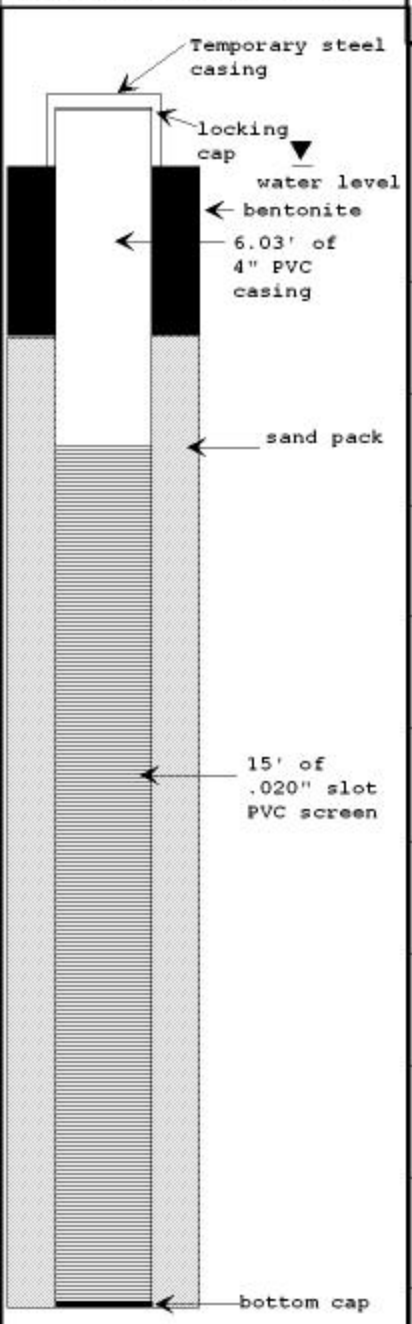
RedHawk Environmental

CLIENT: AIG.
LOCATION: North Brunswick Gulf, NJ
DRILLER: Total Quality Drilling
LOGGED BY: RedHawk Environmnetal
DATE: 2/22/02 WELL NUMBER: MW 4

+1.03'
Cased: from ___ ft to 5 ft. with 4" SCH 40 PVC
Screened: from 5 ft to 20 ft with 4" SCH 40 PVC
Screen size: 0.02" slot Filter pack: quartz sand
Depth of well from top of casing: 21.45 ft.
Development method: pumping
Elevation at top of well casing: 97.55 ft relative
Annulus completion: 0 - 3' bentonite, 3' - 20' sand pack
Yield: less than 1 gpm ?

Hole diameter: 8.75" O.D.auger
Drilling method: Hollow Stem Auger
Sampling method: split spoon
Well cover: temporary stick up
Volume of water removed: 15 gallons
Water level below top of casing: surface

Well Construction



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				2	
				1	
				0	Topsoil
				1	
				2	Grey, damp, SILTY CLAY, crumbly
1	3 5 4 5	50	45	3	Brown, damp, FINE SAND Grey, damp, SILTY CLAY, trace fine sand
2	3 4 3 3	75	24	4	Brown,damp, FINE SAND AND CLAY Grey,damp, FINE SAND, trace clay
				5	
				6	Same
3	3 6 6 5	75	8	7	Redish brown, damp, SILTY CLAY, trace fine sand
4	6 6 7 9	50	8	8	Grey,damp, SILTY CLAY, trace fine sand
				9	Redish, damp, SILTY CLAY, trace fine sand and ¼" gravel
5	7 13 22 28	5	8	10	Greyish red,damp, SILTY CLAY, trace fine sand and ¼" to 1" gravel
				11	
6	7 7 7 8	50	5	12	Red,damp, SILTY CLAY, little ¼"gravel
				13	
7	7 8 8 7	75	5	14	Grey, damp, 1/16" GRAVEL AND SILTY CLAY, loose & granular gritty feel
				15	
8	6 6 8 10	75	4	16	Grey, wet, SILTY CLAY, little 1/16" gravel (more clay with depth)
				17	
				18	Same Dark grey,damp, platic CLAY
9	7 6 7 8	75	5	19	
					Bottom of boring @ 20.42'
				20	Note: after well was drilled water was at the surface
				21	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%

Well Log

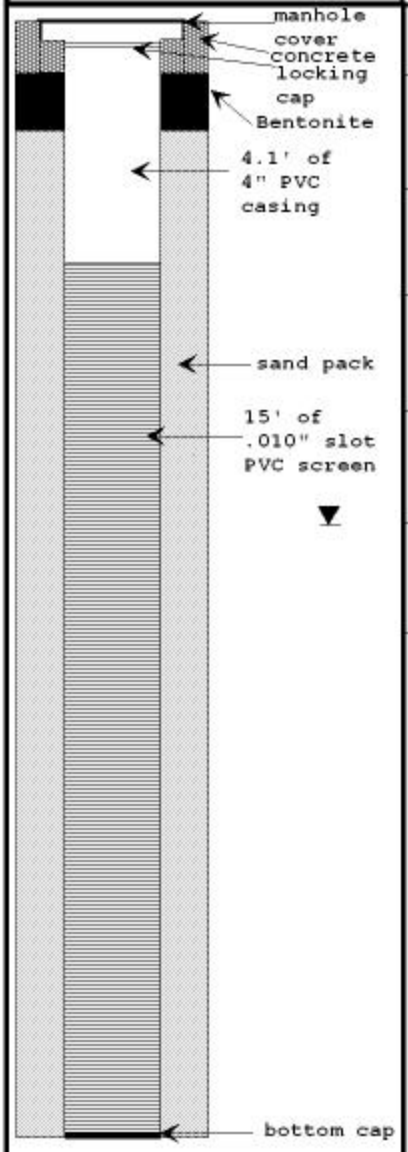
RedHawk Environmental

Project : North Brunswick Gulf
Location : 352 ~~259~~ Washington Place North Brunswick,N
Driller : Hammer Drilling Services - Jim
Logged by: Frank Jasiulewicz
Date : 9-22-09

Well Number: MW 11

Drill Method: HS Auger& Air Rotary
Hole Diameter: 10-inches O.D.
Drilled Depth: 20'
Depth to Water from Top of Casing: dry next day 9.05'
Lenght of Solid Casing: 4.10'
Lenght of Screen: 15'

Casing Below Grade: 0.26'
Casing Diameter: 4-inch
Screen Slot Size: 0.010
Development Method: whale pump
Volume Pumped: 10 gallons
Sample Method: NA



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Grass & topsoil
				1	Orange, dry, Silty Clay, trace fine gravel, trace fine sand
				2	
				3	Tan, dry, Fine Sand, little silt, little clay, trace fine gravel
				4	
				5	Orange, dry, Clay: hard drilling switch to air rotary at 7'
				6	
				7	Pink, moist/wetish, Coarse Sand & Clay
				8	
				9	
				10	
				11	
				12	
				13	dry
				14	Darker Pink Clay, wetish
				15	
				16	Same but dry
				17	
				18	
				19	
				20	Bottom of boring ~ 20'
				21	
				22	
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Well Log

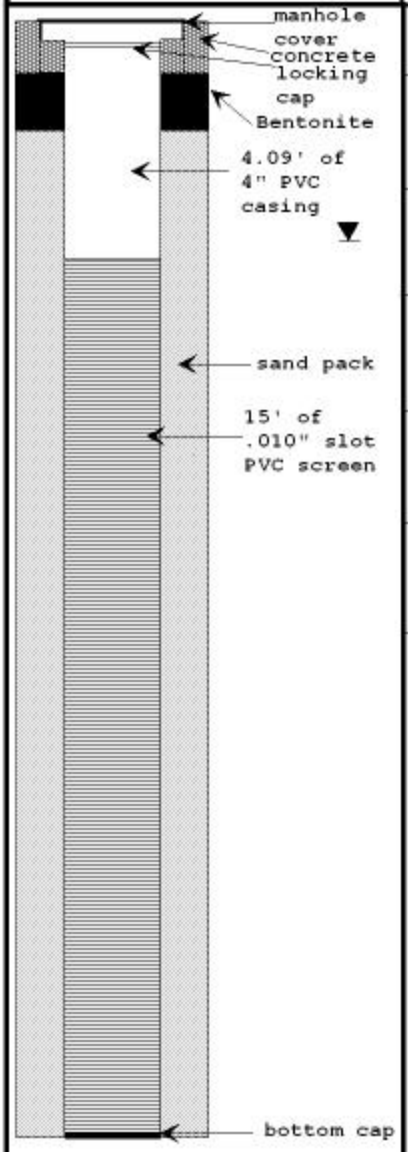
RedHawk Environmental

Project : North Brunswick Gulf
Location : 359 Washington Place North Brunswick,N
Driller : Hammer Drilling Services - Jim
Logged by: Frank Jasiulewicz
Date : 9-22-09

Well Number: MW 12

Drill Method: HS Auger& Air Rotary
Hole Diameter: 10-inches O.D.
Drilled Depth: 20'
Depth to Water from Top of Casing: dry 3.98'
next day
Lenght of Solid Casing: 4.09'
Lenght of Screen: 15'

Casing Below Grade: 0.24'
Casing Diameter: 4-inch
Screen Slot Size: 0.010
Development Method: whale pump
Volume Pumped: 10 gallons
Sample Method: NA



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Grass & topsoil
				1	Gray, dry, Clay, little silt
				2	
				3	
				4	
				5	Gray, wet, Fine Medium Sand & Clay
				6	
				7	
				8	Same but harder drilling, wet at 8.5'
				9	switch to air
				10	Tan, dry, Clay & Fine Gravel
				11	
				12	
				13	
				14	Gray, dry, Clay, little silt
				15	
				16	
				17	Pinkish/purple, dry, Clay
				18	
				19	
				20	Bottom of boring ~ 20'
				21	
				22	
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Well Log

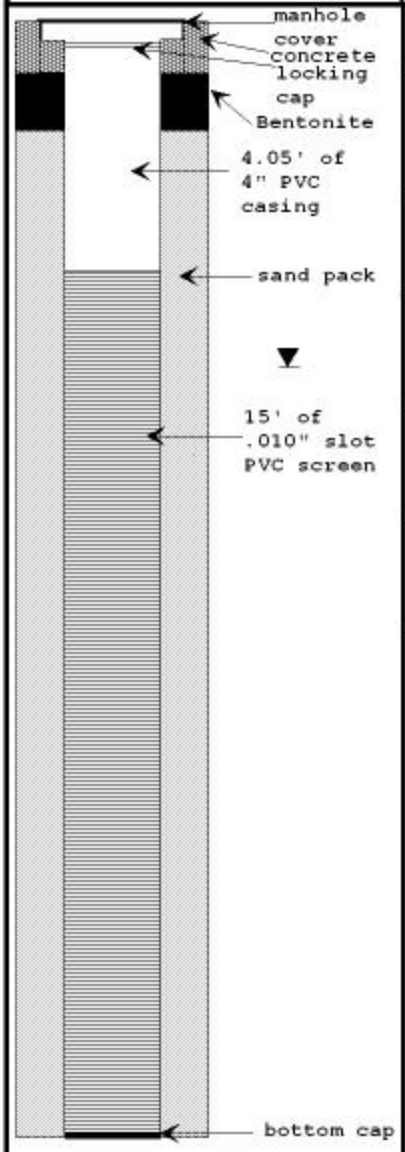
RedHawk Environmental

Project : North Brunswick Gulf
Location : 368 Washington Place North Brunswick,N
Driller : Hammer Drilling Services - Jim
Logged by: Frank Jasiulewicz
Date : 9-22-09

Well Number: MW 13

Drill Method: HS Auger& Air Rotary
Hole Diameter: 10-inches O.D.
Drilled Depth: 20'
Depth to Water from Top of Casing: dry next day 6.27'
Lenght of Solid Casing: 4.05'
Lenght of Screen: 15'

Casing Below Grade: 0.48'
Casing Diameter: 4-inch
Screen Slot Size: 0.010
Development Method: whale pump
Volume Pumped: 4½ gallons
Sample Method: NA



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Grass & topsoil
				1	Orange, dry, Clay, little silt
				2	Tan, Clay, little silt; switch to air at 5'
				3	
				4	
				5	Gray, dry, Clay
				6	
				7	
				8	Same with trace fine gravel
				9	Damp, Clay, trace fine/medium Sand
				10	
				11	Gray, dry, Clay & medium Sand
				12	
				13	
				14	Gray, dry, Clay
				15	
				16	
				17	
				18	
				19	
				20	Bottom of boring ~ 20'
				21	
				22	
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Well Log

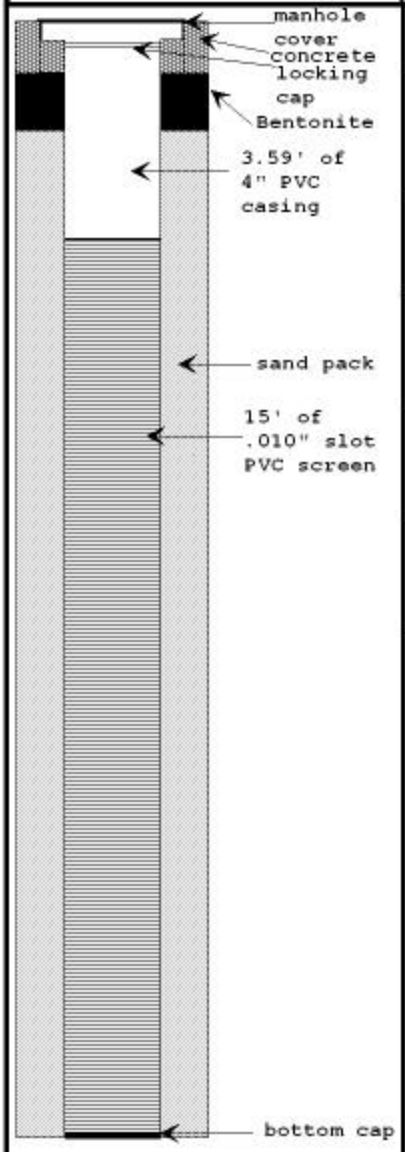
RedHawk Environmental

Project : North Brunswick Gulf
Location : 1674 Georges Rd North Brunswick,NJ
Driller : Hammer Drilling Services - Jim
Logged by: Frank Jasiulewicz
Date : 9-24-09

Well Number: MW 14

Drill Method: HS Auger& Air Rotary
Hole Diameter: 10-inches O.D.
Drilled Depth: 20'
Depth to Water from Top of Casing: dry
Lenght of Solid Casing: 3.59'
Lenght of Screen: 15'

Casing Below Grade: 0.39'
Casing Diameter: 4-inch
Screen Slot Size: 0.010
Development Method: whale pump
Volume Pumped: 0 gallons
Sample Method: NA



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Asphalt & stone fill subbase
				1	Brown/black, damp, Clay, trace silt
				2	
				3	
				4	
				5	Same but hard drilling
					switch to air
				6	Gray/greenish, Clay, little silt
				7	Brown, dry, fine/medium Sand
					Brown, dry, Clay, little silt
				8	
				9	Orange, dry, Clay, little silt,
					trace fine/medium Sand
				10	Tan, dry, Clay, little silt, trace
				11	fine Sand
					Gray, dry, Clay
				12	
				13	
				14	
				15	
				16	
				17	
				18	
				19	Gray, dry, Silt: hard
				20	Bottom of boring ~ 20'
				21	
				22	,
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Well Log

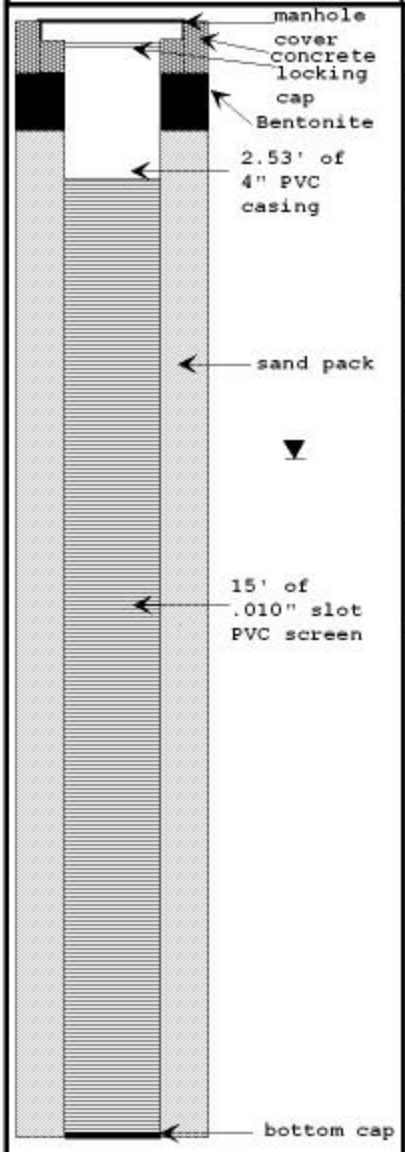
RedHawk Environmental

Project : North Brunswick Gulf
Location : 1696 Georges Rd North Brunswick,NJ
Driller : Hammer Drilling Services - Jim
Logged by: Frank Jasiulewicz
Date : 9-24-09

Well Number: MW 15

Drill Method: HS Auger& Air Rotary
Hole Diameter: 10-inches O.D.
Drilled Depth: 20'
Depth to Water from Top of Casing: 7.92
Lenght of Solid Casing: 2.53'
Lenght of Screen: 15'

Casing Below Grade: 0.30'
Casing Diameter: 4-inch
Screen Slot Size: 0.010
Development Method: whale pump
Volume Pumped: 25 gallons
Sample Method: NA



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Grass & topsoil
				1	Tan/orangish, dry, Clay, little silt
				2	
				3	
				4	
				5	Switch to air
				6	
				7	Brown, dry, Clay, little silt,
				8	trace fine gravel
				9	Orange, dry, Clay, little silt
				10	
				11	Tan, dry, Clay, little silt
				12	Tan, fine Sand, little clay
				13	Same but wet
				14	
				15	
				16	
				17	
				18	Grayish, wet, Fine Sand, little clay
				19	
				20	Bottom of boring ~ 20'
				21	
				22	
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Well Log

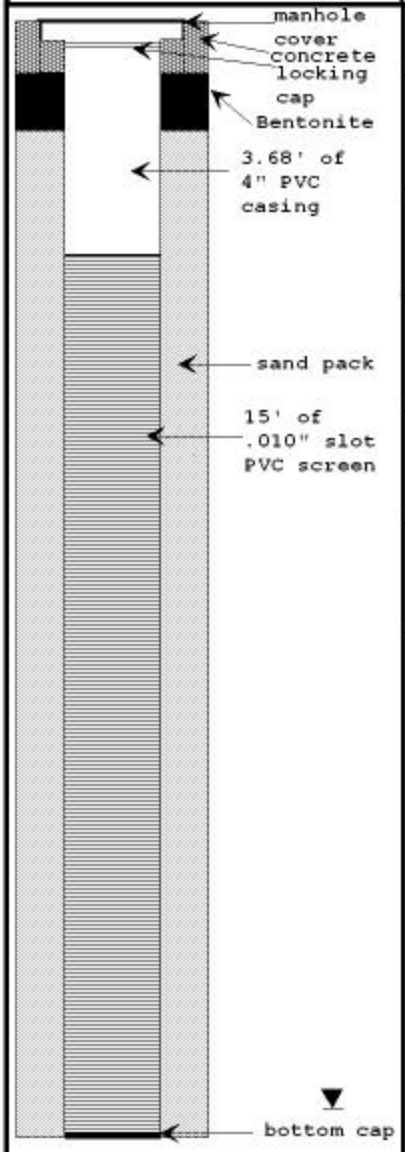
RedHawk Environmental

Project : North Brunswick Gulf
Location : 1696 Georges Rd North Brunswick,NJ
Driller : Hammer Drilling Services - Jim
Logged by: Frank Jasiulewicz
Date : 9-24-09

Well Number: MW 16

Drill Method: HS Auger& Air Rotary
Hole Diameter: 10-inches O.D.
Drilled Depth: 20'
Depth to Water from Top of Casing: 19.6'
Lenght of Solid Casing: 3.68'
Lenght of Screen: 15'

Casing Below Grade: 0.56'
Casing Diameter: 4-inch
Screen Slot Size: 0.010
Development Method: whale pump
Volume Pumped: 0 gallons
Sample Method: NA



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Grass & topsoil
				1	Brown, dry, Clay, little silt
				2	
				3	
				4	
				5	Switch to air
				6	
				7	
				8	
				9	Orange, dry, Clay
				10	
				11	
				12	Whitish/light tan, dry, Clay, trace fine sand
				13	
				14	
				15	Gray, dry, Clay
				16	
				17	
				18	
				19	Red, dry, Clay
				20	Bottom of boring ~ 20'
				21	
				22	
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

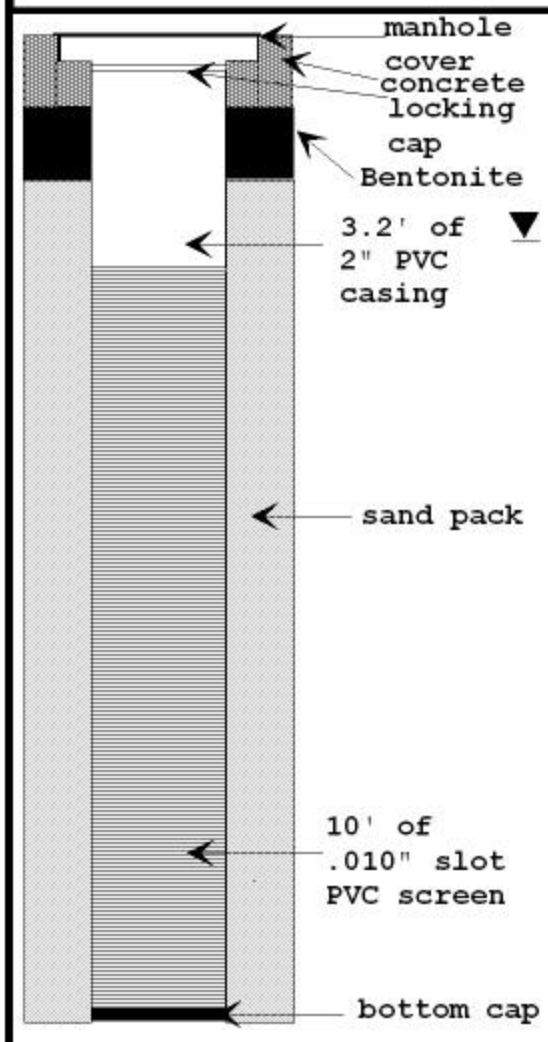
ON-SITE ENVIRONMENTAL

Project : North Brunswick Gulf
Location : 1696 Georges Rd North Brunswick,NJ
Driller : EPI Jeremy
Logged by: Frank Jasiulewicz
Date : 5-25-18

Well Number: MW 17

Drill Method: Geo Probe hollow stem auger
Hole Diameter: 10-inches O.D.
Drilled Depth: 13'
Depth to Water from Top of Casing: 2.72
Lenght of Solid Casing: 3.2'
Lenght of Screen: 10'

Casing Below Grade: ~0.33'
Casing Diameter: 2-inch
Screen Slot Size: 0.010
Development Method: whale pump
Volume Pumped: 30 gallons
Sample Method: NA



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	asphalt
				1	Tan, medium sand & pea gravel
				2	
				3	Tan orange sand & little clay
				4	
				5	Tan/red clay, trace fine gravel, little fine sand, wet at 4.5 ft
				6	
				7	
				8	
				9	
				10	
				11	
				12	Tan, fine/medium sand water at 12 ft
				13	Bottom of boring ~ 13'
				14	
				15	
				16	
				17	
				18	
				19	
				20	
				21	
				22	
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

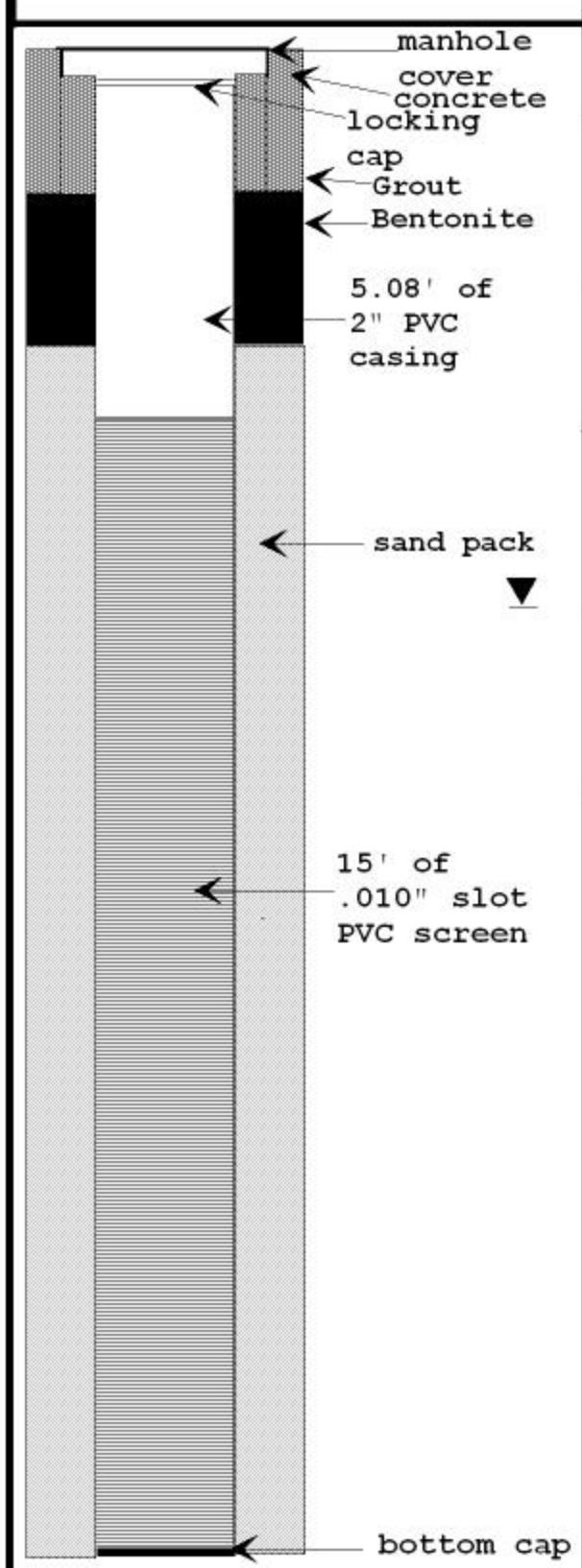
ON-SITE ENVIRONMENTAL

Project : North Brunswick Gulf
Location : 1696 Georges Rd North Brunswick,NJ
Driller : EPI Jeremy
Logged by: Frank Jasiulewicz
Date : 9-13-18

Well Number: MW 18

Drill Method: Hollow stem auger
Hole Diameter: 10-inches O.D.
Drilled Depth: 20'
Depth to Water from Top of Casing: 7.46'
Lenght of Solid Casing: 5.08'
Lenght of Screen: 15'

Casing Below Grade: ~0.58'
Casing Diameter: 2-inch
Screen Slot Size: 0.010
Development Method: whale pump
Volume Pumped: 16 gallons
Sample Method: GeoProbe to 10'



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
			40	0	Asphalt & stone
			9.1	1	Gray clay, trace medium sand,
			11.5		trace fine gravel
		80%	3	2	
			2	3	Top 4 ft had asphalt odor
			2	4	Gray whitish clay & fine/medium sand
					trace/little fine gravel
			0	5	Gray pinkish clay, little medium
			0	6	sand:hard drilling slow
		100%	0	7	
			0	8	
			0	9	
			0	10	
				11	
				12	
				13	
				14	
				15	
				16	Red clay, wet, easier drilling
				17	
				18	
				19	
				20	Bottom of boring ~ 20'
				21	
				22	
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

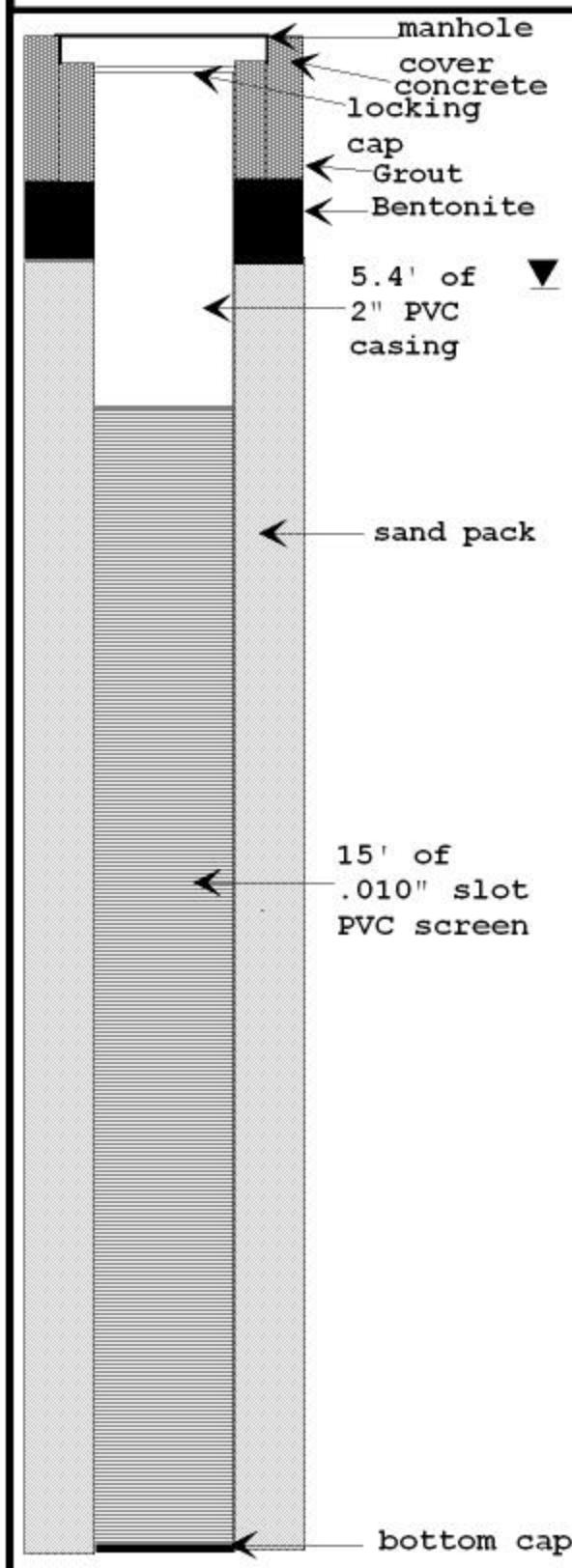
ON-SITE ENVIRONMENTAL

Project : North Brunswick Gulf
Location : 1696 Georges Rd North Brunswick,NJ
Driller : EPI Jeremy
Logged by: Frank Jasiulewicz
Date : 5-24-18

Well Number: MW 19

Drill Method: Geo Probe hollow stem auger
Hole Diameter: 10-inches O.D.
Drilled Depth: 20'
Depth to Water from Top of Casing: 3.4'
Lenght of Solid Casing: 5.4'
Lenght of Screen: 15'

Casing Below Grade: ~0.33'
Casing Diameter: 2-inch
Screen Slot Size: 0.010
Development Method: whale pump
Volume Pumped: 15 gallons
Sample Method: NA



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Stone fill
					Fill: red rock fragmments, sand, clay
				1	
				2	
				3	Brown, fine sand & clay, trace ½" gravel
				4	
				5	
				6	
				7	Brown, clay, trace fine sand
				8	water: very wet 8 to 11 ft
				9	
				10	
				11	Tan, medium sand & clay: wet but not as wet as above
				12	
				13	
				14	more water
				15	Gray clay: old gas odor
				16	
				17	
				18	
				19	
				20	Bottom of boring ~ 20'
				21	
				22	
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

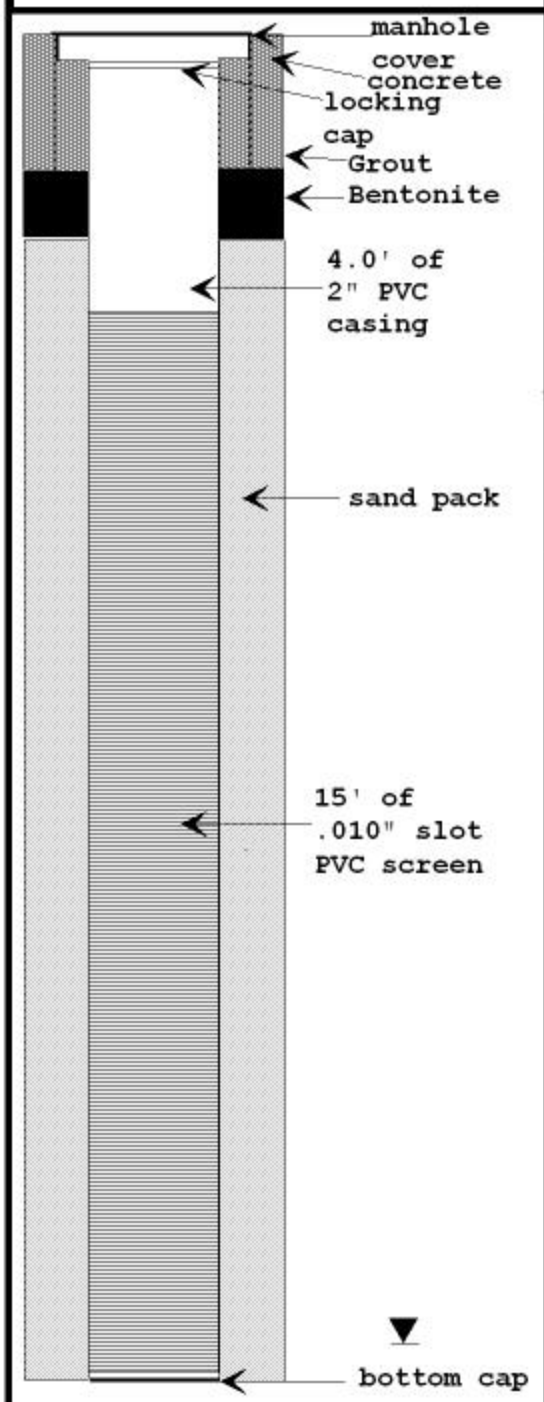
ON-SITE ENVIRONMENTAL

Project : North Brunswick Gulf
Location : 1696 Georges Rd North Brunswick,NJ
Driller : EPI Jeremy
Logged by: Frank Jasiulewicz
Date : 12/14-18

Well Number: MW 20

Drill Method: Hollow stem auger
Hole Diameter: 10-inches O.D.
Drilled Depth: 19'
Depth to Water from Top of Casing: 18.50'
Lenght of Solid Casing: 4.00'
Lenght of Screen: 15'

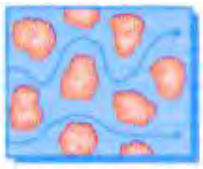
Casing Below Grade: ~0.7'
Casing Diameter: 2-inch
Screen Slot Size: 0.010
Development Method: no water
Volume Pumped: 0 gallons
Sample Method: none



Sample Number	Blows 6"	Recovery %	PID (ppm)	Depth (feet)	LITHOLOGIC DESCRIPTION
				0	Asphalt & stone
				1	Gray clay, little 3 inch river gravel,little white saprolitic clay
				2	
				3	Tan clay, moist: 1-inch balls of clay; slow drilling
				4	
				5	
				6	
				7	Reddish clay, trace/little fine sand:hard drilling slow
				8	
				9	
				10	
				11	
				12	purple grey clay, trace fine sand
				13	
				14	
				15	
				16	
				17	
				18	
				19	Bottom of boring ~ 20'
				20	
				21	Only 0.5 feet of water in well approximately 1.5 hour after drilling not enough water to develop
				22	
				23	
				24	

Trace = <10%, Little = 10-20%, Some = 20 - 35%, And = 35 - 50%
Sand: coarse = 5/64 to 3/16 (pea size), medium = 1/64 to 5/64 (salt), fine = barely detectable

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P1 **Recorded: Frank Jasiulewicz**
Date Installed: 4/27/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-1	Asphalt & stone sub base
	0	1-2	Orange, sand, trace fine gravel
	0	2-4	Brown, moist, silty clay
	0	4-5	Orange, moist/wet, silty clay
60% 5 to 10 ft	0.1	5-8	Same
	0.1	8-10	White, fins sand, trace clay: hard
60% 10 to 15 ft	0.1	10-12.5	Black coating on white fine sand, moist
	0.1	12.5-14.5	White, medium sand: very wet at 12.5 ft
	0.2	14.5-15	Gray, medium sand, trace clay
60% 15 to 20 ft	0.4	15-17.5	Gray, wet, medium/coarse sand
	0.7	17.5-20	Gray, clay: hard

Sample: 7-7.5ft : approx. bottom of UST

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P2 **Recorded: Frank Jasiulewicz**
Date Installed: 4/27/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5 ft		0-1	Asphalt & stone sub base
	0	1-4	Orange, fine sand
	0	4-5	Tan, wet, fine sand: wet at 4 ft
50% 5 to 10 ft	0	5-8	White, wet, fine sand
	0.2	8	Gray, wet, fine sand
	0.1	9	
	0.1	10	Same
60% 10 to 15 ft	0.1	11	
		11.5	White, turning pinkish, wet, fine sand
	0.1	12	
	0.1	13	
	0.2	14	Gray, wet, medium sand, little clay
	0.4	15	Gray/white, wet, medium sand, trace clay
60% 15 to 20 ft	1.2	16	
	1.1	17	
	0.4	18	
	0.4	19	
	0.3	20	Same

Sample: 4.5-5 ft
Sample: 9-10 ft: below approx bottom of UST

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

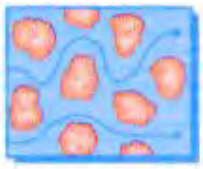
Project: North Brunswick Gulf

Boring No. P3 **Recorded: Frank Jasiulewicz**
Date Installed: 4/27/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-1	Asphalt & subbase
	0	1-3	Orange, fine/medium sand
	0	3-4	Brown, wet, fine sand
	0	4-5	Tan turning orange, very wet, fine sand
60% 5 to 10 ft	1	5	White, very wet, fine sand
	0.1	6	
	0.1	7	
	0	8	
	0	9	
	0.2	10	Gray, very wet, fine sand
60% 10 to 15 ft	0.1	11	White, fine sand, trace clay: very hard
	0.2	12	
	1.1	13	
	1.3	14	Same
	1.9	15	Grayish, wet, medium sand, little clay
60% 15 to 20 ft	1.2	16	
	1	17	
	1.2	18	
	0.9	19	
		20	Same

Sample: 4.5 ft
Sample: 15.5-16 ft

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P4 **Recorded: Frank Jasiulewicz**
Date Installed: 4/27/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-1	Asphalt & subbase
	0.2	1	Brown/orange, fine/medium sand, trace fine gravel
	0.1	2	
	0.1	3.5	Orange, fine sand, moist at 3.5 ft
	0.1	4	
	0	5	Same
50% 5 to 10 ft	0.1	6	Orange, clay
	0.1	7	
	1.9	7.5	
	32.8	8	Gray/white, fine sand
	0.8	8.5	
	1.5	9	
	0.4	10-10.5	Same
60% 10 to 15 ft	0.1	11	White/pinkish/orange, fine sand, little clay
	0.2	12	
	1.4	13	
	2.3	14	
	1.9	15	
60% 15 to 20 ft	1.6	16	Gray/white, medium sand, little clay
	1.3	17	
	0.7	18	Gray, clay
	0.8	19	
	0.8	20	Same

Sample: 8-8.5 ft
Sample: 14-14.5 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P5 **Recorded: Frank Jasiulewicz**
Date Installed: 4/27/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-1	Asphalt & subbase
	0.1	1	Orange, moist, fine/medium sand
	0.1	2	
	0	3	Orange, moist/wet, fine and, trace clay: turning white
	0	4	
	0	5	
15% 5 to 10 ft	0	6	White, fine sand and clay
	0	7	
		9	
	2.2	10	White, clay
50% 10 to 15 ft	0.7	11	White, wet, fine sand
	0.6	12	
	0.1	13	White & orange, fine sand
	0.1	14	
	0.8	15	Gray, wet, fine sand
70% 15 to 20 ft	0.7	16	Gray, medium sand, trace clay
	1	17	Gray, medium sand, little clay
	1.1	18.5	Gray, medium/coarse sand, little clay
	1.5	19	
	0.9	20	Same
Sample: 10 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P6 **Recorded: Frank Jasiulewicz**
Date Installed: 4/27/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
40% 0 to 5 ft		0-1	Asphalt & subbase
	0.3	1	Orange/red fine gravel
	0	2	Tan/orange, fine sand: moist at 3.5 ft
	0	3	
	0	4	Brown, wet, fine sand, little clay
	0	5	Gray, clay, trace fine gravel
80% 5 to 10 ft	0	6	
	0	7	Gray, clay, trace fine sand
	0	8	
	0	9	
	0	10	Tan/gray, clay
100% 10 to 15 ft	0	11	
	0	12	Orange, fine sand, trace clay
	0	13	
	0	14	White, wet, fine sand
	0.1	15	Pinkish, wet, fine sand, little clay
70% 15 to 20 ft	0.1	16.5	Gray/white, wet, fine sand, trace clay
	0.3	17	
	1	18	Gray, fine sand, little clay
	1	19	
	1.1	20	

Sample: 15 ft
Complete as temporary well with 15 ft screen and 5 ft solid. Depth to water 2.8 ft. Purge 5.5 gallons in 38 minutes. Let recharge to 4.5 ft and sample with bailer. Use peristaltic pump.

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P7 **Recorded: Frank Jasiulewicz**
Date Installed: 5/9/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Joe

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 5 ft	0	0-0.5	Topsoil & stone fill
	0	0.5	Tan/orange, fine medium sand, trace fine gravel & red rock fragments: fill
	0	1	
	0	2	
	0	2.5	Tan, medium sand, trace fine gravel
	0	3	
		3.5	Wet
	0	4	Gray, clay, trace fine sand
	0	5	Gray, clay: hard
90% 5 to 10 ft	1.6	6	
	4.4	7	
		7.5	Gray, wet, fine/medium sand
	174	8	Gray, fine sand: hard
	191	9	Gray, clay
	14.9	10	
60% 10 to 15 ft		10.5	Gray, fine/medium sand
	16.7	11	Gray, clay, trace fine sand
	10.9	12	Gray, clay
	1.4	13	
	2.4	14	
		14.5	Gray, clay, little fine gravel
	0.8	15	
60% 15 to 20 ft	0	16	
	0	17	
	0	18	
	0	19	
	0	20	

Sample: 0-6 inches
Sample: 9 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P8 **Recorded: Frank Jasiulewicz**
Date Installed: 5/8/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Joe

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 5 ft	0	0-0.5	Stone fill
		0.5	Red rock fragments & clay: fill
	0	1	
	0	2	
	0.7	3	
	2.7	4	Greenish, moist, clay, trace fine sand
	5	5	Greenish, wet, fine sand & clay
100% 5 to 10 ft	3.4	6	
	0.6	7	
	0.8	8	Gray, clay
	1.3	9	
	0.9	10	Greenish/gray, wet, clay, trace fine sand
100% 10 to 15 ft	3.2	11	
	374	12	
	68.3	13	Orange/grey, fine sand
	21.3	14	Gray, fine/medium sand
		14.5	Pink, clay
	14.7	15	Pink, clay, tracce fine sand
90% 15 to 20 ft	1.6	16	
	1.1	17	Gray, clay
	4.1	18	
	0.9	19	
	0.8	20	Same

Sample: 6 ft
Sample: 12 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P9 **Recorded: Frank Jasiulewicz**
Date Installed: 5/9/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Joe

Recovery %	PID (ppmv)	Depth (ft)	Materials
85% 0 to 5 ft	0	0-1	Stone fill & dirt
	1.4	1	Tan, wet, fine/medium sand, trace fine gravel
	0	2	
	0	3	
	0	4	Gray, clay, trace fine sand: mushy
	0	5	Gray orange, clay little fine sand
100% 5 to 10 ft	0	6	Gray, clay
	0	7	Gay, clay, trace fine sand
		7.5	Gray, clay
	0	8	
	0	9	
	0	10	
100% 10 to 15 ft	0	11	
	0	12	Gray tan, fine sand, trace clay
	0	13	
		13.5	Pinkish white, wet, fine/medium sand
	0	14	
	0	15	Pinkish, wet, fine sand & clay: hard
70% 15 to 20 ft	0	16	
	0.1	17	Turning gray, wet, medium sand, trace clay
	0.1	18	
	0.3	19	
		19.5	Gray, clay: hard
	0.4	20	

Sample: 0 to 1 ft
Sample: 6 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

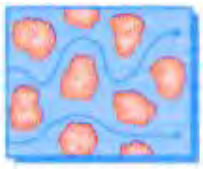
Project: North Brunswick Gulf

Boring No. P10 **Recorded: Frank Jasiulewicz**
Date Installed: 5/9/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Joe

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft	0	0-1	Stone fill & fine/medium sand
	0.1	1	Tan, fine sand
	13.8	2	
		2.5	Black, medium sand, trace fine gravel & red rock fragments: Fill
	157.6	3	
	72	4	
	65	5	Same
100% 5 to 10 ft	37.7	5.5	Black, wet, fine gravel, trace fine sand
	81.3	6	
		6.5	Gray, fine sand, trace clay
	32.9	7	
	9.3	8	
	8.3	9	
	4.8	10	Orange, clay, trace fine sand
100% 10 to 15 ft	9.6	11	
		11.5	Whitish gray, clay, trace fine/medium sand
	5.4	12	
	2.3	13	
	3.3	14	
	4.7	15	
100% 15 to 20 ft	3.7	16	
		16.5	
	11.5	17	
	6.6	18	
	6.7	19	
	8.9	20	

Sample: 0 to 1 ft
Sample: 3 ft

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P11 **Recorded: Frank Jasiulewicz**
Date Installed: 5/9/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Joe

Recovery %	PID (ppmv)	Depth (ft)	Materials
75% 0 to 5 ft	1.5	0	Red rock fragments, little fine sand: Fill
	3.8	1	
		1.5	Tan, fine/medium sand
	44	2	
		2.5	Black, fine/medium sand
	50	3	
	153	4	Wet
	22.1	5	Gray, clay
75% 5 to 10 ft	1261	6	
	1310	7	
	1872	8	Gray, clay & fine sand
	103.5	9	
	58	10	Gray tan, clay
90% 10 to 15 ft	7.3	11	Gray, clay
	5.3	12	
	4.9	13	
	3.8	14	
	3	15	Gray, clay
65% 15 to 20 ft	3.2	16	
	2.2	17	
	2.1	18	
	0.2	19	
	0	20	

Sample: 0 to 1 ft
Sample: 8 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P12 **Recorded: Frank Jasiulewicz**
Date Installed: 5/8/17 **Groundwater Depth:**
Depth of Boring: 10 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Joe

Recovery %	PID (ppmv)	Depth (ft)	Materials
40% 0 to 5 ft		0 - 0.5	Stone & topsoil
	0.1	1	Reddish, fine sand, little fine gravel
	0.1	2	Tan, fine sand, trace fine gravel
	4.1	3	Greenish, clay: soft gas odor
	73.5	4	
	87.7	5	Gray, clay
60% 5 to 10 ft	78.7	6	
	11.4	7	
	5.4	8	
	14	9	
	2.8	10	

Sample: 0-6 inches
Sample: 5 ft
Sample: 6½ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P13 **Recorded: Frank Jasiulewicz**
Date Installed: 5/8/17 **Groundwater Depth:**
Depth of Boring: 10 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Joe

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft	1.8	0-1	Stone & topsoil
	8.2	1	Orange, fine sand
	42.5	2	Gray, clay, trace fine gravel
	1368	3	
	2556	4	
	702	5	Wet
15% 5 to 10 ft	39.7	6	Gray, wet, clay
	182.6	7.5	
	104.1	10	

Sample: 0 6 inch
Sample: 4 ft
Sample : 6 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P14 **Recorded: Frank Jasiulewicz**
Date Installed: 5/8/17 **Groundwater Depth:**
Depth of Boring: 10 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Joe

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft	2	0-1	Stone & topsoil
	2.9	1	Reddish/tan, fine sand, trace fine gravel
	2.1	2	Tan, fine sand
	18.6	3	
		3.5	Gray, clay
	81.3	4	
	318.7	5	wet
15% 5 to 10 ft	32.5	6	
	726	8	
	1522	10	

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P15
Date Installed: 5/8/17
Depth of Boring: 5 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
80% 0 to 5 ft	7.6	0-1	Stone & topsoil
	4.1	1	Orange, fine sand
	5	2	
	0	3	Greenish/gray, clay
	2.2	4	
		4.5	Wet
	8.1	5	

Sample: 0- 6 inches
Sample: 5 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P16 **Recorded: Frank Jasiulewicz**
Date Installed: 5/8/17 **Groundwater Depth:**
Depth of Boring: 5 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Joe

Recovery %	PID (ppmv)	Depth (ft)	Materials
65% 0 to 5 ft	3.4	0-1	Stone & topsoil
	24.5	1	Tan/orange, fine sand, trace fine gravel
	17.7	2	
		2.5	Gray, clay
	134.2	3	
	1134	4	wet
	73.6	5	

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130 North Brunswick, NJ **Project: North Brunswick Gulf**

Boring No. P17 **Recorded: Frank Jasiulewicz**

Date Installed: 4/28/17 **Groundwater Depth:**

Depth of Boring: 20 ft. BSG **Method: GeoProbe with 3ft sampler**

Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 3 ft		0-0.4	Concrete
	8.5	0.4	Greenish, fine sand
	366.4	1	
	60.4	2	Greenish, clay
	2361	3	
60% 3 to 6 ft	3036	4	
		4.5	Black, wet, clay
	2700	5	
	2020	6	
50% 6 to 9 ft	839	7	
		7.5	Gray, clay, little fine sand
	594	8	
	1228	9	Tan, wet, fine sand, little fine gravel
60% 9 to 12 ft	72.9	10	Gray, fine/medium sand
	31.3	11	Tan, very wet, fine/medium sand
	14.8	12	
60 % 12 to 15 ft		12.5	Tan, fine/medium sand
	5	13	
	12.6	14	
		14.5	Gray, fine/medium sand
	11.3	15	Gray, clay & fine sand
70 % 15 to 18 ft	19	16	
	16.9	17	Tan/gray, clay, trace fine sand
	13.1	18	Gray, clay
95% 18 to 21 ft		18.5	Grayish, ½ inch gravel
		18.75	Gray/pinkish, clay, trace fine gravel
	6.7	19	Gray, clay
	3.6	20	
	2.2	21	Same

Sample: 4 ft
Sample: 9 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P18
Date Installed: 5/9/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 4ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 4 ft		0-0.5	Concrete
		0.5	Tan, fine sand, trace clay
	0	1	
	0	2	
		2.5	Greenish, fine sand & clay
	0	3	
	0.2	4	Gray, wet, clay
75% 4 to 8 ft	12	5	
	10.1	6	
		6.5	Tan gray, clay, trace fine sand
	4.7	7	
	3.8	8	
90% 8 to 12 ft	0.2	9	
		9.5	Gray, wet, clay, trcae fine sand, trace fine gravel
	0.2	10	
		10.5	Gray, clay, trace fine sand
	0.3	11	
	3	12	Gray orange, wet, clay & fine sand: pasty
70% 12 to 16 ft	4.3	13	
	8.6	14	
		14.5	Gray, clay
	3.5	15	
		15.5	Orange gray, clay, trace fine/medium sand
	2.1	16	
0% 16 to 20 ft			No recovery

Sample: 4 to 4.5 ft
Sample: 6 to 7 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P19
Date Installed: 5/8/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-0.4	Concrete
	2.4	0.4	Orange, fine/medium sand, trace fine gravel
	4.3	1	
	0.8	2	
	1.1	3	
	0.5	4	Greenish/gray, wet, clay
	0	5	Greenish/gray, wet, clay & fine sand
70% 5 to 10 ft	0.6	6	
	0	7	
		7.5	Tan, fine sand: hard
	0	8	
	0	9	Gray, clay, trace fine sand
	0	10	Tan, fine sand, trace clay
90% 10 to 15 ft	0	11	Orange, clay & fine sand
	0.2	12	
	0.1	13	Whitish/tan, wet, fine sand
	0	14	
	1	15	Black, wet, fine gravel & white fine sand
90% 15 to 20 ft	3.7	16	White, wet fine sand
	0.3	17	
	0.1	18	
	0.3	19	Gray/white fine sand
	1.1	20	

Sample: 5 ft
Sample: 16 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P20
Date Installed: 5/8/17
Depth of Boring: 5 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 5 ft	0	0-0.5	Stone fill
		0.5	Red rock fragments: fill
	0	1	
	0	2	
	0	3	
	0	4	
		4.5	Greenish, moist, clay
	0	5	

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P21
Date Installed: 5/8/17
Depth of Boring: 5 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 5 ft	0	0-0.5	Stone fill
		0.5	Tan, fine sand
	0	1	
		1.5	Red rock fragments: fill
	0	2	
	0	3	
	0	4	
	0	5	Red rock fragments & clay

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P22
Date Installed: 5/9/17
Depth of Boring: 0.5 ft. BSG
Sampler: Frank Jasiulewicz

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand Trowel

Recovery %	PID (ppmv)	Depth (ft)	Materials
		0-0.50	Topsoil & roots

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P23
Date Installed: 5/9/17
Depth of Boring: 0.5 ft. BSG
Sampler: Frank Jasiulewicz

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand Trowel

Recovery %	PID (ppmv)	Depth (ft)	Materials
		0-0.50	Topsoil & roots

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P24
Date Installed: 5/9/17
Depth of Boring: 0.5 ft. BSG
Sampler: Frank Jasiulewicz

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand Trowel

Recovery %	PID (ppmv)	Depth (ft)	Materials
		0-0.50	Topsoil & roots

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P25
Date Installed: 5/9/17
Depth of Boring: 8 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 4ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 4 ft	0	0-1	Topsoil
	0	1	Tan brown, clay: soft
	0	2	
	0	3	
	0	4	Tan, medium/coarse sand & fine gravel
70% 4 to 8 ft	0	5	Gray, clay
	0	6	
	0	7	
	0	8	Same
Sample: 5 to 5.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P26
Date Installed: 5/9/17
Depth of Boring: 4 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 4ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
95% 0 to 4 ft	0	0-1	Topsoil
	15	1	Brown, fine sand, little fine gravel
	0	2	Brown, wet, clay, trace fine sand: pasty
	0	3	Brown, fine sand & clay
	0	4	
Sample: 3.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P27
Date Installed: 5/9/17
Depth of Boring: 4 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 4ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 4 ft	0	0-1	Topsoil
	0	1	Gray, clay, wet, trace fine gravel: mushy
	0	2	
	0	3	Gray, clay
	0	4	

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P28
Date Installed: 5/9/17
Depth of Boring: 4 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 4ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 4 ft	0	0-1	Topsoil
	0	1	Medium/coarse, sand & fine gravel
	0	2	
	0	3	
		3.5	Gray, clay, little fine sand
	0	4	

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P29
Date Installed: 5/9/17
Depth of Boring: 4 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 4ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 4 ft	0	0-1	Topsoil
	0	1	Brown, clay, wet, trace fine sand, trace fine gravel
	0	2	
	0	3	
		3.5	Tab, wet, medium/coarse sand
	0	4	

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P30
Date Installed: 5/9/17
Depth of Boring: 25 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
85% 0 to 5 ft	0	0	Topsoil & red rock fragments: Fill
	0	1	
	0	2	
	0	2.5	Tan, fine sand
	0	3	
	0	4	Tan,/red, cay & fine sand & red rock fragments: Fill
	0	5	
65% 5 to 10 ft	0.2	5.5	Gray, clay, moist, trace fine sand: pasty
	1.9	6	
		6.5	Gray, clay
	21.3	7	
	1463	8	
	225	9	
	142	10	Gray, clay: hard
100% 10 to 15 ft	84	11	
	206.8	12	
	1898	13	
	48.3	14	
	119	15	
100% 15 to 20 ft	8.7	16	SAME
	20	17	
	9.4	18	
	6.8	19	
	3.2	20	
100% 20 to 25 ft	6.6	21	
	1.3	22	
	2.2	23	
	1.9	24	
	1.8	25	SAME

Sample: 6½ to 7 ft
Sample: 8 ft
Sample :17 to 18 ft
Sample: 21 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P31
Date Installed: 5/9/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 4ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 4 ft	0.1	0-0.4	Topsoil: wetish, pasty
	0.4	1	Orange gray, clay, trace fine and: pasty
	0	2	
	0	3	
	0	4	
100% 4 to 8 ft	0	5	
	0	6	Orange, fine/medium sand, trace fine gravel
	23.7	6.5	
	52.0	7	Grey Clay
	71.7	8	Same
100% 8 to 12 ft	62.7	9	Orange gray, clay, little fine/medium sand, trace fine gravel
	13.3	10	
	7.9	11	Gray, clay
	6.9	12	
100% 12 to 16 ft	2	13	Same
	3.5	14	
	3.4	15	
	3	16	
90% 16 to 20 ft	0.4	17	Same
	1.1	18	
	1.4	19	
	3	20	Same

Sample: 6.5 ft
Sample: 9 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P32
Date Installed: 4/28/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Jeromie

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
		0-1	Asphalt & sub base stone
	0	1	Greenish, fine sand
		1.5	Fine gravel
60%	0	2	
0 to 5 ft		2.5	Gray, wet, clay, trace fine sand
	0	3	
	0	4	
	0	5	Gray, clay
100%	0	6	
5 to 10 ft	0	7	
	0	8	
	0	9	
	0	10	Brown, clay, trace fine sand, little fine gravel
90%	0	11	
10 to 15	0	12	
ft	0	13	
	0	14	
	0	15	Gray, very wet, medium sand
70%	0.1	16	Gray, very wet, fine sand, trace clay
15 to 20	0.1	17	
ft	0	18	
	0	19	
	0	20	Same

Sample: 4.5 ft
Sample: 15 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P33
Date Installed: 4/28/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Jeromie

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 5 ft		0-1	Asphalt & stone sub base
	0	1	Orange/gray, clay
	0	2	Reddish, clay, trace fine ravel
	0	3	
	0	4	
	0	5	
90% 5 to 10 ft		5.5	Gray, clay, trace fine gravel
	0	6	
		6.5	Tan, clay, trace fine sand, trace fine gravel
	0	7	
	0	8	Wet
	0	9	Orange, clay, trace fine sand
	0	10	
90% 10 to 15 ft	0	11	Pinkish, clay & fine sand
	0	12	
	0	13	
	0	14	
		14.5	Black, fine sand, trace fine gravel: dry odd material
	0	15	Black/whitish, fine sand, trace fine gravel
100% 15 to 20 ft		15.5	Gray, clay
	1.1	16	
	1.5	17	Reddish, clay
	0.9	18	
	0.1	19	
	0	20	

Sample: 4.5 ft
Sample: 15 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P34
Date Installed: 4/28/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Jeromie

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-1	Asphalt & stone sub base
	0.2	1	Wood, fill
	0	2	Gray, clay, trace fine sand
	0	3	
	0	4	
	0	5	
90% 5 to 10 ft	0	6	
	0	7	Gray/tan, clay, little fine sand: wet at 7.5'
	0	8	
	0	9	
	0	10	
60% 10 to 15 ft	0	11	
	0	12	
	1	13	Orange, clay, trace fine sand
	0.9	14	Gray, clay, trace fine sand, trace fine gravel
	0	15	Gray, clay
100% 15 to 20 ft	3.6	16	
	1.2	17	Reddish, clay
	0.8	18	
	0	19	
	0	20	

Sample: 16 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P35 **Recorded: Frank Jasiulewicz**
Date Installed: 4/28/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5 ft		0-1	Asphalt & stone sub base
	0	1-5	¼ inch stone backfill: fill
45% 5 to 10 ft	8	5	Same but wet
		5.5	Gray, fine sand & clay
	15.5	6	
	89.3	7	
	41.9	8	
	27.6	9	Gray, fine/medium sand
	9.8	10	Gray, wet, medium sand
50% 10 to 15 ft	6.2	11	
	1.9	12	
		12.5	Gray, clay
	0.9	13	Tan, medium sand & clay
	1.8	14	
	1.5	15	
0% 15 to 20 ft			No recovery ¼ inch stones in tip

Sample: 5.5-6 ft
Sample: 7-7.5 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P36 **Recorded: Frank Jasiulewicz**
Date Installed: 4/28/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-2	Asphalt & sub base stone
	0.3	2	Green, fine sand, trace clay
	18.2	3	Green, moist, clay, trace fine sand
	5.2	4	Gray, moist/wet, clay, trace fine sand
	3.2	5	Gray, clay
60% 5 to 10 ft	33.1	6	
	2.6	7	Tan/orange, clay, trace fine sand
	1	8	
	0.1	9	
	0.9	10	Greenish, wet, fine/medium sand, trace fine gravel
60% 10 to 15 ft	1.5	11	Orange, clay. some fine gravel
	0.2	12	
	1.1	13	
	0.7	14	
	0.5	15	Greenish, very wet, fine/medium sand
60% 15 to 20 ft	0.1	16	Gray, wet, fine/medium sand
	0	17	
	0.1	18	
	0.3	19	Tan/whitish, fine sand
	1.4	20	

Sample: 6 ft
Sample: 12 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P37
Date Installed: 4/28/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Jeromie

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-1	Asphalt & concrete
	81.3	1-1.2	Dark brown, fine sand, trace fine gravel
		1.2	Orange, fine sand, trace clay
	17.2	2	
	75.4	3	
		3.5	Gray/greenish, moist, clay
	54.4	4	
	2	5	Gray, clay
90% 5 to 10 ft	5.6	6	
	20.5	7	White, fine sand
		7.5	Gray clay, trace fine sand
	4.1	8	
	0	9	
	0.1	10	White/pink, fine/medium sand, wet
85% 10 to 15 ft	0	11	White/gray, fine sand. little clay
	0	12	
	0.1	13	Gray, clay
	0	14	
	0	15	
100% 15 to 20 ft	0.2	16	Reddish, clay
	1.6	17	
	0.1	18	
	0	19	Red/gray, clay
	0	20	

Sample: 3 ft
Sample: 7 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P38
Date Installed: 4/28/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Jeromie

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5 ft		0-1	Asphalt & concrete
	0.7	1	Stone sub base
	8.9	2	Reddish, clay, trace fine sand
	100.8	3	Greenish, clay, trace fine sand
	41.4	4	Reddish, clay, trace fine sand, trace fine gravel
	71.8	5	Brown, wet, clay & fine sand
50% 5 to 10 ft	326	6	
	951	7	
		7.5	Red/brown, wet, clay & fine sand, trace fine gravel
	72.8	8	
		9	Gray, fine sand
	0	10	Township ordered to stop drilling until sewer was located. Gray, crumbly, clay & fine gravel: dry
85% 10 to 15 ft	82.5	11	
	13.9	12	
		12.5	Brown, clay, trace fine sand, trace fine gravel
	2992	13	
	1353	14	
	1028	15	White/gray, wet, medium sand & clay: hard
90% 15 to 20 ft	6.9	16	
	9.5	17	
	33.1	18	Gray, clay: hard
	21.3	19	
	11.7	20	Same

Sample: 3 ft
Sample: 8 ft
Sample: 13 ft
Sample: 18 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P39
Date Installed: 4/27/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Jeromie

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5 ft		0-1	Grass & topsoil
	0	1	Orange/gray, moist, clay
	0	2	
	0	3	
	0	4	Orange/gray, clay, trace fine sand
	0	5	Orange/gray, clay, trace fine sand, trace fine gravel
90% 5 to 10 ft	0	6	
	0	7	White/tan, wet, fine/medium sand
	0	8	White/tan, wet, fine sand
	0	9	
	0	10	White/pinkish, wet, fine sand
50% 10 to 15 ft	0	11	
	0	12	
	0	13	Same with trace clay
	0	14	
	0	15	Tan/gray, wet, fine/medium sand, trace clay
60% 15 to 20 ft	0.3	16	
	0.3	17	Tan/gray, wet, medium sand, trace clay
	0.4	18	
	0.3	19	Gray, clay
	0.1	20	

Sample: 15 ft.
Collect matrix spike and matrix spike duplicate.

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

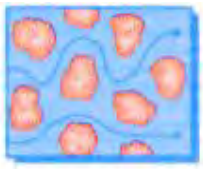
Boring No. P40
Date Installed: 5/8/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
40% 0 to 5 ft	0	0-0.5	Topsoil
	0	0.5	Tan, fine sand, trace clay
	0	1	Red, fine sand & rock fragments: fill
	0	2	
	0	3	
	0	4	Greenish, wet, fine sand & clay
	0	5	Brown/black, clay
90% 5 to 10 ft	0.8	6	Gray, wet, fine sand & clay
	1.1	7	
	7.3	8	Orange, wet, fine sand, trace fine gravel
	8.4	9	Gray, fine sand & clay
	17.6	10	Gray, fine sand
10 to 15 ft	11.9	11	Gray, clay, little fine sand
	12.1	12	
	11.3	13	Gray , clay
	10.6	14	
	27.1	15	Gray, wet, clay, trace fine sand
15 to 20 ft	21.5	16	
	7.6	17	
	5.7	18	
	2	19	
	1.4	20	

Sample: 6 ft
Sample: 15 ft

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P41
Date Installed: 5/8/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
45% 0 to 5 ft	0	0-1	Topsoil & stone
	0	1	Tan, damp, fine sand
	0	2	
	0	3	
	0	4	Orange, fine sand, trace clay, trace fine gravel
	0	5	Gray/green, damp, fine sand & clay
80% 5 to 10 ft	25.5	6	
	86.1	7	Green, fine/medium sand, trace fine gravel
	637	8	
	543	9	
	1440	10	Wet
100% 10 to 15 ft	55.3	11	Orange/gray, fine/medium sand, trace fine gravel
	76.9	12	
	19.2	13	
	15.7	14	Gray, clay
	14.5	15	
100% 15 to 20 ft	32.3	16	
	44.8	17	
	11.2	18	
	3.2	19	
	6.5	20	Same
Sample: 5 ft Sample: 10 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P42
Date Installed: 5/8/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft	0	0-1	Topsoil & red rock fragments
	0	1	Red rock fragments: fill
	0	2	
		2.5	Greenish, moist, clay
	2.1	3	
	0.8	4	Orange/tan, moist, clay
	0	5	Gray/orange, clay
90% 5 to 10 ft	2.9	6	
	3.1	7	
	35.2	8	Gray/orange, clay, trace fine sand
	7.3	9	Gray, fine/medium sand, trace fine gravel
	10.3	10	Gray, clay
100% 10 to 15 ft	3.3	11	Orange, clay, trace fine sand, trace fine gravel
	4.4	12	
	11.4	13	
	1.8	14	Gray clay
	1.1	15	
100% 15 to 20 ft	1.1	16	
	3.3	17	
	4.5	18	
	0.6	19	
	1.6	20	Same

Sample: 6 ft
Sample: 8 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P43
Date Installed: 4/27/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Jeromie

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5 ft		0-1	Grass & topsoil
	1222	1	Greenish/brown, clay: soft
	217	1.5	
	3042	2	
	512	2.5	
	1161	3	Brown/green, fine sand & clay
	1407	3.5	
	335	4	
	1946	4.5	
	1232	5	Gray, wet, fine sand & clay
100% 5 to 10 ft	1244	6	
	90	7	
	108	8	
	10	9.5	Whitish, fine/medium sand, trace clay
	11	10	
95% 10 to 15 ft	2	11	Orange, fine sand, trace fine gravel
	2	12	Gray, medium/coarse sand, trace fine gravel & clay: hard
	3	13	Gray, clay: hard
	4	14	
	1	15	
100% 15 to 20 ft	1	16	
	2	17	
	0.9	18	
	1.2	19	
	0.9	20	Same

Sample: 1 ft
Sample 2 ft
Sample: 6 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P44 **Recorded: Frank Jasiulewicz**
Date Installed: 4/28/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5ft sampler**
Driller: Environmental Probing: Jeromie

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-1	Asphalt & stone sub base
	5.3	1	Greenish, clay, trace fine sand, trace fine gravel
	18.1	2	
	3268	3	
	843	4	Gray, wet, fine sand, some clay
	372	5	Gray, wet, clay, little fine sand
40% 5 to 10 ft	39.6	6	
	17.6	7	
	11.7	8	
	8.1	9	
	3.3	10	Gray, clay, little fine sand
90% 10 to 15 ft	1.5	11	
	0.7	12	
	0.2	13	
	0	14	
	0	15	Gray, wet, medium/coarse sand
15 to 20 ft	0	16	Gray, clay & fine gravel
	1.2	17	Gray, clay
	0	18	
	0	19	
	0	20	Same

Sample: 3 ft
Sample: 7-7.5 ft
Sample: Matrix spike 7-7.5 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P45
Date Installed: 4/27/17
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing: Jeromie

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
0 to 3 ft		0-1	Asphalt & sub base: hand auger to 3 ft to clear electric
	2.5	1	Brown, clay & fine sand
	2	2	Greenish, clay, little fine sand
	0.5	3	
100% 4 to 10 ft	0.8	4	Greenish, pasty, clay, trace fine sand
	0.8	5	Pinkish, fine sand: wet at 5.5 ft
	0.5	6	Gray, clay, trace fine sand
	0	7	Orange, clay
	0	8	
	0	9.5	Whitish, fine sand, trace fine gravel, little clay
	0	10	Gray, clay, little fine gravel
100% 10 to 15 ft	0.2	11	Reddish, clay, little fine gravel: dry
	0.7	12	
	0.4	13	
	0	14	
	0	15	Gray/white, wet, fine sand, trace clay
90% 15 to 20ft	0.2	16	
	0	17	Gray/white/pinkish, fine/medium sand
	0	18	Gray, medium sand, trace clay
	0	19	
	0	20	

Sample: 5.5-6 ft
Sample: 12-12.5 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P46
Date Installed: 5/9/17
Depth of Boring: 10 ft. BSG
Driller: Environmental Probing: Joe

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft		0-1	Asphalt & stone sub base
	0	1	Orange, fine sand, trace fine gravel
	0	2	
	0	3	
	3.5	4	Gray, clay
	0.9	5	Gray orange, clay
100% 5 to 10 ft	2.5	6	
	8.3	7	
	103.1	8	
	1758	9	
	84.8	10	Same
Sample: 6 to 6.5ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P47 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth: 11.64 ft**
Depth of Boring: 15 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
85% 0 to 5 ft	0	0	Grass
	0	1	topsoil
	0	2	Fill: Topsoil & rock fragments
	0	2.5	Orange clay & medium sand
	0	3	
	0	4	Tan fine/medium sand
	0	5	
85% 5 to 10ft		5	Light tan yellowish medium sand
		6	
		7	
		8	Gray medium sand
		9	
		10	
10 to 15ft		10	White gray medium sand, trace clay
		11	
		12	
		12.5	Tan gray medium sand & clay
		13	
		14	Gray medium sand, little clay
		15	

Sample: 6-6.5ft
Set 10 ft screen & 5 ft solid PVC casing as tem well

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

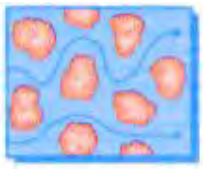
Project: North Brunswick Gulf

Boring No. P48 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth: 7.93 ft**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 5 ft	4.8	0	Grass
	30.3	1	Topsoil with fine gravel
	25.5	2	Fill: Tan fine sand & rock fragments (quartz)
	1.6	3	Fill: Tan fine/medium sand, trace rock fragments
	1.5	4	
	2.2	5	
90% 5 to 10ft	0	5	Fill: Orange clay & medium sand & little/some rock fragments
	1.6	6	
		6.5	
	1.1	7	
	5.5	8	
	0.6	9	Fill ?: Same
		9.5	Orange very fine sand, wet
	1	10	
10 to 15ft	0	10	Light gray medium sand, wet
	0	11	Tan medium sand, wet
	0	12	
	0	13	
	0	14	Gray medium sand, wet
	0	15	
95% 15 to 20ft	0	15	Light gray whitish medium sand, wet
	0	16	
	0	17	
	0	17.5	Gray medium sand, wet
	0	18	
	0	18.5	Tan medium/coarse sand & clay
	0	19	
	0	19.5	Gray clay
	1.2	20	Same

Sample: 1-1.5ft, 7.5-8ft, 20ft
Set 15 ft of 1-inch screen & 5 ft of solid PVC casing as temp well.

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P49 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 5 ft. BSG **Method: GeoProbe with 4 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 4 ft		0-0.5	Asphalt & stone sub base
	0	0.5-1.5	Orange medium sand, trace fine gravel
	0	1.5-3.5	Brown fine sand, moist
100% 4 to 5 ft	0	4	Gray clay & fine sand, wet
	0.1	4.5	
	0.1	5	Same
Sample: 4.5-5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P50 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 5 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5 ft		0-1	Topsoil
	0	1	Brown reddish gray clay
	0	2	
		3	
		3.5	Gray clay, trace fine sand, moist
	0.1	4	
	0.1	5	Same
Sample: 4-4.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P51 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 5 ft		0-1	Grass & topsoil
	3	1	Brown clay & fine sand
	1200	2	
		2.5	Gray fine sand
	1708	3	Blackish clay, moist/wet, pasty
	1447	4	
	1395	5	
50% 5 to 10ft	382	5	Gray clay
	162	6	
	52	7	White medium sand, trace fine gravel
		7.5	
	22	8	Red tan Clay, trace fine gravel
	10.5	9	
	8.2	10	
65% 10 to 15ft	6	10	
	13.4	11	Gray clay & medium sand, little fine gravel, wet
	4.5	12	
	3.7	13	Gray clay & medium sand
	3.4	14	
	2.7	15	
65% 15 to 20ft	5.8	15	Wet
	2	16	Gray clay
		16.5	
	2	17	
	0.2	18	
	0	19	
	0	20	Same

Sample: 2.5-3ft, 3.5-4ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 52 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 16 ft. BSG **Method: GeoProbe with 4 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
80% 0 to 4 ft	76	0-0.5	Topsoil & roots
	21.9	0.5	
	1.5	1	Grayish very fine sand, dry
	0.8	2	
	0.6	2.5	Gray clay, dry
	0	3	
100% 4 to 8 ft	0	4	Gray very fine sand, trace clay
	0	5	Orange fine sand, trace clay
	0	6	
	0	7	Gray white medium sand, little fine gravel
100% 8 to 12 ft	0	8	Orange & gray clay, trace/little fine sand, dry, crumbly
	0	9	Gray clay & fine sand, trace fine gravel, damp
	0	10	Gray clay, trace fine sand, damp
	0	11	
100% 12 to 16ft	0	12	Gray clay, hard
	0	13	
	0	15	
	0	15	
	0	16	Same
Sample: 0-0.5ft, 7-8ft			

Soil Boring Log

On-Site Environmental, Inc.

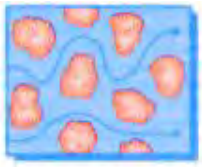
Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P53 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 6.5 ft. BSG **Method: GeoProbe with 4 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 4 ft		0-0.5	Topsoil
		0.5	Tan fine sand/silt, very dry, loose
	0	1	Tan very fine sand, little fine gravel
	0	2	White fine sand, dry, loose
	0	3	White gray fine sand & clay, dry, hard
	0.3	4	White fine sand, trace clay, dry, hard
100% 5 to 10 ft	0	5	
	0	6	White orange clay & fine sand, damp
	0	6.5	
Sample: 4-4.5 ft			

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P54
Date Installed: 10/3/17
Depth of Boring: 1 ft. BSG
Sampler: On-Site Environmental, Inc.

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5	Topsoil & roots: trash in swale: ex. baggies & bottles
	0	0.5-1	Same: refusal

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

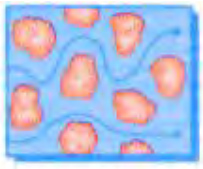
Project: North Brunswick Gulf

Boring No. P55
Date Installed: 10/3/17
Depth of Boring: 4 inches. BSG
Sampler: On-Site Environmental, Inc.

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: : Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0	Silt, dry
	0	4"	Same

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P56 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 5 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
95% 0 to 5 ft		0-1	Asphalt & stone sub base
	0	1	Stone fill
	0	2	
	0.2	3	Reddish clay, trace fine sand, damp
	0	4	Orange gray clay, trace fine sand
	0	5	Same
Sample: 3-3.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P57 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 5.5 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5.5 ft		0-1	Grass & Topsoil
	0	1	Fill: reddish gray clay
	0	2	
	0	2.5	Gray clay, trace fine sand & trace fine gravel
	0	3	Moist/pasty
	0	4-4.5	Fill: Pea gravel & medium sand
	0	4.5	Gray clay
	0	5	
	0.1	5.5	Same
Sample: 3.5-4 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P58 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5 ft	0	0-0.5	Stone fill
	0.1	0.5	Brown medium sand, little fine gravel
	0	1	
	0	2	
		2.5	Orange gray clay, trace fine sand, pasty
	0	3	
	0.1	4	
	0.1	5	
90% 5 to 10ft		5	Gray clay, trace fine sand, dryer
	0	6	
	0	7	
		7.5	Gray medium sand, wet
	0	8	Gray clay, hard
	0	9	Gray very fine sand
	0	10	
85% 10 to 15ft	0	11	Orange gray clay
	0	12	
	0	13	
		13.5	Gray very fine sand, wet
	0.1	14	Pinkish clay & rock fragments
	0	15	
85% 15 to 20ft	0	15	Pinkish medium sand & clay, wet
	0	16	
	0	17	
	0.2	18	
	0.2	19	
	0.4	20	Same
Sample: 0-0.5ft, 1.5-2ft, 6-6.5ft, 18-18.5ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P59 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
85% 0 to 5ft	0.5	0	Stone fill
		0.5	Tan fine sand
	0.1	1	
		1.5	Fill: Red rock fragments & trace clay
	8.4	2	
	154.6	3	Greenish fine/medium sand
	2090	4	Gray clay
	3436	5	
95% 5 to 10ft	1676	5	Greenish white clay & fine sand
	2029	6	
		6.5	Gray clay & fine sand, hard
	209	7	
	1976	8	
	826	9	
		9.5	White clay & fine sand
	2693	10	
100% 10 to 15ft	75	10	Whitish clay
	810	11	
	703	12	Tan fine/medium sand, wet
	79	13	Gray clay
	27.8	14	
	15.5	15	
15to20ft	7.6	15	
	8.4	16	Same
	6.2	17	Gray clay & fine gravel
	6.2	18	
	12.2	19	
	7.4	20	

Sample: 0-0.5ft, 1.5-2ft, 4.5-5ft, 9.5-10ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P60 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
75% 0 to5ft	1	0-0.5	Stone fill
		0.5	Tan sand
	1.7	1	Fill: Red rock fragments
	40.4	2	Fill: Red rock fragments & coal
	328	3	Fill ?: Brown medium sand & fine gravel
	108	4	Gray clay, trace fine sand, moist
	57.8	5	
90% 5 to 10ft	97.2	5	Same but wet
	703	6	Same
	2423	7	Gray clay, hard
	3244	8	
	666	9	
	112	10	
100% 10 to 15ft	134	10	Same
	1631	11	
	347	12	
	497	13	
	1859	14	
	57	15	
15 to 20ft	48.7	15	Same
	14.3	16	
	16.8	17	
	10.8	18	
	10.6	19	
	7	20	Same
Sample: 0-0.5ft, 1.5-2ft, 7.5-8ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130 North Brunswick, NJ **Project: North Brunswick Gulf**

Boring No. P61 **Recorded: Frank Jasiulewicz**

Date Installed: 10/4/17 **Groundwater Depth:**

Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5 ft sampler**

Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
95% 0 to 5ft	1.7	0	Stone fill
	6	1	Fill: Red rock fragments & brown sand
		1.5	Greenish clay & fine sand
	2119	2	Gray clay , trace fine sand, hard
	12.2	3	
		3.5	Greenish medium sand, wetish
	236	4	
		4.5	Greenish clay, moist pasty
	42	5	
95% 5 to 10ft	13	5	Same but soft
	4.6	6	
	6.4	7	
		7.5	Brown medium sand, trace clay, wet
	8.5	8	
	15.6	9	
	2.8	10	
100% 10 to 15ft	18.6	10	Gray medium sand, trace clay, wet
	12.7	11	
		11.5	Gray clay
	12	12	
		12.5	Gray clay, some fine gravel
	22	13	Gray clay
	7.8	14	
	5.7	15	Same
100% 15 to 20ft	3.8	15	
	1.7	16	
	1.5	17	
	1.3	18	
	0	19	
	0	20	

Sample: 0-0.5ft, 1.5-2ft, 4-4.5ft, 12.5-13ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P62 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth:**
Depth of Boring: 10 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 5ft	0	0-0.5	Stone fill
	0	0.5	Tan white fine sand, little fine gravel
	0	1	
	0	2	
	0	3	Brown fine sand, trace fine gravel
	0	4	Gray clay
	0	5	
95% 5 to 10ft	1.2	5	Same
	68.7	6	Wet & hard
	5.1	7	
		7.5	Gray clay, trace fine sand, drier, hard
	238	8	
		8.5	Gray clay, hard
	23.7	9	
	5.7	10	
Sample: 0-0.5ft, 1.5-2ft, 5.5-6ft, 6-6.5ft, 8-8.5ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 63 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth:**
Depth of Boring: 15 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
80% 0 to 5ft		0-0.5	Asphalt & stone fill
	147	0.5	Brown gray fine/medium sand, trace fine gravel
	162	1	
	466	2	
	3420	3	
	434	4	Gray clay & fine sand, pasty
	2883	5	
100% 5 to 10ft	865	5	Gray clay
	1720	6	Gray white fine sand
	1041	7	Gray clay, little fine sand
	411	8	
	70.4	9	Gray clay & medium sand
	24.4	10	
85% 10 to 15%	18	10	Gray clay & fine/medium sand
	5.5	11	
		11.5	Orange brown clay & fine/medium sand
	10	12	
		12.5	Red gray clay & fine/medium sand
	27.8	13	
	5.6	14	
	4.6	15	Same

Sample:3-3.5 ft, 7-7.5ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 64
Date Installed: 10/3/17
Depth of Boring: 16 ft. BSG
Driller: Environmental Probing: Joe & Dave

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 4 ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 4 ft		0-4"	Concrete
	843	4"	Tan fine/medium sand, trace/little fine gravel
	1971	1	
	560	2	
	174	3	
	34	4	
60% 4 to 8 ft	5.4	4	Gray fine sand & clay, wet
	62	5	
		5.5	Reddish fine sand, hard
	2696	6	
	434	7	Gray fine/medium sand, trace fine gravel, wet
	1460	8	
60% 8 to 12 ft	1160	8	Red fine/medium sand, trace fine gravel
	1259	9	Gray fine/medium sand, trace fine gravel: turning brown
	600	10	
	164	11	
	18	12	Same
15% 12 to 16ft	1.1	12	White fine/medium sand, very wet
Sample: 1 ft, 5.5-6ft, 6ft, 6-6.5ft, 8ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 65
Date Installed: 10/3/17
Depth of Boring: 6.5 ft. BSG
Driller: Environmental Probing: Joe & Dave

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5 ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 4 ft		0-1	Grass & topsoil
		1-2	Fill: black coal @ 2ft
		2-3	Gray, brown clay, moist
		3-4	Gray clay, trace fine sand, wet
100% 4 to 6.5 ft		4-5	White medium sand
		5-6	Gray white clay, trace fine gravel
		6-6.5	Orange gray clay, trace fine sand, trace fine gravel
Sample: 1ft, 3.5 ft, 6.5ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P66 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 5ft	0	0-0.5	Stone fill
	0	0.5	Fill: red rock fragments & sand
	0	1	
	0	2	
	0	3	Green gray white fine sand, dry
	0	4	
	0	5	
90% 5 to 10ft	0	5	Greenish gray clay & fine sand, trace fine gravel
	0	6	
	0	7	Gray clay
	0	8	
	0	9	
	1.1	10	
10 to 15ft	1.2	10	Same
	1.8	11	
	0.8	12	
	2.3	13	
	2.9	14	
	1.9	15	Same
15 to 20ft	0.8	15	
	0.6	16	
	0.5	17	
	0	18	
	0	19	
	0	20	Same
Sample: 0-0.5ft, 1.5-2ft, 6-6.5ft, 13.5-14ft			

Soil Boring Log

On-Site Environmental, Inc.

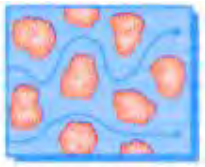
Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 67 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 2 ft. BSG **Method: GeoProbe with 4 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 2 ft		0-4"	Stone
		4"	Reddish & tan fine sand
	5.3	1	
	1	1.5	
	0.2	2	Same
Sample: 0-0.5 ft, 1.5-2ft			

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P68 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
60% 0 to 5ft	0	0-0.5	Stone fill
	0	0.5	Tan fine sand
	0	1	
	0	2	
	0	2.5	Fill: red rock fragments, coal
	0	3	
	0	4	
	0	4.5	Greenish clay, trace fine sand, moist soft
	29.7	5	
80% 5 to 10ft	16.2	5	Gray medium sand & fine gravel
	122	6	
	426	7	
	2789	8	
	410	9	Gray clay
	190	10	
100% 10 to 15ft	59	10	Same
	28.7	11	
	30	12	
	17.2	13	
	5.6	14	
	3.2	15	Same
100% 15 to 20ft	3.1	15	
	2.8	16	
	2.6	17	
	2.1	18	
	2.7	19	
	1.7	20	Same
Sample: 0-0.5ft, 1.5-2ft, 6-6.5ft, 7.5-8ft			

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 69
Date Installed: 10/3/17
Depth of Boring: 1.5 ft. BSG
Sampler: On-Site Environmental, Inc.

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5	Topsoil & roots, dry : trash in swail ex. bottles baggies
	0	0.5	
	0	1	
	0	1.5	Same: refusal
Sample: 0.5-1ft, 1-1.5 ft			

Soil Boring Log

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P70 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 16 ft. BSG **Method: GeoProbe with 4 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
90% 0 to 4 ft		0-0.5	Topsoil
		0.5	Brown fine sand, trace fine gravel
	1	1	
	1.2	2	
	198.8	3	Greenish clay, trace fine sand: odor
	2727	4	
100% 4 to 8 ft	2335	4	Gray clay, wet, pasty: odor
	281.4	5	Gray clay, hard & not wet
	58.3	6	Gray clay & fine sand, wet
	24.4	7	Turning reddish fine/medium sand, little clay
	19.7	8	
90% 8 to 12	4.3	8	Gray clay, hard
	9.1	9	
	12.1	10	
	7.2	11	
	4.9	12	
100% 12 to 16	2.3	12	Same
	1	13	
	1.1	14	
	1.2	15	
	1.2	16	Same
Sample: 0-0.5ft, 1.5-2 ft, 3.5-4 ft, 6.5-7 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 71 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 16 ft. BSG **Method: GeoProbe with 4 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
95% 0 to 4 ft	0	0-1	Topsoil
	0	1-1.5	Greenish fine sand, roots
	0	1.5-3	White fine sand, powdery
	0	3	White fine sand, trace fine gravel
	0	4	White fine sand & clay, dry & hard
100% 4 to 8 ft	0	5	
	0	6	
	0	6.5	Orange fine sand
	0	7	
	0	7.5	Gray clay, hard
100% 8 to 12	0.1	8	Gray clay, dry & hard & slippery
	0	8.5	
	0.3	9	
	0.2	9.5	
	0	10	
	0	11	
100% 12 to 16	0	12	
	0	13	
	0	14	
	0	15	
	0	16	Same
Sample: 0-0.5ft, 1.5-2 ft, 6-6.5 ft, 9-9.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P72 **Recorded: Frank Jasiulewicz**
Date Installed: 10/4/17 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Dave & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5ft	0	0-0.5	Stone fill
	6.2	1	Fill: red rock fragment
	10.2	2	
	149	3	Black medium sand, trace fine gravel
		3.5	Fill: White rocks & sand
	728	4	
	6.5	5	
70% 5 to 19ft	2.9	5	Fill: Black gravel (loose): sewage odor: possible old septic
	91	6	SAME
	110	7	SAME
	26.6	8	Gray clay
	14.3	9	Gray medium sand
	53	10	
10 to 15ft	4.6	10	
	5.3	11	Whitish medium sand
	6.3	12	
	5.4	13	
	3.6	14	Gray clay
	15.8	15	
100% 15 to 20ft	6.8	15	Whitish medium sand & clay
	15.1	16	
	100.6	17	
	7.7	18	Gray clay
	3.6	19	
	3.2	20	
Sample: 1-2ft, 3.5-4ft, 6.5-7ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 73 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 3 ft. BSG **Method: GeoProbe with 4 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 3 ft	0	0-1	Grass & topsoil
	0	1	Dark gray clay
	0	2	Gray clay
	0	3	Same

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P74 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 6.5 ft. BSG **Method: GeoProbe with 4 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
95% 0 to 4 ft		0-0.5	Topsoil
	0	0.5	Tan very fine sand, dry, powdery
	0	1	
	0	2	
	0	3	Orange very fine sand
	0	3.5	
100% 5 to 10 ft	0	4	Orange gray very fine sand, dry
	0	5	Orange very fine sand, trace fine gravel, dry
	0	5.5	Gray white very fine sand, damp at 5.5 ft
	0	6	Gray white very fine sand & clay, damp
	0	6.5	Same
Sample: 6-6.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 75
Date Installed: 10/3/17
Depth of Boring: 6.5 ft. BSG
Driller: Environmental Probing: Joe & Dave

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 4 ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
95% 0 to 4 ft		0-0.5	Topsoil
		0.5	Grayish fine sand, hard
		1	
		2	
		3	
		3.5	White fine sand, trace fine gravel
100% 5 to 10 ft		4	White gray clay, dry, powdery
		5	
		6	
		6.5	Hard & damp
Sample: 5.5-6 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P76 **Recorded: Frank Jasiulewicz**
Date Installed: 10/3/17 **Groundwater Depth:**
Depth of Boring: 5 ft. BSG **Method: GeoProbe with 5 ft sampler**
Driller: Environmental Probing: Joe & Dave

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5 ft		0-1	Grass & topsoil
		1-4	Gray clay, trace fine sand
		4-4.5	Moist
		4.5-5	Fill: pea gravel

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 77
Date Installed: 2/21/18
Depth of Boring: 15 ft. BSG
Driller: Environmental Probing: Dave & Gary

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe with 5 ft sampler

Recovery %	PID (ppmv)	Depth (ft)	Materials
70% 0 to 5 ft	0	0-1	Topsoil & roots
	0	1 - 2	Tan fine sand, little fine gravel
	0	2	Gray clay, trace fine sand
	0	3	
	0	4	
	0	5	Same
95% 5 to 10 ft	0	6	
	0	7	Same
	0	7-8	Red clay, little fine gravel
	0	8-9	Grey clay
	0	9-10	Grey clay, little fine gravel
95% 10 to 15 ft	0	10-14	Grey clay, little fine gravel, wet at 11 ft: hard
	0	14-15	Grey clay: hard

Sample: 0-0.5 ft
Sample 1.5-2ft
Sample 2-2.5 ft
Sample 10.5-11 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 78
Date Installed: 2/20/18
Depth of Boring: 3 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 3 ft	0	0-1	Topsoil
	0	1 - 2	Tan & red clay
	0	2-3	Gray fine sand
Sample 2.5 ft			

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 79
Date Installed: 2/20/18
Depth of Boring: 3 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 3 ft	0	0-0.5	Topsoil
	0	0.5 - 2	Brown clay & rock fragments
	0	2-3	Reddish clay, trace fine sand
Sample 2-2.5 ft			

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 80
Date Installed: 2/20/18
Depth of Boring: 3 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 3 ft	3.8	0-0.5	Topsoil & roots
	13.8	0.5	Topsoil & roots
	0.9	1	White clay, rock fragments, roots
	0.4	2	Dark brown, clay, trace fine sand: moist & soft
	0	2-3	Same
Sample 0-0.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 81
Date Installed: 2/20/18
Depth of Boring: 3 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 3 ft	0	0-0.5	Topsoil: wet
	0	0.5 - 3	Brown/grey clay turning orange: wet
			Note: gasoline can near boring location with gas in it & open on Csepes property
Sample 2-2.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 82
Date Installed: 2/20/18
Depth of Boring: 6.5 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
75% 0 to 4 ft	0	0-0.5	Topsoil, roots, wood, leaves
	0	0.5 - 3	Grey clay, little fine sand: moist
	0	3-4	Orange & white clay: hard
100 % 4-6.5 ft	0	4-6	Grey clay, trace/little fine sand, trace fine gravel: very wet
	0	6-6.5	White gray clay: hard
Sample 5.5-6 ft			

Soil Boring Log

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 83
Date Installed: 2/20/18
Depth of Boring: 6.5 ft. BSG
Driller: EPI

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Geoprobe

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5	Fill: stone, rock fragments, clay, fine sand
	0	0.5 - 1	Same
	0	1-1.5	Same
	0	1.5-2	Same
	0	2-2.5	Same: but red
	0	2.5-3	Fill: red rock fragments, whitish tan clay & fine sand
	0	3-3.5	Whitish orange clay, little fine sand
	0	3.5-4	Same but drier
	0	4-4.5	White orange clay, trace fine sand
	0	4.5-5	Same: wet at 5 ft
	0	5-5.5	Same
Sample 4.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 84
Date Installed: 2/20/18
Depth of Boring: 1.5 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0 to 2 ft	0	0-0.4	Stone & brown clay
	0	0.4 - 1	Fill: Orange fine sand
	0	1-1.5	Fill: Red rock fragments & clay

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 85
Date Installed: 2/20/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 4 ft	0	0-0.5	Modified stone
	0	0.5 - 1.5	Fill: Red rock fragments & fine sand, trace clay
	0	1.5-4	Tan/orange medium sand: moist
100 % 4-7 ft	0	4-5	Orange, medium sand, trace fine gravel: wet
	0	5	Gray clay: moist & hard
	0.8	6	
	64.1	6.5	
	369	7	Same: gasoline odor
Sample 0-0.5 ft Sample 1.5-2 ft Sample 3.5-4 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 86
Date Installed: 2/20/18
Depth of Boring: 2 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 4 ft	0	0-0.5	Modified stone & medium sand
	0	0.5-1.5	Fill: Red rock fragments, fine sand
	0	1.5-2	Tan, fine/medium sand

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 87
Date Installed: 2/20/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
75% 0 to 4 ft	1.9	0-0.5	Modified stone
	4.3	0.5-1	Fill: red rock fragments & clay
	15.6	2	
	103	3	Black/grey clay & medium sand
	1773	4	Black/grey clay: wet : gasoline odor
30% 4 to 7 ft	2702	4-4.5	
	1708	5	
	428	6	
	1202	7	Same
Sample 4-4.5 ft Sample 6-6.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 88
Date Installed: 2/20/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
55% 0 to 4 ft	38.5	0-0.5	Fill: Modified stone & red rock fragments
	101	1	Orange medium sand, trace/little fine gravel
	6.5	2	
	7.8	3	
	4.9	4	Same
75 % 4-7 ft	1.1	5	
	1	6	
	1.1	7	
Sample 0-0.5 ft Sample 1.5-2 ft Sample 3-3.5 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 89
Date Installed: 2/20/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
75% 0 to 4 ft	0.9	0-0.5	Fill: Modified stone & red rock fragments
	61	1	Grey/black medium sand
	265	2	
	23.5	3	Tan medium and: wet at 3.5 ft
	5.4	4	
75 % 4-7 ft	3.2	5	Gray clay & fine sand: wet
	1.4	6	Tan clay & fine sand: wet
	0.9	7	Same
Sample 3.5-4 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 90
Date Installed: 2/21/18
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
40% 0 to 5 ft		0-0.4	Concrete
	0	0.4-1	Stone sub base
	0	1-3	Brown/orange clay, trace fine sand, trace fine gravel
	0	3-5	Gray clay, trace fine sand: wet & soft
85 % 5-10 ft	0	5-10	Gray clay, trace fine sand: wet
90 % 10 to 15 ft	0	10-15	Gray clay, little medium and very fine gravel: gritty
15 to 20 ft	0	15-17	Same
	0	17-20	Gray clay: slippery & hard, drier

Sample 3.5-4 ft
Sample 5.5-6 ft
Sample 10-10.5 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 91
Date Installed: 2/20/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
75%	0	0-0.5	Fill: modified stone & red rock fragments
0 to 4 ft	0	0.5-4	Fill: red rock fragments, trace clay, trace fine sand
75 %	0	5-6	Gray clay
4-7 ft	0	6-7	Gray fine sand

Sample 0.5 ft
Sample 1.5-2 ft
Sample 5-5.5 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

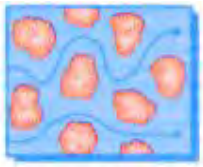
Boring No. P 92
Date Installed: 2/20/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
50%	0	0-0.5	Modified stone & brown medium sand
0 to 4 ft	0	0.5-4	Orange tan fine sand, trace fine gravel
70 %	0	4	Medium sand & fine gravel: wet
4-7 ft	0	5	Gray clay
	7	5.5	
	1262	6	
	1730	7	Same

Sample 0.5 ft
Sample 1.5-2 ft
Sample 6-6.5 ft

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 93
Date Installed: 2/20/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
70%	18.8	0-1	Asphalt & stone
0 to 4 ft	1.2	1	Fill: black ash ?
	3.2	2	
	0.4	3	Gray, clay, trace fine sand: wet & pasty
	0	4	
50 %	0	4-5	Same
4-7 ft	0	5-7	Gray clay: hard
Sample 1 ft Sample 2.5-3 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

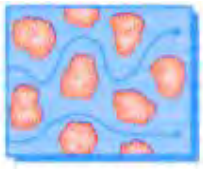
Project: North Brunswick Gulf

Boring No. P 94
Date Installed: 2/20/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
70% 0 to 4 ft	828	0-0.5	Asphalt & stone
	392	1	Orange medium sand
	240	1.5	
	337	2	
	216	3	
	285	3.5	Gray clay, trace/little fine sand: wet
	1753	4	
50 % 4-7 ft	1830	5	Gray clay & fine sand
	670	6	
	509	7	Same
Sample 4-4.5 ft			

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 95
Date Installed: 2/21/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
50%	0	0-0.5	Concrete & stone
0 to 5 ft	0	0.5-4	Brown medium sand: wet
	0	4-5	Gray clay, trace fine sand
100 %	0	5-5.5	Dark gray clay: wet
5-7 ft	0	5.5-7	Lighter gray clay: hard
Sample 0.5-1 ft Sample 5.5-6 ft			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 96
Date Installed: 2/21/18
Depth of Boring: 15 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5 ft	0	0-1	Topsoil
	0	1-2	Brown gray clay, trace fine sand
	809	2-3	Tan fine sand
	393	4	Black clay: wet sticky
	418	5	Gray clay, trace fine sand: wet
50 % 5 to10 ft	116	6	
	16.5	7	
	9.9	8	Gray clay: hard, not wet
	6.3	9	
	20.5	10	Orange red clay, trace fine gravel
75% 10 to15 ft	3.2	11	
	3.4	12	Gray clay & fine gravel : wet, gritty
	2.3	13	
	2.1	14	
	4.5	15	Gray clay, little fine gravel: dry
60% 15 to 20 ft	0.7	16	Gray clay & fine gravel: wet, gritty
	0	17	Gray clay: hard, not wet
	2.4	18	
	0.6	19	
	0	20	Same

Sample 2-2.5 ft
Sample 4.5-5 ft

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

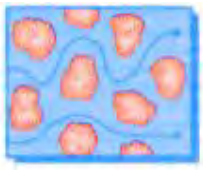
Project: North Brunswick Gulf

Boring No. P 97
Date Installed: 2/21/18
Depth of Boring: 15 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth: 3.24 BG
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
50% 0 to 5 ft	0	0-0.5	Brown medium sand & fine gravel: wet
	0	0.5-5	Orange clay, trace fine sand: not wet
100 % 5 to 10 ft	0	5-6	Same
	0	6-7	Gray clay, trace fine sand: moist/wet
	0	7-9	Orange & gray fine sand & clay, trace fine gravel
	0	9-10	Orange fine/medium sand, trace fine gravel, little clay
100% 10 to 15 ft	0	10-13	Same
	0	13-15	Orange tan medium sand: very wet: looks clean
Set 10 ft screen & 5 ft solid as temporary well			

Soil Boring Log



On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 98
Date Installed: 2/21/18
Depth of Boring: 15 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth: 3.27 BG
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
70% 0 to 5 ft	0	0-1	Brown tan medium sand, little fine gravel: wet
	0	1-5	Tan orange medium sand: wet, look clean
85 % 5 to 10 ft	0	5-7	Same
	0	7-10	White medium sand: wet
Stuck in tube 10 to 15 ft	0	10-11	Orange clay & fine gravel
		11-15	Sample stuck in tube
Set 10 ft screen & 5 ft solid as temporary well			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Sample No. P 99 East Storm Drain **Recorded: Frank Jasiulewicz**
Date Installed: 2/21/18
Depth of Boring: NA **Method: GeoProbe**
Sampler: On-Site Environmental, Inc

Recovery %	PID (ppmv)	Depth (ft)	Materials
			Removed grate to access storm drain
			Approximately 2-inches of material in storm drain
			Material is mixture of driveway modified stone, leaves & water

Collected samples with spatula from shovel sample.
Material may be hard to analyze.

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Sample No. P 100 West Storm Drain
Date Installed: 2/21/18
Depth of Boring: NA
Sampler: On-Site Environmental, Inc

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
			Removed grate to access storm drain
			Approximately 2-inches of material in storm drain
			Material is mixture of driveway modified stone, leaves water & possible fish tank stone

Collected samples with spatula from shovel sample.
Material may be hard to analyze.

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 101
Date Installed: 5/24/18
Depth of Boring: 7 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
70% 0-5'	0	0-0.5'	Grass & topsoil
	0	0.5-1'	Brown clay & fine sand, wet
	0	1-2'	
	0	2-4'	Brown clay, wet: soft
	0	4-5'	Tan clay, moist: soft
90% 5-7'	0	5-7'	Tan & gray clay, trace fine gravel

Sample 3-4'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 102 **Recorded: Frank Jasiulewicz**
Date Installed: 5/24/18 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe**
Driller: Environmental Probing

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0-2'	1.3	0-0.5'	Topsoil
	0	0.5-1	Tan fine sand
	0	1-2'	Fill: red rock fragments, sand clay
80% 2-7'	0	2-3.5'	Brown orange medium sand, wet: soft
	0	3.5-5'	Orange clay, trace fine gravel
	0	5-7'	Tan, very fine sand: very hard
2%		7-10'	No recovery: only 1-inch gravel in tube
100% 10-15'	0	10-11'	1-inch medium gravel then white sand, not wet
	0	11-12'	Tan fine sand
	0	12-12.5'	Grey fine sand
	0	12.5-13.5	Grey clay
	0	13.5-15'	Orange clay, trace fine gravel
100% 15-20'	0	15-17'	Whitish fine sand, wet
	0	17-17.5'	Turning gray fine sand, wet
	0	17.5-18'	Grey clay: slippery
	0	18-20'	Grey fine/medium sand, trace fine gravel, little clay

Sample 0-0.5'
Sample 1-2'
Sample 5-6'
Sample 10-11'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 103 **Recorded: Frank Jasiulewicz**
Date Installed: 5/24/18 **Groundwater Depth:**
Depth of Boring: 20 ft. BSG **Method: GeoProbe**
Driller: Environmental Probing

Recovery %	PID (ppmv)	Depth (ft)	Materials
100% 0-2'	0	0-0.5'	Stone & topsoil
	0	0.5-2'	Fill: red rock fragments, sand, clay
50% 2-7'	0	2-4.5'	Fill: wet at 3'
	0	4.5-6'	Grey clay: soft
	0	6-7'	Grey clay, little fine gravel
100% 7-10'	0	7-10'	Grey clay, trace fine sand
100 % 10-15'	0	10-11'	Grey whitish fine sand, wet
	0	11-12.5'	Grey clay: hard
	1.3	12.5'	
	2	13'	
	13.8	13.5	
	3.1	14	
	3.2	14.5'	
	0.7	15'	Same
70% 15-20'	1.4	15.5'	Orange fine sand & clay
	1.1	16'	Grey fine sand
	0.6	16.5'	
	0.5	17'	Grey clay: hard
	0.4	18'	
	0	19-20'	Same

Sample 0-0.5'
Sample 1-2'
Sample 3-4'
Sample 13.5-14'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 104
Date Installed: 5/24/18
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
80% 0-3'	0	0-0.5'	Grass & topsoil
	0	0.5-3'	Fill: red rock fragments
% 3-5'	0	3-5'	Black clay, wet
65% 5-10'	0	5.5'	Grey clay, little fine sand
	0.6	6'	
	1.3	7	
	0.5	8	Grey clay
	0.4	9	
	0	10	
50% 10-15'	0	10-11'	Grey fine sand & fine gravel
	0	11-15'	Grey clay, trace fine sand, trace fine gravel
80% 15-20'	0	15-19'	Grey clay, trace fine gravel: slippery
	0	19-20'	Same : hard

Sample 0-0.5'
Sample 1-2'
Sample 6.5-7.5'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 105
Date Installed: 5/24/18
Depth of Boring: 2.5 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-2'	Topsoil
	0	2-2.5	Orange grey clay

Sample 0-0.5'
Sample 1.5-2'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 106
Date Installed: 5/24/18
Depth of Boring: 2 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5'	Topsoil, wet
	1	0.5	Brown fine sand, wet
	0	1'	Tan fine sand, trace fine gravel
	0	1.5	Tan medium/coarse sand
	0	2'	Same

Sample 0-0.5'
Sample 1.5-2'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 107
Date Installed: 5/24/18
Depth of Boring: 2 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5'	Topsoil
	0	0.5-2'	Tan orange clay

Sample 0-0.5'
Sample 1-1.5'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 108
Date Installed: 5/24/18
Depth of Boring: 2 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	6.8	0-0.5'	Topsoil
	6.1	0.5-1'	Brown & white clay
	0	1.5'	Wet
	0	2'	Same

Sample 0-0.5'
Sample 1-1.5'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 109
Date Installed: 5/25/18
Depth of Boring: 20 ft. BSG
Driller: Environmental Probing

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
		0-0.5'	Concrete
40% 0.5-4'	3421	1'	Tan fine sand, trace fine gravel: gas odor
	2513	2'	
	3068	3'	
		4'	Same
50% 4-8'	944	5'	Tan fine .medium sand, wet: gas odor
	1808	6'	
	253	7'	
	462	8'	Brown clay & fine gravel & medium sand: very wet
60% 8-12'	149	9'	Light grey medium sand
	259	10'	
	302	11'	
	163	12'	
60% 12-16'	51	13'	White medium sand, wet
	33	14'	Same with trace clay
	74	15'	
	69	16'	Grey medium sand, trace clay
40% 16-20'	133	17'	
	94	18'	
	11	19'	
	22	20'	Same

Sample 10-10.5'
Sample 17-17.5'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 110
Date Installed: 5/24/18
Depth of Boring: 1 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-1'	Topsoil

Sample 0-0.5'
Sample 0.5-1'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 111
Date Installed: 5/24/18
Depth of Boring: 1 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.83'	Topsoil
	0	0.83-1'	Fill: brick, small pebbles: may be ash but dark

Sample 0-0.5'
Sample 0.5-1'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 112
Date Installed: 5/24/18
Depth of Boring: 1 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5'	Topsoil
	0	0.5-1'	Orange grey clay

Sample 0-0.5'
Sample 0.5-1'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 113
Date Installed: 5/24/18
Depth of Boring: 1 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5'	Topsoil
	0	0.5-1'	Orange grey clay

Sample 0-0.5'
Sample 0.5-1'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 114
Date Installed: 9/13/18
Depth of Boring: 10 ft. BSG
Driller: EPI

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
95%	0	0-1'	Topsoil
	0	1-1.5'	Tan, fine sand & fine gravel
	0	1.5-5'	Orange gray clay: crumbly
80%	0	5-9	Orange gray clay, trace/little fine gravel
	0	9-10	Orange gray clay, moist

Sample 0-0.5'
Sample 0.5-1'
Sample 6-6.5'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 115
Date Installed: 9/13/18
Depth of Boring: 10 ft. BSG
Driller: EPI

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: GeoProbe

Recovery %	PID (ppmv)	Depth (ft)	Materials
95%	0	0-1'	Broken asphalt & stone
	0	1-2'	Brown clay, trace fine gravel
	0	2-3'	Same
	0	3-5	Gray clay: hard
85%	0	5-6.5'	Gray green clay: moist
	0	6.5-7'	Tan fine sand: moist/wet
	0	7-10'	Gray clay: hard
Sample 0-0.5' Sample 0.5-1' Sample 6-6.5'			

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 116
Date Installed: 9/13/18
Depth of Boring: 1 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5'	Topsoil
	0	0.5-1'	Topsoil

Sample 0-0.5'
Sample 0.5-1'
MS & MSD: 0.5-1'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 117
Date Installed: 9/13/18
Depth of Boring: 1 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5'	Topsoil
	0	0.5-1'	Gray orange clay

Sample 0-0.5'
Sample 0.5-1'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 118
Date Installed: 9/13/18
Depth of Boring: 1 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Hand

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5'	Topsoil
	0	0.5-1'	Orange gray clay

Sample 0-0.5'
Sample 0.5-1'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 119
Date Installed: 9/13/18
Depth of Boring: 2 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Geoprobe

Recovery %	PID (ppmv)	Depth (ft)	Materials
	32	0-0.5'	Brown tan clay, trace/little fine sand, roots
	0.1	0.5-1'	Tan lay & fine sand, trace fine gravel: crumbly dry
	0	1.-1.5'	
	0	1.5-2'	Tan fine sand, rocks, roots

Sample 0-0.5'
Sample 0.5-1'
Sample 1.5-2'

Soil Boring Log

On-Site Environmental, Inc.

Project Location: 1696 Georges Rd Rt 130
North Brunswick, NJ

Project: North Brunswick Gulf

Boring No. P 120
Date Installed: 9/13/18
Depth of Boring: 2 ft. BSG
Investigator: FJ

Recorded: Frank Jasiulewicz
Groundwater Depth:
Method: Geoprobe

Recovery %	PID (ppmv)	Depth (ft)	Materials
	0	0-0.5'	Brown fine sand & fill , bricks
	0	0.5-1'	
	0	1.-1.5'	Tan fine sand, trace fine gravel: dry
	0	1.5-2'	Brown fine sand, trace fine medium gravel, rock fragments, roots

Sample 0-0.5'
Sample 0.5-1'
Sample 1.5-2'

Appendix C

Well Searches

2002

2010

2013

2017

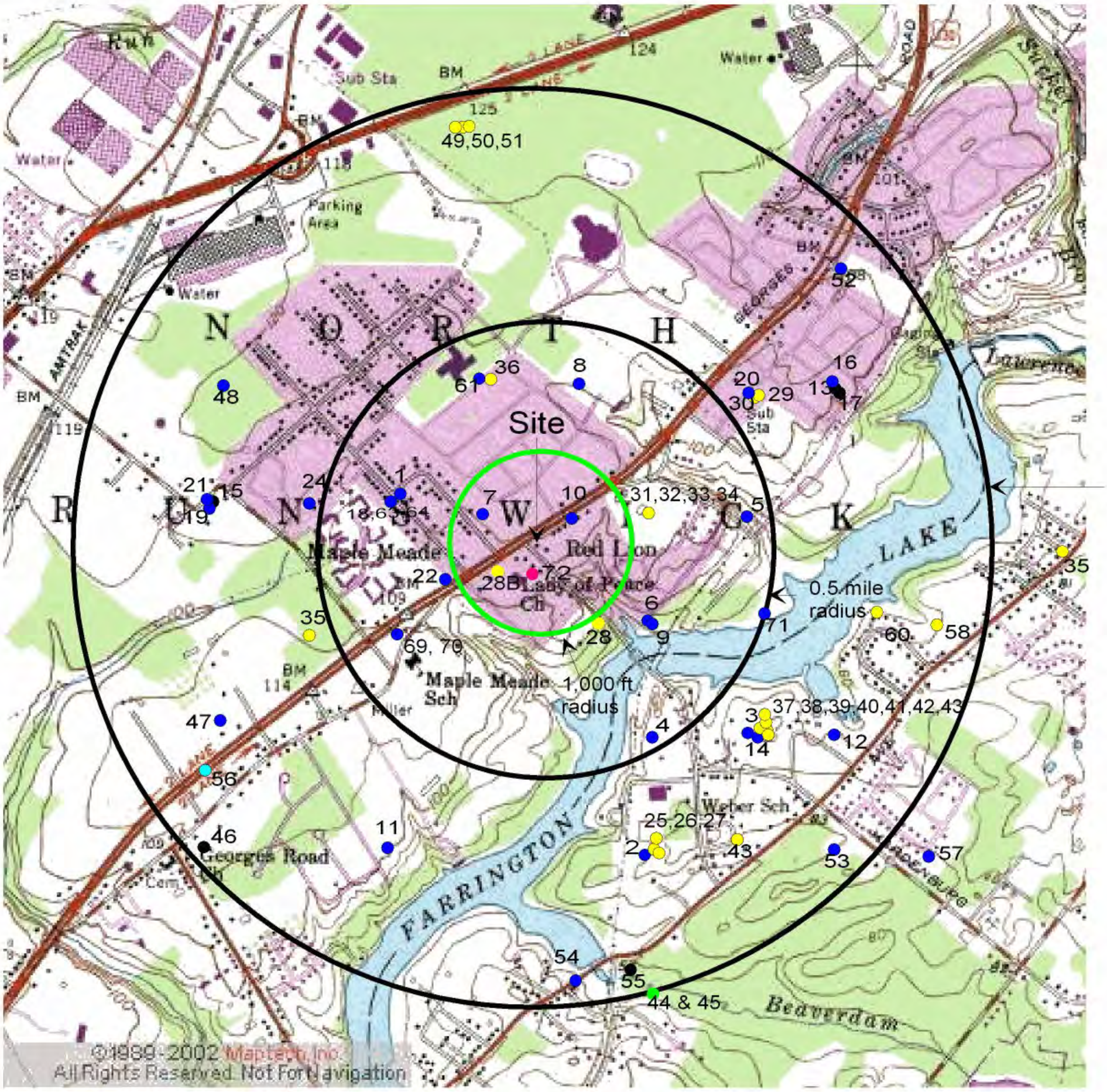
2019

Table 1: Summary of Well Records & Water Withdrawal Points Within 1 Mile of NBG per Well Survey Conducted in 2002

Map ID (see Figure 1 Appendix C)	Permit #	Owner	Location	Lattidude	Longitude	Water Use	Total Depth (ft)	Casing (ft)	Date drilled	Yield	SWL (ft)	Distance from NBG (ft)
1	2800038	Eric Thor	66 Wood Ave	40° 26' 39"	74° 28' 53"	Domestic	64	36.58	6/4/1948	15	7	1,724
2	2800097	Ole Anderson	East Brunswick	40° 26' 00"	74° 28' 00"	Domestic	107	22.58	2/8/1949	20	32	3,682
3	2800341	Olga K. Zawadsky	Hardenburg Lane	40° 26' 13"	74° 27' 46"	Domestic	81	40	9/4/1951	20	16	3,332
4	2800350	Hendricks	East Brunswick	40° 26' 13"	74° 28' 00"	Domestic	87.5	37.5	9/8/1951		13	2,523
5	2800357	Frank Reynolds	North Brunswick Twp.	40° 26' 39"	74° 27' 46"	Domestic	130	44.66	10/3/1951	20	14	2,393
6	2800509	Michael Kowzun	East Brunswick	40° 26' 26"	74° 28' 00"	Domestic	109	43.58	2/28/1952	12	19	1,610
7	2800537	Sinclair Refinning Co.	North Brunswick Twp.	40° 26' 39"	74° 28' 26"	Domestic	242	78.8	4/17/1952	60	10	737
8	2800543	S.E. Curley	North Brunswick Twp.	40° 26' 53"	74° 28' 13"	Domestic	153	38.5	4/24/1952	40	26	1,863
9	2800581	Arthur J Schuier		40° 26' 26"	74° 28' 00"	Domestic	91.83	39.5	6/14/1952	20	14	1,617
10	2800592	Conrad J Genzanto	North Brunswick Twp.	40° 26' 39"	74° 28' 13"	Domestic	57	34	10/14/1952	20	14	533
11	2800618	Liet A. Saltwedt	402555 743430	40° 26' 00"	74° 28' 40"	Domestic	99	20	7/11/1952	3.5	40	3,384
12	2800700	Walter R Smith	East Brunswick	40° 26' 13"	74° 27' 33"	Domestic	99.5	59	10/11/1952	20	20	4,053
13	2800788	Lewis I Beese	Milltown	40° 26' 53"	74° 27' 33"	Garage	150	28	7/10/1953	35	10	3,792
14	2800833	James Martin Jr.	East Brunswick	40° 26' 13"	74° 27' 46"	Domestic	72	37.3	5/21/1953	20	17	3,284
15	2801023	Morris Mazer	Fresh Pond Rd Milltown	40° 26' 39"	74° 29' 06"	discontinued						3,630
16	2801494	Karl Zoeltsch	Milltown	40° 26' 53"	74° 27' 33"	Domestic	100	44	1/7/1955	15	30	3,792
17	2801913	Cary Chemical	East Brunswick	40° 26' 53"	74° 27' 33"	Indudtrial	82	10	2/22/1956	30	54	3,792
18	2802399	Eugene H. Thompson	Adams Station	40° 26' 39"	74° 28' 40"	Domestic	90	28	1/14/1957	30	3	1,625
19	2802801	George Jorchimstaler	Adam Lane	40° 26' 39"	74° 29' 06"	Domestic	50	20	9/30/1957	10	10	3,630
20	2803682	James Parillo	Milltown	40° 26' 53"	74° 27' 46"	Domestic	100	20	10/5/1959	6	12	2,994
21	2804170	Richard Marcrie	North Brunswick	40° 26' 39"	74° 29' 06"	Domestic	82	26	9/7/1961	10	8	3,630
22	2815892	Rod Johnkins	Block 227 Lot 17.1 *should be 17.03*	40° 26' 32"	74° 28' 32"	Domestic	150	61	12/17/1985	12	10	1,060
23	2817525	Greenbrook Motel. Inc.	Greenbrook Twp	40° 26' 59"	74° 28' 19"	Public	200	52	9/13/1986		60	2,397
24	2821308	Arthur Kasper	RTE 130	40° 26' 39"	74° 28' 53"	Domestic	200	60	9/21/1988	40	20	2,647
25	2827299	NJDEP	JIS Landfill Rt 535	40° 26' 00"	74° 28' 00"	Monitoring	56	45	4/16/1991	>4	40	3,621
26	2827299	NJDEP	JIS Landfill Rt 535	40° 26' 00"	74° 28' 00"	Monitoring	132	120	4/23/1991	>8	120	3,621
27	2827307	NJDEP	JIS Landfill Rt 535	40° 26' 00"	74° 28' 00"	Monitoring	135	120	5/1/1991	>8	78	3,621
28	2827362	Our Lady of Peace	277 Washington Place	40° 26' 39"	74° 28' 40"	piezometer	45.6	20	2/25/1991		6	1,148
29	2828497	Louis Lefkowitz & Bros	Block 73 & 60 Lot 1C & 2C	40° 26' 53"	74° 27' 46"	Monitoring	20	5	9/18/1991	>2	7	2,994
30	2828498	Louis Lefkowitz & Bros	Block 73 & 60 Lot 1C & 2C	40° 26' 53"	74° 27' 46"	Monitoring	20	5	9/18/1991	>2	10	2,994
31	2832978	M.J. Lewis	Block 31.02 Lot 25.2 Middlesex	40° 26' 39"	74° 28' 00"	Monitoring	13	3	9/30/1993	>7	7	1,329
32	2832979	M.J. Lewis	Block 31.02 Lot 25.2 Middlesex	40° 26' 39"	74° 28' 00"	Monitoring	15	8	9/30/1993	>7	8	1,329
33	2832980	Sommerfield Assoc.	Block 3102 Lot 37	40° 26' 39"	74° 28' 00"	Monitoring	15	8	9/30/1993	>7	8	1,329
34	2832981	Sommerfield Assoc.	Block 3102 Lot 37	40° 26' 39"	74° 28' 00"	Monitoring	15	8	10/1/1993	>7	8	1,329
35	2833172	NJDOT	Block 87 Lot 4 Orchard Ave & US 1	40° 26' 26"	74° 28' 53"	Monitoring	15	4	10/26/1993		6.16	2,791 or 1.13 miles
36	2833649	North Brunswick BD of ED	Block 116 Lot 57 Roosevelt Ave	40° 26' 53"	74° 28' 26"	Monitoring	15	5	3/12/1994	>5	9	1,830
37	2835319	St Marys coptic Orthodox	433 Riva Ave. Block 309.02 Lot 36,37,05	40° 26' 13"	74° 27' 46"	Monitoring	25	15	2/2/1995	>1	19.16	3,383
38	2835320	St Marys coptic Orthodox	433 Riva Ave. Block 309.02 Lot 36,37,05	40° 26' 13"	74° 27' 46"	Monitoring	20	10	2/2/1995	>1	15.25	3,383
39	2839792	St Marys coptic Orthodox	433 Riva Ave. Block 309.02 Lot 36,37,05	40° 26' 13"	74° 27' 46"	Monitoring	20	10	4/30/1997	>3	10	3,383
40	2839793	St Marys coptic Orthodox	433 Riva Ave. Block 309.02 Lot 36,37,05	40° 26' 13"	74° 27' 46"	Monitoring	20	10	4/30/1997	>3	10	3,383
41	2839794	St Marys coptic Orthodox	433 Riva Ave. Block 309.02 Lot 36,37,05	40° 26' 13"	74° 27' 46"	Monitoring	30	20	5/2/1997	>2	18.25	3,383
42	2839795	St Marys coptic Orthodox	433 Riva Ave. Block 309.02 Lot 36,37,05	40° 26' 13"	74° 27' 46"	Monitoring	30	20	5/2/1997	>3	20	3,383
43	2839966	St Marys coptic Orthodox	433 Riva Ave. Block 309.02 Lot 46	40° 26' 00"	74° 27' 46"	Monitoring	195	58.5	4/16/1997	75	15	3,383

Table 1 (continued): Wells & Water Withdrawal Points Within 1 Mile of NBG per Well Survey Conducted in 2002

Map ID (see Figure 1 Appendix C)	Permit #	Owner	Location	Lattidude	Longitude	Water Use	Total Depth (ft)	Casing (ft)	Date drilled	Yield	SWL (ft)	Distance from NBG (ft)
44	MI0037	Joseph Bailes	Beaver Dam Brk	40° 25' 42"	74° 28' 00"	water withdrawal				450		5,290
45	MI0037	Joseph Bailes	Pond	40° 25' 42"	74° 28' 00"	water withdrawal				450		5,290
46	2800604	Leroy Rore or George Wienstien	Drake Rd Lakewood	40° 26' 00"	74° 29' 06"	chicken farm	50	41	9/8/1952	30	11	5,089
47	2501150	Joseph Lauer	Brunswick	40° 26' 13"	74° 29' 06"	Domestic	126	23.16	9/1/1951	2	5	4,281
48	2806250	Nicola Recine	Adams Station Rd - 8th St. North Brunswick	40° 26' 53"	74° 29' 06"	Domestic	95	40	9/27/1967	20	5	4,056
49	2822733	Beel Co.	Block 17.1 Lot 242.1	40° 27' 20"	74° 28' 26"	Investigation	15	8	4/7/1989			4,550
50	2822734	Beel Co.	Block 17.1 Lot 242.1	40° 27' 20"	74° 28' 26"	Investigation	15	7	4/10/1989			4,450
51	2822735	Beel Co.	Block 17.1 Lot 242.1	40° 27' 20"	74° 28' 26"	Investigation	15	7	4/10/1989			4,450
52	2801736	Chester J. Pardun Jr.	Milltown	40° 27' 06"	74° 27' 33"	Domestic	415	100	7/14/1955	20	40	4,617
53	2812915	Walter Mutchler	Burd Ln East Amwell twp. Block 36 Lot 10	40° 26' 00"	74° 27' 33"	Domestic	125	50	5/18/1982	15	40	4,811
54	2819275	Joseph Jankowski	10 Hillcrest Ave Block 310 Lot 76040	40° 25' 46"	74° 28' 13"	Domestic	600	63	8/17/1987	5	50	4,899
55	2800073	Eastern Drive In Corp	North Brunswick	40° 25' 46"	74° 28' 00"	Intermittent Service	133	45.5	1/20/1949	30	8	5,134
56	97-12108	The Tire Barn	Old Georges Road	40° 26' 10"	74° 29' 6.8"	public supply						4,568
57	2802092	Frank Friedman	Hardenburg Lane	40° 26' 00"	74° 27' 19"	Domestic	88	46	5/11/1956	10	30	1.07 miles
58	28174356	Philip Orban	Combs Place	40° 26' 46"	74° 27' 12"	Observation	31.5	19	8/14/1986	24		4,542
59	28-44182	Willaim Schartz	40-B Colters Lane Block 29.04 Lot 10.04			Monitoring	13	2.5	5/26/1999			
60	2849053	Beatrice Dunn	28 Louise Drive Block 00307-0 Lot 00014			Monitoring	25	10	10/12/2001	19	5	3,960
			Wells Found Through NJDEP CEA Biennial Certification Well Search Grid Application per Well Survey Conducted in 2010									
61	280001061	peter Kartikis	North Brunswick Twp.	40° 26' 53"	74° 28' 26"	Domestic						1,830
62 same as 8	2800543	S.E. Curley	North Brunswick Twp.	40° 26' 53"	74° 28' 13"	Domestic						1,863
63	2.8E+09	Shirley Powers	North Brunswick Twp.	40° 26' 39"	74° 28' 40"	Domestic						1,625
64	2.8E+09	Jules Sassani	New Brunswick City	40° 26' 39"	74° 28' 40"	Domestic						1,625
65 same as 18	2.8E+09	Eugene H. Thompson	North Brunswick Twp.	40° 26' 39"	74° 28' 40"	Domestic						1,625
66 same as 22	2.8E+09	Rod Johnkins	North Brunswick Twp.	40° 26' 32"	74° 28' 32"	Domestic						1,060
67 same as 7	2.8E+09	Sinclair Refinning Co.	North Brunswick Twp.	40° 26' 39"	74° 28' 26"	Domestic						737
68 same as 10	2.8E+09	Conrad J Genzanto	North Brunswick Twp.	40° 26' 39"	74° 28' 13"	Domestic						533
69	2.8E+09	John Zadoorian	North Brunswick Twp.	40° 26' 26"	74° 28' 40"	Domestic						1,821
70	2.8E+09	Julus Sonnemberg	North Brunswick Twp.	40° 26' 26"	74° 28' 40"	Domestic						1,821
			Well Found Through Communications with North Brunswick Township in 2010									
71		Elizabeth Edley	1546 Edley Cove Court			Domestic						2,677
			Wells Found Through Door to Door Survey per Well Survey Conducted in 2010									
72		Luzack	368 Washington Street North Brunswick, NJ			abandon						260
28 B		Our Lady of Peace	Block 286 Lot 1			abandon						438



Key

- Domestic well
- Public supply well not shown per NJDEP directive
- Water withdrawal point
- Commercial,Industrial or intermittent use
- Monitoring, observation, piezometer
- Abandon

Note: 1. Locations plotted based on latitude and longitude in NJDEP files.
2. See table 1 in Appendix C for additional information.

N

0' 2030'

(approximate scale in feet)

Contour Interval: 10 feet
Photo Revised: 1981

Source: RedHawk draft RI 2010

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #:
File : Fig 1
Topo 9

Date
5/13/19

Figure 1: Wells in Area of
NBG 2002 & 2010 well search
North Brunswick Gulf
1696 Georges Road RT 130
Middlesex County
North Brunswick, New Jersey 08902

Redhawk 2010 well search

Well Search for CEA Biennial Certification By A Grids

Please Enter PI Information Below :

PI Name	
Street Address :	
City, State and Zip Code :	

Program Interest ID : 010180

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803367

***All of the grids listed above have been searched. If the following well search table is blank, then n were identified.**

Well Search Results :

Well Type	Count
Sum:	

Preparer (Print Name) : FRANK JASIULEWICZ

Signature : _____

Because of limitations on this report, it is recommended that it is only used to review well permit information as part of the Biennial Process for Classification Exception Areas. It is further noted that data quality is reduced on wells permitted prior to 1995

Well Search for CEA Biennial Certification By Atla Grids

Last Refi pm

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803368

***All the grid numbers listed above have been searched. If a grid does not contain a then that grid is not listed in the following section of this report.**

Atlas Grid Number	Well Type	Count
2803368	Domestic	1

Well Search for CEA Biennial Certification By Atla Grids

Last Refi pm

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803368

***All the grid numbers listed above have been searched. If a grid does not contain a then that grid is not listed in the following section of this report.**

Atlas Grid Number	Well Type	Count
2803368	Domestic	1

Well Search for CEA Biennial Certification By Atlas Grids

Last Refreshed: 03/06/10 06:27 pm

Program Interest ID : 010180

Grid Numbers Entered :

2803368

Well Approved During the Period 1/1/1900 to 3/6/2010

Atlas Grid Number : 2803368

Well Permit Number : 2800001061

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800001061	Domestic	10/15/53		

Well Owner Information	
First Name	Last Name
	KARTIKIS, PETER

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	North Brunswick Twp
Address Line 1	
Address Line 2	
NJ GRID	2803368
Block	
Lot	
X Coordinate	742826
Y Coordinate	402653
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	99 ft
Finished Depth	
Finished Capacity	

njhome | my new jersey | people | business | government | departments

new jersey department of environmental protection

OPRA | New Jersey Open Public Records Act

opra home | contact opra | nj

revise search | site search | reports by category | reports search | help

Well Search for CEA Biennial Certification By A Grids

Please Enter PI Information Below :

PI Name	
Street Address :	
City, State and Zip Code :	

Program Interest ID : 010180

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803368

***All of the grids listed above have been searched. If the following well search table is blank, then n were identified.**

Well Search Results :

Well Type	Count
Domestic	1
Sum:	**1**

Preparer (Print Name) : JASIULEWICZ

Signature : EJ

Because of limitations on this report, it is recommended that it is only used to review well permit information as part of the Biennial Process for Classification Exception Areas. It is further noted that data quality is reduced on wells permitted prior to 1995

Well Grid Analysis Summary | Individual Well Information Detail | **Certificate**

Well Search for CEA Biennial Certification By Atla Grids

Last Refi pm

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803369

***All the grid numbers listed above have been searched. If a grid does not contain a then that grid is not listed in the following section of this report.**

Atlas Grid Number	Well Type	Count
2803369	Domestic	1

Well Search for CEA Biennial Certification By Atlas Grids

Last Refreshed: 03/06/10 06:38 pm

Program Interest ID : 010180

Grid Numbers Entered :

2803369

Well Approved During the Period 1/1/1900 to 3/6/2010

Atlas Grid Number :	2803369
Well Permit Number :	2800000543

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800000543	Domestic	04/02/52		

Well Owner Information	
First Name	Last Name
	CULLEY, S E

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	North Brunswick Twp
Address Line 1	
Address Line 2	
NJ GRID	2803369
Block	
Lot	
X Coordinate	742813
Y Coordinate	402653
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	100 ft
Finished Depth	
Finished Capacity	

Well Search for CEA Biennial Certification By A Grids

Please Enter PI Information Below :

PI Name	
Street Address :	
City, State and Zip Code :	

Program Interest ID : 010180

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803369

***All of the grids listed above have been searched. If the following well search table is blank, then n were identified.**

Well Search Results :

Well Type	Count
Domestic	1
Sum:	**1**

Preparer (Print Name) : F. JASIULEWICZ

Signature : F/

Because of limitations on this report, it is recommended that it is only used to review well permit information as part of the Biennial Process for Classification Exception Areas. It is further noted that data quality is reduced on wells permitted prior to 1995

njhome | my new jersey | people | business | government | departments

new jersey department of environmental protection

OPRA | New Jersey Open Public Records Act

opra home | contact opra | nj

revise search | site search | reports by category | reports search | help

Well Search for CEA Biennial Certification By Atla Grids

Last Refi pm

Program Interest ID : 010180

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803391

***All the grid numbers listed above have been searched. If a grid does not contain a then that grid is not listed in the following section of this report.**

Atlas Grid Number	Well Type	Count
2803391	Domestic	4

contact dep | privacy notice | legal statement | accessibility statement

department: njdep home | about dep | index by topic | programs/units | dep online

Well Grid Analysis Summary | Individual Well Information Detail | Certificate

Well Search for CEA Biennial Certification By Atlas Grids

Last Refreshed: 03/06/10 07:02 pm

Program Interest ID : **0108180**

Grid Numbers Entered :

2803391

Well Approved During the Period 1/1/1900 to 3/6/2010

Atlas Grid Number : **2803391**

Well Permit Number : **2800000398**

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800000398	Domestic	10/06/51		

Well Owner Information	
First Name	Last Name
	POWERS, SHIRLEY

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	North Brunswick Twp
Address Line 1	
Address Line 2	
NJ GRID	2803391
Block	
Lot	
X Coordinate	742840

Y Coordinate	402639
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	100 ft
Finished Depth	
Finished Capacity	

Well Permit Number : 2800000588

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800000588	Domestic	05/20/52		

Well Owner Information	
First Name	Last Name
	SASSANI, JULES

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	New Brunswick City
Address Line 1	
Address Line 2	
NJ GRID	2803391
Block	
Lot	
X Coordinate	742840
Y Coordinate	402639
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	80 ft
Finished Depth	
Finished Capacity	

Well Permit Number : 2800002399

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800002399	Domestic	01/09/57		

Well Owner Information	
First Name	Last Name
	THOMPSON, EUGENE H.

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	North Brunswick Twp

Address Line 1	
Address Line 2	
NJ GRID	2803391
Block	
Lot	
X Coordinate	742840
Y Coordinate	402639
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	100 ft
Finished Depth	
Finished Capacity	

Well Permit Number :	**2800015892**

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800015892	Domestic	10/22/85		

Well Owner Information	
First Name	Last Name
	JOHNKINS, ROD

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	North Brunswick Twp
Address Line 1	
Address Line 2	
NJ GRID	2803391
Block	227
Lot	17.1
X Coordinate	742832
Y Coordinate	402632
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	150 ft
Finished Depth	
Finished Capacity	

Well Search for CEA Biennial Certification By A Grids

Please Enter PI Information Below :

PI Name	
Street Address :	
City, State and Zip Code :	

Program Interest ID : **0108180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803391

***All of the grids listed above have been searched. If the following well search table is blank, then n were identified.**

Well Search Results :

Well Type	Count
Domestic	4
Sum:	**4**

Preparer (Print Name) : FRANK FASULEWICZ

Signature : F

Because of limitations on this report, it is recommended that it is only used to review well permit information as part of the Biennial Process for Classification Exception Areas. It is further noted that data quality is reduced on wells permitted prior to 1995

Well Search for CEA Biennial Certification By Atla Grids

Last Refi pm

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803392

***All the grid numbers listed above have been searched. If a grid does not contain a then that grid is not listed in the following section of this report.**

Atlas Grid Number	Well Type	Count
2803392	Domestic	1

Well Search for CEA Biennial Certification By Atlas Grids

Last Refreshed: 03/06/10 07:24 pm

Program Interest ID : 010180

Grid Numbers Entered :

2803392

Well Approved During the Period 1/1/1900 to 3/6/2010

Atlas Grid Number : 2803392

Well Permit Number : 2800000537

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800000537	Domestic	04/03/52		

Well Owner Information	
First Name	Last Name
	SINCLAIR REFINING CO

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	North Brunswick Twp
Address Line 1	
Address Line 2	
NJ GRID	2803392
Block	
Lot	
X Coordinate	742826
Y Coordinate	402639
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	250 ft
Finished Depth	
Finished Capacity	

njhome | my new jersey | people | business | government | departments
sea
new jersey department of environmental protection
OPRA | New Jersey Open Public Records Act
opra home | contact opra | nj
revise search
site search
reports by category
reports search
help

Well Search for CEA Biennial Certification By A Grids

Please Enter PI Information Below :

PI Name	
Street Address :	
City, State and Zip Code :	

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803392

***All of the grids listed above have been searched. If the following well search table is blank, then n were identified.**

Well Search Results :

Well Type	Count
Domestic	1
Sum:	**1**

Preparer (Print Name) :

Signature : _____

Because of limitations on this report, it is recommended that it is only used to review well permit information as part of the Biennial Process for Classification Exception Areas. It is further noted that data quality is reduced on wells permitted prior to 1995

Well Grid Analysis Summary Individual Well Information Detail **Certificate**

njhome | my new jersey | people | business | government | departments
new jersey department of environmental protection
OPRA | New Jersey Open Public Records Act
opra home | contact opra | nj
revise search | site search | reports by category | reports search | help

Well Search for CEA Biennial Certification By Atla Grids

Last Refi pm

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803393

***All the grid numbers listed above have been searched. If a grid does not contain a then that grid is not listed in the following section of this report.**

Atlas Grid Number	Well Type	Count
2803393	Domestic	1

contact dep | privacy notice | legal statement | accessibility statement

department: njdep home | about dep | index by topic | programs/units | dep online

Well Grid Analysis Summary Individual Well Information Detail Certificate

njhome | my new jersey | people | business | government | departments

search

new jersey department of environmental protection

OPRA | New Jersey Open Public Records Act

opra home | contact opra | njdep home

revise search | site search | reports by category | reports search | help

Well Search for CEA Biennial Certification By Atlas Grids

Last Refreshed: 03/06/10 07:30 pm

Program Interest ID : 010180

Grid Numbers Entered :

2803393

Well Approved During the Period 1/1/1900 to 3/6/2010

Atlas Grid Number :	**2803393**
Well Permit Number :	**2800000592**

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800000592	Domestic	05/23/52		

Well Owner Information	
First Name	Last Name
	GENZANTO, CONRAD J

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	North Brunswick Twp
Address Line 1	
Address Line 2	
NJ GRID	2803393
Block	
Lot	
X Coordinate	742813
Y Coordinate	402639
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	100 ft
Finished Depth	
Finished Capacity	

njhome | my new jersey | people | business | government | departments

new jersey department of environmental protection

OPRA | New Jersey Open Public Records Act

opra home | contact opra | nj

revise search | site search | reports by category | reports search | help

Well Search for CEA Biennial Certification By A Grids

Please Enter PI Information Below :

PI Name	
Street Address :	
City, State and Zip Code :	

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803393

***All of the grids listed above have been searched. If the following well search table is blank, then n were identified.**

Well Search Results :

Well Type	Count
Domestic	1
Sum:	**1**

Preparer (Print Name) : JASIULEWICZ

Signature : EJ

Because of limitations on this report, it is recommended that it is only used to review well permit information as part of the Biennial Process for Classification Exception Areas. It is further noted that data quality is reduced on wells permitted prior to 1995

Well Grid Analysis Summary | Individual Well Information Detail | Certificate

Well Search for CEA Biennial Certification By Atla Grids

Last Refi pm

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803394

***All the grid numbers listed above have been searched. If a grid does not contain a then that grid is not listed in the following section of this report.**

Atlas Grid Number	Well Type	Count
2803394	Domestic	2

Well Search for CEA Biennial Certification By Atlas Grids

Last Refreshed: 03/06/10 07:40 pm

Program Interest ID : **010180**

Grid Numbers Entered :

2803394

Well Approved During the Period 1/1/1900 to 3/6/2010

Atlas Grid Number : **2803394**

Well Permit Number : **2800003602**

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800003602	Domestic	07/20/59		

Well Owner Information	
First Name	Last Name
	ZADOORIAN, JOHN

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	North Brunswick Twp
Address Line 1	
Address Line 2	
NJ GRID	2803394
Block	
Lot	
X Coordinate	742840

Y Coordinate	402626
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	100 ft
Finished Depth	
Finished Capacity	

Well Permit Number : **2800005756**

Well General Information				
Well Permit Number	Primary Use	Permit Approval Date	Drilling End Date	STATUS
2800005756	Domestic	01/24/66		

Well Owner Information	
First Name	Last Name
	SONNEMBERG, JULUS

Well Location Information	
County	Middlesex
Municipality (Loc Pt Details)	North Brunswick Twp
Address Line 1	
Address Line 2	
NJ GRID	2803394
Block	
Lot	
X Coordinate	742840
Y Coordinate	402626
Location System (Loc Pt Details)	Lat/Long (NAD27) - DMS

Well Information	
Subject Item Desc	
Proposed Depth	125 ft
Finished Depth	
Finished Capacity	

contact dep | privacy notice | legal statement | accessibility statement

department: nidep home | about dep | index by topic | programs/units | dep online
statewide: njhome | citizen | business | government | services A to Z | departments | search

Copyright © State of New Jersey, 1996-2004
Department of Environmental Protection
P. O. Box 402
Trenton, NJ 08625-0402

Last Updated: December 13, 2005

njhome | my new jersey | people | business | government | departments

new jersey department of environmental protection

OPRA | New Jersey
Open Public Records Act

opra home | contact opra | nj

revise search | site search | reports by category | reports search | help

Well Search for CEA Biennial Certification By A Grids

Please Enter PI Information Below :

PI Name	
Street Address :	
City, State and Zip Code :	

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803394

***All of the grids listed above have been searched. If the following well search table is blank, then n were identified.**

Well Search Results :

Well Type	Count
Domestic	2
Sum:	**2**

Preparer (Print Name) : JASIULEWICZ

Signature :

Because of limitations on this report, it is recommended that it is only used to review well permit information as part of the Biennial Process for Classification Exception Areas. It is further noted that data quality is reduced on wells permitted prior to 1995

Well Grid Analysis Summary | Individual Well Information Detail | **Certificate**

Well Search for CEA Biennial Certification By A Grids

Please Enter PI Information Below :

PI Name	
Street Address :	
City, State and Zip Code :	

Program Interest ID : 010180

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

2803396

***All of the grids listed above have been searched. If the following well search table is blank, then n were identified.**

Well Search Results :

Well Type	Count
Sum:	

Preparer (Print Name) : F. JASIULEWICZ

Signature : F.J

Because of limitations on this report, it is recommended that it is only used to review well permit information as part of the Biennial Process for Classification Exception Areas. It is further noted that data quality is reduced on wells permitted prior to 1995

njhome | my new jersey | people | business | government | departments
new jersey department of environmental protection
OPRA | New Jersey Open Public Records Act
opra home | contact opra | nj
revise search | site search | reports by category | reports search | help

Well Search for CEA Biennial Certification By A Grids

Please Enter PI Information Below :

PI Name	
Street Address :	
City, State and Zip Code :	

Program Interest ID : **010180**

Well Approved During the Period 1/1/1900 to 3/6/2010

Grid Numbers Entered :

28003395

***All of the grids listed above have been searched. If the following well search table is blank, then n were identified.**

Well Search Results :

Well Type	Count
Sum:	

Preparer (Print Name) : F. JASIULEWICZ

Signature : FJ

Because of limitations on this report, it is recommended that it is only used to review well permit information as part of the Biennial Process for Classification Exception Areas. It is further noted that data quality is reduced on wells permitted prior to 1995

Well Grid Analysis Summary Individual Well Information Detail **Certificate**

Table 2 - Copy of Well Search Spreadsheet

WELL_PERMIT_NUM	WELL_TYPE	LOCATION_ADDRESS	COUNTY	MUNICIPALITY	COMU	BLOCK	LOT	X	Y	COORD_METHOD	FINISHED_DEPTH	OPEN_INTER	STATIC_LEVEL	STATUS
2800038	Domestic	66 or 537 Wood Ave	Middlesex	Middlesex Boro	1211	229	1	498525	586963	OTHER STATE COORD	64	36.58	7	
2800097	Domestic	4 OakMont Ave	Middlesex	East Brunswick Twp	1204	309.02	40	501319	582967	OTHER STATE COORD	107	22.58	32	
2800341	Domestic	Hadenburg Lane or 7 Birch Drive	Middlesex	East Brunswick Twp	1204	307.12	2.11	502597.7	584118.8	OTHER STATE COORD	81	40	16	
2800350	Domestic	23 Oakmont Ave	Middlesex	East Brunswick Twp	1204	309.03	27.25	501515.2	584118.4	OTHER STATE COORD	87.5	37.5	13	
2800357	Domestic	3 Mink Run Court	Middlesex	North Brunswick Twp	1215	262	136.18	502596.6	586749.7	OTHER STATE COORD	130	44.66	14	
2800509	Domestic	1660 Vanburen Drive	Middlesex	East Brunswick Twp	1204	262	120	501514.7	585433.8	OTHER STATE COORD	109	43.58	19	
2800537	Domestic	445 Calvert Rd	Middlesex	North Brunswick Twp	1215	230	23	499040.5	586748.5	OTHER STATE COORD	242	78.8	10	
2800543	Domestic	473 Hasley Rd	Middlesex	North Brunswick Twp	1215	143.10	7	500508.7	588165.5	OTHER STATE COORD	153	38.5	26	
2800581	Domestic	1660 Van Buren Dr				262	120	501514.7	585433.8	OTHER STATE COORD	91.83	39.5	14	
2800592	Domestic	Rt 130	Middlesex	North Brunswick Twp	1215	235	11	500509.2	586748.9	OTHER STATE COORD	57	34	14	
2800618	Domestic	23 Mare Haven Court				227.02	12	498422.8	582802	OTHER STATE COORD	99	20	40	
2800700	Domestic	7 Birch Drive	Middlesex	East Brunswick Twp	1204	307.12	2.11	503602.9	584119.3	OTHER STATE COORD	99.5	59	20	
2800788	Garage	255 Clinto Place	Middlesex	Milltown Boro	1212	274	9	503601	588166.7	OTHER STATE COORD	150	28	10	
2800833	Domestic	7 Birch Drive	Middlesex	East Brunswick Twp	1204	307.12	2.11	502597.7	584118.8	OTHER STATE COORD	72	37.3	17	
2801023	discontinued	Fresh Pond Rd or 4 Sunny Terrace	Middlesex	Milltown Boro	1212	148	99.02	496411.7	586747.8	OTHER STATE COORD				
2801494	Domestic	252 Clinton Drive	Middlesex	Milltown Boro	1212	274	9	503601	588166.7	OTHER STATE COORD	100	44	30	
2801913	Indudtrial	252 Clinton Drive	Middlesex	East Brunswick Twp	1204	274	9	503661	588166.7	OTHER STATE COORD	82	10	54	
2802399	Domestic	Adams Station or 522 Wood Ave	Middlesex			221	10	498421.8	586748.2	OTHER STATE COORD	90	28	3	
2802801	Domestic	Adam Lane or 4 Sunny Terrace	Middlesex	North Brunswick Twp	1215	307.12	2.11	496411.7	586747.8	OTHER STATE COORD	50	20	10	
2803682	Domestic	321 Franklach Ave	Middlesex	Milltown Boro	1212	275	6	502596	588166.3	OTHER STATE COORD	100	20	12	
2804170	Domestic	4 Sunny Terrace	Middlesex	North Brunswick Twp	1215	307.12	2.11	496411.7	586747.8	OTHER STATE COORD	82	26	8	
2815892	Domestic	1825 Rt 130				227 or 221	17.03 or 19	499040.5	586040.1	OTHER STATE COORD	150	61	10	
2817525	Public	Greenbrook Twp or 710 Hermann Rd				143	162	500044.6	588772.4	OTHER STATE COORD	200	52	60	
2821308	Domestic	RTE 130 or 607 Sycamore Lane				219	35	497416.7	586748	OTHER STATE COORD	200	60	20	
2827299	Monitoring	JIS Landfill Rt 535	Middlesex	South Brunswick Twp	1221	309.03	26.01	501434	583406	OTHER STATE COORD	56	45	40	
2827299	Monitoring	JIS Landfill Rt 535	Middlesex	South Brunswick Twp	1221	309.03	26.01	501434	583406	OTHER STATE COORD	132	120	120	
2827307	Monitoring	JIS Landfill Rt 535	Middlesex	South Brunswick Twp	1221	309.03	26.01	501434	583406	OTHER STATE COORD	135	120	78	
2827362	piezometer	277 Washington Place	Middlesex	North Brunswick Twp	1215	286	1	498421.8	586748.2	OTHER STATE COORD	45.6	20	6	
2828497	Monitoring	321 Franklach Drive				275 or 73 &	6 or 1C & 2	502596	588166.3	OTHER STATE COORD	20	5	7	
2828498	Monitoring	321 Franklach Drive				275 or 73 &	6 or 1C & 2	502596	588166.3	OTHER STATE COORD	20	5	10	
2832978	Monitoring	1585 Keareny Dr	Middlesex			278	8.03	501514.2	586749.2	OTHER STATE COORD	13	3	7	
2832979	Monitoring	1585 Keareny Dr	Middlesex			278	8.03	501514.2	586749.2	OTHER STATE COORD	15	8	8	
2832980	Monitoring	1585 Keareny Dr				278	8.03	501514.2	586749.2	OTHER STATE COORD	15	8	8	
2832981	Monitoring	1585 Keareny Dr				278	8.03	501514.2	586749.2	OTHER STATE COORD	15	8	8	
2833172	Monitoring	101-618 Dillion Court or Orchard Ave &	Middlesex	North Brunswick Twp	1215	148 or87	101.05 or4	497417	585432.6	OTHER STATE COORD	15	4	6.16	
2833649	Monitoring	Roosevelt Ave	Middlesex	North Brunswick Twp	1215	143	116	499424	588264	OTHER STATE COORD	15	5	9	
2835319	Monitoring	7 Birch Dr or 433 Riva Ave.	Middlesex	East Brunswick Twp	1204	307.12 or30	2.11 or 36,	502597.7	584118.8	OTHER STATE COORD	25	15	19.16	
2835320	Monitoring	7 Birch Dr or 433 Riva Ave.	Middlesex	East Brunswick Twp	1204	307.12 or30	2.11 or 36,	502597.7	584118.8	OTHER STATE COORD	20	10	15.25	
2839792	Monitoring	7 Birch Dr or 433 Riva Ave.	Middlesex	East Brunswick Twp	1204	307.12 or30	2.11 or 36,	502597.7	584118.8	OTHER STATE COORD	20	10	10	
2839793	Monitoring	7 Birch Dr or 433 Riva Ave.	Middlesex	East Brunswick Twp	1204	307.12 or30	2.11 or 36,	502597.7	584118.8	OTHER STATE COORD	20	10	10	
2839794	Monitoring	7 Birch Dr or 433 Riva Ave.	Middlesex	East Brunswick Twp	1204	307.12 or30	2.11 or 36,	502597.7	584118.8	OTHER STATE COORD	30	20	18.25	
2839795	Monitoring	7 Birch Dr or 433 Riva Ave.	Middlesex	East Brunswick Twp	1204	307.12 or30	2.11 or 36,	502597.7	584118.8	OTHER STATE COORD	30	20	20	
2839966	Monitoring	14 Hichory Drive or 433 Riva Ave.				309.02	45	502598.3	582803.4	OTHER STATE COORD	195	58.5	15	
MI0037	water withdrawal	Beaver Dam Brk				0	0	501516.4	580981.6	OTHER STATE COORD				
MI0037	water withdrawal	Pond				0	0	501516.4	580918.6	OTHER STATE COORD				
2800604	chicken farm	7 Perrmint Hill Rd or Drake Rd	Middlesex	East Brunswick Twp	1204	227	3.17	496412.4	582801.5	OTHER STATE COORD	41	41	11	
2501150	Domestic	2115 Rt 130	Middlesex	North Brunswick Twp	1215	148	105	496412.2	584116.9	OTHER STATE COORD	23.16	23.16	5	
2806250	Domestic	Wood Ave or Adams Station Rd				143	374	496411.4	588164.4	OTHER STATE COORD	40	40	5	
2822733	Investigation					143.04 or 1	64.0302 or2	499502.9	590897.2	OTHER STATE COORD	8	8		
2822734	Investigation					143.04 or 1	64.0302 or2	499502.9	590897.2	OTHER STATE COORD	7	7		
2822735	Investigation					143.04 or 1	64.0302 or2	499502.9	590897.2	OTHER STATE COORD	7	7		
2801736	Domestic	322 Dallas Rd	Middlesex	Milltown Boro	1212	270	2	503600.3	589482.2	OTHER STATE COORD	100	100	40	
2812915	Domestic	6 Beaver dam DR or Burd Ln East Amw	Middlesex			310.03 or36	3 or10	503603.5	582803.9	OTHER STATE COORD	50	50	40	
2819275	Domestic	505 Riva Ave or10 Hillcrest Ave	Middlesex	East Brunswick Twp	1204	309.04 or31	1910 or760	500511	581386	OTHER STATE COORD	63	63	50	
2800073	Intermittent Service	476 Riva Ave	Middlesex	North Brunswick Twp	1215	310	57.01	501516.3	581386.4	OTHER STATE COORD	45.5	45.5	8	
97-12108	public supply	Old Georges Road	Middlesex	East Brunswick Twp	1204					OTHER STATE COORD				
2802092	Domestic	8 Phyllis Rd or Hardenburg Lane	Middlesex	East Brunswick Twp	1204	308.05	11	504686	582804.4	OTHER STATE COORD	46	46	30	
28174356	Observation	Combs Place	Middlesex	East Brunswick Twp	1204			505224.8	587459.3	OTHER STATE COORD	19	19		
28-44182	Monitoring	40-B Cotters Lane	Middlesex	East Brunswick Twp	1204	29.04	10.04				2.5	2.5		
2849053	Monitoring	28 Louise Drive	Middlesex	East Brunswick Twp	1204	00307-0	00014				10	10	5	
280001061	Domestic		Middlesex	North Brunswick Twp	1215	216	10	499503.7	588165.1	OTHER STATE COORD				
2800543	Domestic	473 Hasley Rd	Middlesex	North Brunswick Twp	1215	143.10	7	500508.7	588165.5	OTHER STATE COORD				
2800000398	Domestic	522 Wood Ave	Middlesex	North Brunswick Twp	1215	221	10	498421.8	486748.2	OTHER STATE COORD				
2800000588	Domestic	522 Wood Ave	Middlesex	North Brunswick Twp	1215	221	10	498421.8	486748.2	OTHER STATE COORD				
2800002399	Domestic	522 Wood Ave	Middlesex	North Brunswick Twp	1215	221	10	498421.8	486748.2	OTHER STATE COORD				
2800015892	Domestic	1825 Rt 130	Middlesex	North Brunswick Twp	1215	221	19	499040.5	586040.1	OTHER STATE COORD				
2800000537	Domestic	445 Calvert Rd	Middlesex	North Brunswick Twp	1215	230	23	499504.1	586748.5	OTHER STATE COORD				
2800000592	Domestic	Rt 130	Middlesex	North Brunswick Twp	1215	235	11	500509.2	586748.9	OTHER STATE COORD				
2800003602	Domestic	1881 Rt 130	Middlesex	North Brunswick Twp	1215	221	25	498422.1	585432.8	OTHER STATE COORD				
2800005756	Domestic	1881 Rt 130	Middlesex	North Brunswick Twp	1215	221	25	498422.1	585432.8	OTHER STATE COORD				
	abandon	368 Washington Street	Middlesex	North Brunswick Twp	1215	283	3	500170	586179	ADDRESS MATCH				Inactive
	abandon	277 Washington Place	Middlesex	North Brunswick Twp	1215	286	1	499874	585990	ADDRESS MATCH				Inactive
	Domestic	1546 Edley Cove Court	Middlesex	North Brunswick Twp	1215	262	106	502661	585730	ADDRESS MATCH				

Table 3

List of Properties Surveyed During Door to Door Survey 0n 3/24/10								To be completed by American Water	
Block	Lot	Name	Address	City	State	Well	Basement	Connected to Public Water System	
								NO	YES
143	9	VELMAHOS ELENI	377 HALSEY ROAD	NORTHBRUNSWICK	NJ				
143	9	LARSEN PAMELA & COVINO NEYDA	387 HALSEY ROAD	NORTHBRUNSWICK	NJ				
221	12	JOHNSON JEFFREY	480 WOOD AVENUE	NORTHBRUNSWICK	NJ				
221	13	DAVIS MICHAEL L	470 WOOD AVENUE	NORTHBRUNSWICK	NJ				
221	14	DAVIS MICHAEL L	468 WOOD AVENUE	NORTHBRUNSWICK	NJ				
221	17	YARBOROUGH JEROME & ROBIN	432 WOOD AVENUE	NORTHBRUNSWICK	NJ				
221	18	LEBLANC STEVEN & LARA ROCIO	430 WOOD AVENUE	NORTHBRUNSWICK	NJ				
221	32.1	RICHARDSON NIVEN & LAZARA	436 WOOD AVENUE	NORTHBRUNSWICK	NJ				
227	21	LOGAN RICHARD & KELLEY L	386 WOOD AVENUE	NORTHBRUNSWICK	NJ	No			
227	22	CRUZ ADAM & ROMERO CLARISA	376 WOOD AVENUE	NORTHBRUNSWICK	NJ				
227	23	TAVATHIA VIRENDRA S & SUNITA	366 WOOD AVENUE	NORTHBRUNSWICK	NJ				
227	24.1	FARLEY WILLIAM & HELANA	352 WOOD AVENUE	NORTHBRUNSWICK	NJ	No			
227	24.2	KEELAN JOHN & CHARLENE	346 WOOD AVENUE	NORTHBRUNSWICK	NJ				
227	25.1	MC GEARY JAMES & MARY	342 WOOD AVENUE	NORTHBRUNSWICK	NJ	No	yes concrete		
227	25.2	MEAGHER JOHN & KATHLEEN	332 WOOD AVENUE	NORTHBRUNSWICK	NJ				
227	25.3	LIGUORI SALVATORE & NANCY ANN	322 WOOD AVENUE	NORTHBRUNSWICK	NJ				
227	29	LOGAN GEORGE E JR & ROSEMARIE	280 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
227	30	WEESSOCKI WINIFRED	268 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				

Block	Lot	Name	Address	City	State	Well	Basement	Connected to Public Water System	
								NO	YES
229	1	PIETROCOLA RICHARD M	470 CALVERT ROAD	NORTHBRUNSWICK	NJ				
229	9	PATEL MANU & KRISHNA	458 CALVERT ROAD	NORTHBRUNSWICK	NJ				
229	11	BURTNICK ELLEN	456 CALVERT ROAD	NORTHBRUNSWICK	NJ				
229	12	CURCIO FRANK & MARIA	448 CALVERT ROAD	NORTHBRUNSWICK	NJ				
229	13	SHAROPOV ULMAS K & NASEROVA DILNOZA	442 CALVERT ROAD	NORTHBRUNSWICK	NJ	No			
229	14	OGLE GERALDINE	436 CALVERT ROAD	NORTHBRUNSWICK	NJ				
229	15	ENABLE INC	426 CALVERT ROAD	NORTHBRUNSWICK	NJ	No			
229	16	REDMOND JOSEPH	416 CALVERT ROAD	NORTHBRUNSWICK	NJ				
229	17	JDJ Realty Inc.	1727 RT 130	NORTHBRUNSWICK	NJ	No			
229	18	JDJ Realty Inc.	1727 RT 130	NORTHBRUNSWICK	NJ				
229	19	North Brunswick township	RT 130	NORTHBRUNSWICK	NJ		Wooded lot		
229	20	Ann & Fiore Lupo	RT 130	NORTHBRUNSWICK	NJ		Vacant bldg		
229	21.01	Ann & Fiore Lupo	1777 RT 130	NORTHBRUNSWICK	NJ		vacant lot		
229	22.01	Ann & Fiore Lupo	1777 RT 130	NORTHBRUNSWICK	NJ				
229	23	POBICKI FRANK J	431 WOOD AVENUE	NORTHBRUNSWICK	NJ				
229	24	RIVERA MARISOL	435 WOOD AVENUE	NORTHBRUNSWICK	NJ				
229	25	CRUZ ALFONZO & YOLANDA	439 WOOD AVENUE	NORTHBRUNSWICK	NJ	No			
229	26	PATEL TRUSHIL & SEEMA	445 WOOD AVENUE	NORTHBRUNSWICK	NJ				
229	27	REYES PATRICIO & DIAZ MARIA	449 WOOD AVENUE	NORTHBRUNSWICK	NJ				
229	29	MENDEZ ESTHER G	455 WOOD AVENUE	NORTHBRUNSWICK	NJ				
229	30	FAMA CATHERINE	463 WOOD AVENUE	NORTHBRUNSWICK	NJ				
229	31	BOSMEDIANO ROBERTO & ESTHER	469 WOOD AVENUE	NORTHBRUNSWICK	NJ				
229	32	HORVATH ZOLTAN & GEORGIA	477 WOOD AVENUE	NORTHBRUNSWICK	NJ				
230	3	NAMMOUR GEORGE N & CHADIA	500 TAYLOR PLACE	NORTHBRUNSWICK	NJ				
230	4	TAUBENSLAG MICHAEL	496 TAYLOR PLACE	NORTHBRUNSWICK	NJ				
230	5	DUFFER JAMES & DALAL	486 TAYLOR PLACE	NORTHBRUNSWICK	NJ				
230	6	KATSCHMID GEORGE & WARHAFTIG LINDA	476 TAYLOR PLACE	NORTHBRUNSWICK	NJ				

Block	Lot	Name	Address	City	State	Well	Basement	Connected to Public Water System	
								NO	YES
230	7	GARCIA MARIO & MARIA	464 TAYLOR PLACE	NORTHBRUNSWICK	NJ	No			
230	8	FITZPATRICK MARVIN & SHARON	454 TAYLOR PLACE	NORTHBRUNSWICK	NJ				
230	9	STEINMAN JEFFREY & MARCIA	444 TAYLOR PLACE	NORTHBRUNSWICK	NJ	No			
230	10	SALKIN J&R LEDERMAN LILA L/E	1694 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ				
230	11	MATIAS JUAN	1680 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ	No			
230	12	SCHACHNER JAIME D	1670 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ				
230	13	TIRADO JOSEPH & GILBERT RANDI	420 NIMITZ PLACE	NORTHBRUNSWICK	NJ				
230	14	BHUJANGE SHIVARAJ & GEETHA	414 NIMITZ PLACE	NORTHBRUNSWICK	NJ	No			
230	15	Labarbera Santo c/o S. Childs (wooded lot)	RT 130	NORTHBRUNSWICK	NJ				
230	16	Friendly Rental	1709 RT 130	NORTHBRUNSWICK	NJ				
230	17	Friendly Rental	1709 RT 130	NORTHBRUNSWICK	NJ				
230	18	Restoration Christain Ministries	1709 RT 130	NORTHBRUNSWICK	NJ				
230	19	Commited Hands Child Care & Preschool	1709 RT 130	NORTHBRUNSWICK	NJ				
230	20	FEGGULIS SHIRLEY	431 CALVERT ROAD	NORTHBRUNSWICK	NJ				
230	21	GALLICHIO ANNA	435 CALVERT ROAD	NORTHBRUNSWICK	NJ				
230	22	WOO KWAKSING	439 CALVERT ROAD	NORTHBRUNSWICK	NJ				
230	23	CIFRANIC EUGENE & DOROTHY C	445 CALVERT ROAD	NORTHBRUNSWICK	NJ				
230	24	HOPSON DENNIS	451 CALVERT ROAD	NORTHBRUNSWICK	NJ				
230	25	SPRINGSTEAD DANIEL & DEBORAH LE	459 CALVERT ROAD	NORTHBRUNSWICK	NJ				
230	27	BEYROUTY HOWARD	467 CALVERT ROAD	NORTHBRUNSWICK	NJ				
230	28	SCHWARZ RAYMOND & LORI	483 CALVERT ROAD	NORTHBRUNSWICK	NJ				

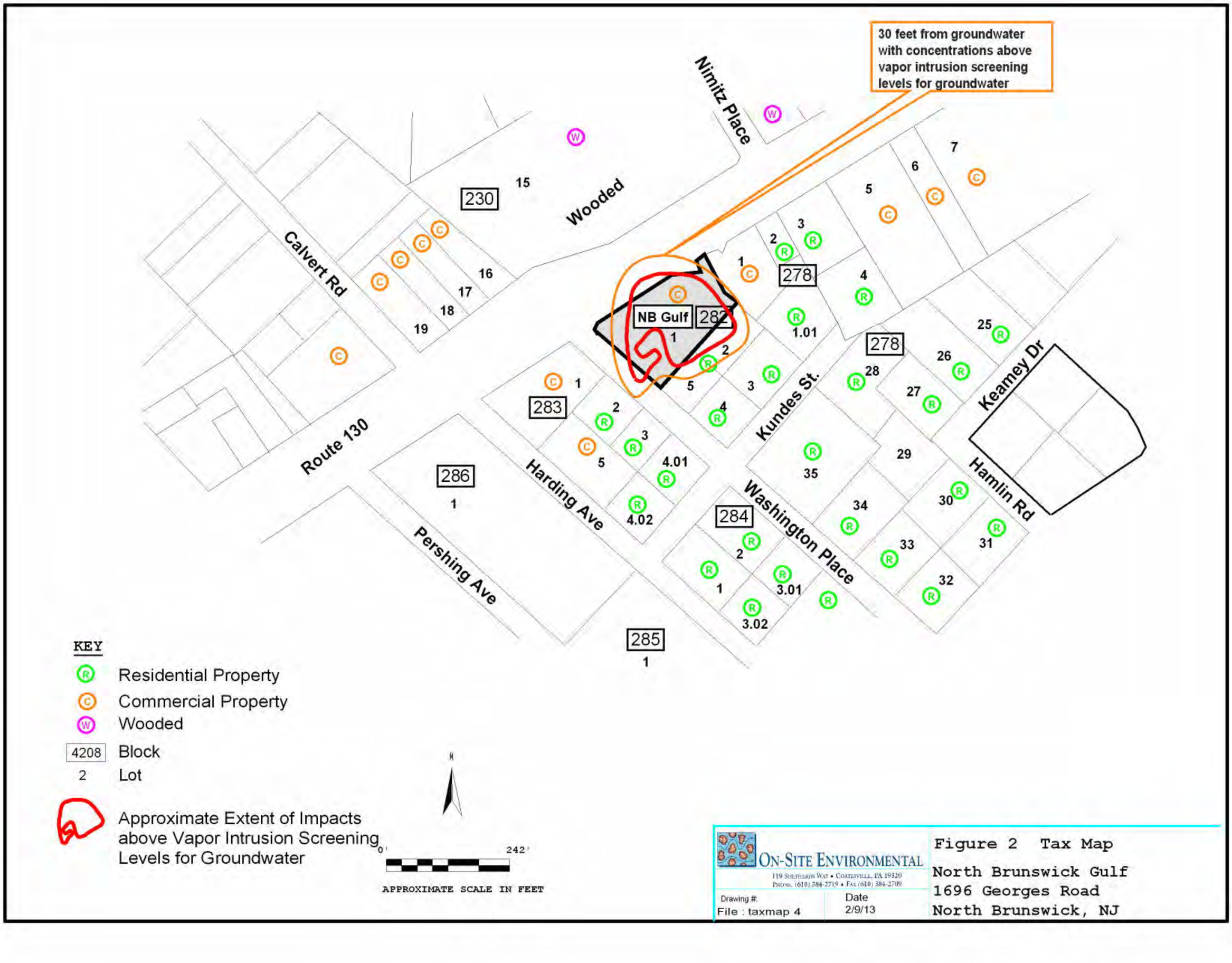
Block	Lot	Name	Address	City	State	Well	Basement	Connected to Public Water System	
								NO	YES
231	1	SCHMITT CAROLE A	501 TAYLOR PLACE	NORTHBRUNSWICK	NJ				
231	29	ALEXANDER ANDREA	1669 ARTHUR AVENUE	NORTHBRUNSWICK	NJ				
231	30	GORDA RICHARD N & LISA A	1679 ARTHUR AVENUE	NORTHBRUNSWICK	NJ				
231	31	VEGA FRANK & MARITZA	493 TAYLOR PLACE	NORTHBRUNSWICK	NJ				
232	1	Richard Svec	473 Taylor Place	NORTHBRUNSWICK	NJ	No			
232	3	Angel & Gina Martinez	1668 Arthur Ave	NORTHBRUNSWICK	NJ				
232	2	CURRY ROBERT & LINDA	1678 ARTHUR AVENUE	NORTHBRUNSWICK	NJ				
232	4	KOLIAS GEORGE & GEORGIA	456 BEECHER PLACE	NORTHBRUNSWICK	NJ	No			
232	5	CURRY MARY	446 BEECHER PLACE	NORTHBRUNSWICK	NJ	No			
232	6	FISHERMAN RICHARD & BARBARA	1687 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ				
232	7	REINHARDT RICKEY R	461 TAYLOR PLACE	NORTHBRUNSWICK	NJ				
233	4	COHEN CRAIG & SHARON	446 BARRYMORE PLACE	NORTHBRUNSWICK	NJ				
233	5	KASS CAROLE	1633 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ				
233	5	LUBECK MARK & SUSAN R	1647 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ				
233	7	LEVINE SUSAN LEE	451 BEECHER PLACE	NORTHBRUNSWICK	NJ	No			
233	8	SAVIN MICHAEL & DARCY	461 BEECHER PLACE	NORTHBRUNSWICK	NJ				
234	5	TYNES MAJETTE W & PATRICIA A	447 BARRYMORE PLACE	NORTHBRUNSWICK	NJ				
234	4	BISSO LOUIS R & WF	1615 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ				

Block	Lot	Name	Address	City	State	Well	Basement	Connected to Public Water System	
								NO	YES
235	1	REMM DAVID F & MARY E	1628 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ	No			
235	2	PINTO DAVID & JANET	1620 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ				
235	3.01	Farrington Inn	1609 RT 130	NORTHBRUNSWICK	NJ	No			
235	3.02	OROKOS ALBERT & EILEEN	1600 MCKINLEY AVENUE	NORTHBRUNSWICK	NJ				
235	7	DEVITO JOSEPH & ALYCIA M	390 HALSEY ROAD	NORTHBRUNSWICK	NJ				
235	8.01	SOLIMAN MAMDOUH	370 HALSEY ROAD	NORTHBRUNSWICK	NJ				
235	8.02	DEMPSEY JOHN & BRENDA	380 HALSEY ROAD	NORTHBRUNSWICK	NJ				
235	9.01	Sandy Silver inc. Susan Childs	RT 130	NORTHBRUNSWICK	NJ	wooded lot			
235	9.02	Stanan Inc	1609 RT 130	NORTHBRUNSWICK	NJ	wooded lot			
235	10	Sandy Silver inc. Susan Childs	1645 RT 130	NORTHBRUNSWICK	NJ	wooded lot			
235	11	LABARBERA SANTO C O CHILDS S	RT 130	NORTHBRUNSWICK	NJ	wooded lot			
235	12	LABARBERA SANTO C O CHILDS S	407 NIMITZ PLACE	NORTHBRUNSWICK	NJ				
235	13	AGOSTO JOSE & LINDA	413 NIMITZ PLACE	NORTHBRUNSWICK	NJ	No			
262	111	LAZARE ETHEL	253 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
262	112	TAKEUCHI KENICHIRO & KUDO RIEKO	265 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
262	113	OUR LADY OF PEACE CHURCH	277 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
262	114	GONZALEZ LUIS & LUZ	276 HAMLIN ROAD	NORTHBRUNSWICK	NJ				
262	115	HOLIHAN SEAN & JILL	266 HAMLIN ROAD	NORTHBRUNSWICK	NJ				
278	1.01	AMEDURI CHRISTOPHER J & MICHELE	1675 KUNDES STREET	NORTHBRUNSWICK	NJ				
278	1	Valet Dry Cleaners	1674 RT 130	NORTHBRUNSWICK	NJ				
278	1	Quick Out (convience store)		NORTHBRUNSWICK	NJ				
278	2	Roy & Amy Chereath	1670 RT 130	NORTHBRUNSWICK	NJ	No	No		
278	3	Carman Carbajal & Ulysses Gonzalez	1660 RT 130	NORTHBRUNSWICK	NJ	vacant house for sale			

Block	Lot	Name	Address	City	State	Well	Basement	Connected to Public Water System	
								NO	YES
278	4	DAMATO JOSEPH & KATHLEEN	1665 KUNDES STREET	NORTHBRUNSWICK	NJ				
278	5	JG & SR Associates LLC	1648 RT 130	NORTHBRUNSWICK	NJ	**No**	**Yes**		
278	6	White Lion Inn Inc.	1626 RT 130	NORTHBRUNSWICK	NJ	**No**	**No**		
278	7	White Lion Inn Inc.	1626 RT 130	NORTHBRUNSWICK	NJ	**No**	**No**		
278	8.01	Jeremy Plaza LLC	1574 RT 130	NORTHBRUNSWICK	NJ	**No**	**No**		
278	8.18	Lake Farrington Condo Associates	RT 130	NORTHBRUNSWICK	NJ	**No**	**Yes**		
278	8.04	Eddie & Susan Marion	1595 Kearney Dr	NORTHBRUNSWICK	NJ				
278	8.05	Joseph & Alicia Adevai	1605 Kearney Dr	NORTHBRUNSWICK	NJ				
278	8.06	Paul & Lois Scala	1610 Kearney Dr	NORTHBRUNSWICK	NJ				
278	20	Charles & Mary Smith	1627 Miriam Drive	NORTHBRUNSWICK	NJ				
278	21	ZARICK DAVID & DENISE	295 MARSHALL ROAD	NORTHBRUNSWICK	NJ	No			
278	22	LETBETTER TIM & LAURA	301 MARSHALL ROAD	NORTHBRUNSWICK	NJ				
278	23	RODRIGUEZ HECTOR JR & ANNABELLE	1625 KEARNEY DRIVE	NORTHBRUNSWICK	NJ				
278	24	ORTIZ AUGUSTO & DEJESUS AWILDA	1635 KEARNEY DRIVE	NORTHBRUNSWICK	NJ				
278	25	JANCSEK RAYMOND & DEANNA	1645 KEARNEY DRIVE	NORTHBRUNSWICK	NJ				
278	26	RUKA EUGENE & SYLKE	1655 KEARNEY DRIVE	NORTHBRUNSWICK	NJ				
278	27	STRASZ EDWARD & JULIA	1665 KEARNEY DRIVE	NORTHBRUNSWICK	NJ				
278	28	CONLIN MARK J & KATHLEEN M	1680 KUNDES STREET	NORTHBRUNSWICK	NJ				
278	29	SCOVELL THOMAS	304 HAMLIN ROAD	NORTHBRUNSWICK	NJ				
278	30	SCOVELL THOMAS	304 HAMLIN ROAD	NORTHBRUNSWICK	NJ	No			
278	31	HEUER KATHERINE E	294 HAMLIN ROAD	NORTHBRUNSWICK	NJ	No			
278	32	KOLTAS MICHAEL & DECARO STEPHANIE	297 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
278	33	SAVAGE BETSY	305 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
278	34	GASSARO JAMES V JR & KATHRYN J	313 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
278	35	RAVENS JUAN R & LUCILLE	321 WASHINGTON PLACE	NORTHBRUNSWICK	NJ	No	Yes concrete		

Block	Lot	Name	Address	City	State	Well	Basement	Connected to Public Water System	
								NO	YES
280	1	KONDRIKOV NIKOLAY & KONDRIKOVA T	275 HAMLIN ROAD	NORTHBRUNSWICK	NJ				
Block	**Lot**	**Name**	**Address**	**City**	**State**	**Well**	**Basement**		
281	1	AHN SANG WOOK & JUNG	303 HAMLIN ROAD	NORTHBRUNSWICK	NJ				
281	2	MALOUF RICHARD & MARILYN N	302 MARSHALL ROAD	NORTHBRUNSWICK	NJ				
281	3	Ronald & Pamela Deanieri	288 Marshall Rd	NORTHBRUNSWICK	NJ				
281	4	LOPEZ AMADO & LOUISE	293 HAMLIN ROAD	NORTHBRUNSWICK	NJ	No	Yes concrete		
282	1	North Brunswick Gulf	1696 RT 130	NORTHBRUNSWICK	NJ				
282	2	Thomas & Ana Csepes	359 Washington Place	NORTHBRUNSWICK	NJ	No	backyard lot		
282	3	ZHANG RONGHUI	1685 KUNDES STREET	NORTHBRUNSWICK	NJ	No			
282	4	CASSELLA DAVID	335 WASHINGTON PLACE	NORTHBRUNSWICK	NJ	No	Yes		
282	5	CSEPES THOMAS & ANA	359 WASHINGTON PLACE	NORTHBRUNSWICK	NJ	No	appearsto have basement		
283	1	Getty Service Station	1710 Rt 130	NORTHBRUNSWICK	NJ	No			
283	1	Enterprise Rent a Cae & Carwash	1710 Rt 130	NORTHBRUNSWICK	NJ				
283	2	LUZACK DENISE	368 WASHINGTON PLACE	NORTHBRUNSWICK	NJ	yes abandon	yes with sump		
283	3	ALZATE JORGE & HARUMI ROXANA	360 WASHINGTON PLACE	NORTHBRUNSWICK	NJ		possible basement		
283	4.01	MATTEI RICHARD J & MARY M	356 WASHINGTON PLACE	NORTHBRUNSWICK	NJ		possible basement		
283	4.02	PEDDI RAVINDRA & KAVITHA	333 HARDING AVENUE	NORTHBRUNSWICK	NJ				
283	5	Giovanni & Dolores Pernice (storage yard for lot 1)	Harding Ave	NORTHBRUNSWICK	NJ				

Block	Lot	Name	Address	City	State	Well	Basement	Connected to Public Water System	
								NO	YES
284	1	MORBIT BRUCE & JOANNE	321 HARDING AVENUE	NORTHBRUNSWICK	NJ				
284	2	DEVELOPMENTAL DISABILITIES ASSOC NJ	330 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
284	3.01	AHN SANG WOOK & JUNG JA	320 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
284	3.02	SCHENKEL STEVEN A & STACY	311 HARDING AVENUE	NORTHBRUNSWICK	NJ	No			
284	4	WILCOX JOHN & MARGARET	310 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
284	5	SCHIPMANN WILLIAM & DOROTHY	298 WASHINGTON PLACE	NORTHBRUNSWICK	NJ				
284	6	OMALLEY STEVEN & MARGARET	297 HARDING AVENUE	NORTHBRUNSWICK	NJ	No	Yes concrete		
285	1	Our Lady Of Peace Church	Miriam	NORTHBRUNSWICK	NJ	Pastor John			
286	1	Our Lady Of Peace Church	1720 Rt 130			Pastor John	Abandon		
287	1	GOMBOS LOUIS & HELEN	385 WOOD AVENUE	NORTHBRUNSWICK	NJ				
287	4	TONKENS ALBERT J & FRANCIS S	360 PERSHING AVENUE	NORTHBRUNSWICK	NJ	No			
287	5	SCHACK JOHN A JR & ELIZABETH M	350 PERSHING AVENUE	NORTHBRUNSWICK	NJ				
287	6	ROMAN ROBINSON & MARIA	347 WOOD AVENUE	NORTHBRUNSWICK	NJ	No	Yes concrete		
287	7	JAMISON HARRIS & MARY LOU	359 WOOD AVENUE	NORTHBRUNSWICK	NJ				
287	8	PATEL KALA	367 WOOD AVENUE	NORTHBRUNSWICK	NJ	No			
287	9	TRUCKSESS JAMES S & LUZ A	377 WOOD AVENUE	NORTHBRUNSWICK	NJ	No	Yes concrete		
288	1	PLIAS LAZAROS & CHRISOULA	315 WOOD AVENUE	NORTHBRUNSWICK	NJ				
288	2	BREHENEY JAMES & PATRICIA	1756 KUNDES STREET	NORTHBRUNSWICK	NJ				
288	3	IOCCA GEORGE R & CAROL DONATIELLO-	303 WOOD AVENUE	NORTHBRUNSWICK	NJ	No	No		
288	4	Eugene & Flora Thompson	1761 Miriam	NORTHBRUNSWICK	NJ				



ON-SITE ENVIRONMENTAL
119 Shefferds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #:
File : taxmap 4

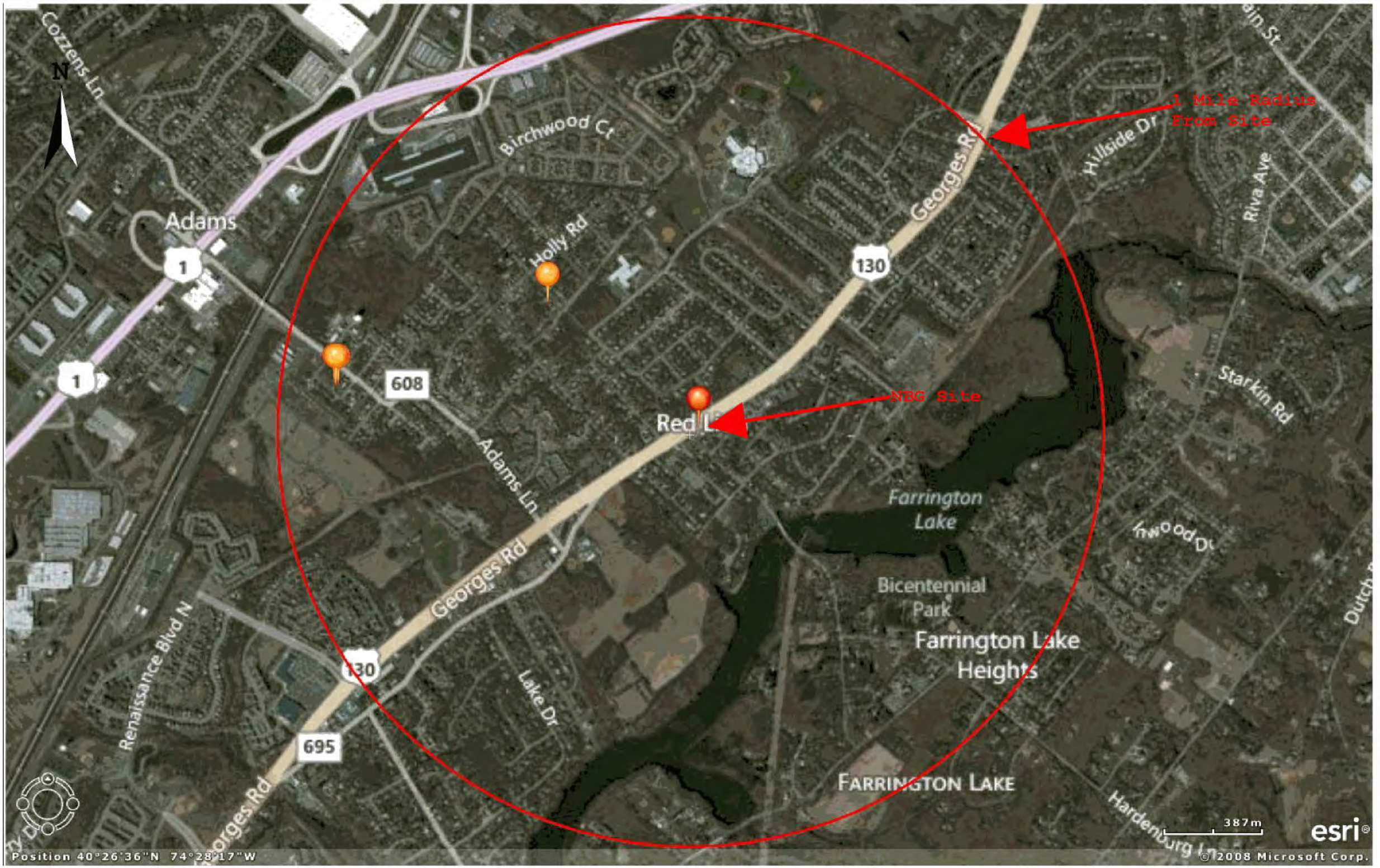
Date
2/9/13

Figure 2 Tax Map

North Brunswick Gulf
1696 Georges Road
North Brunswick, NJ

Table 4: Wells Installed Between 2010 and 2013

Permit Number	Well Name	Well Use	Potentially Potable	Document	Date (permitted/drilled/sealed)	Physical Address	County	Municipality	Block	Lot	Location Method	Easting (X)	Northing (Y)	Distance (feet)	Depth (ft)	Capacity (gal/min)
Hand Dug	#1	Domestic	Yes	Decommissioning	11/26/2012	626 Myrtle Road	Middlesex	North Brunswick Twp	218	12	GPS	498261	588026	2454		
hand dug	#3	Domestic	Yes	Decommissioning	4/26/2012	765 Darmody Ave.	Middlesex	North Brunswick Twp	163	6	GPS	495538	586990	4525		
A1204091	#2	Domestic	Yes	Decommissioning	4/26/2012	765 Darmody Ave	Middlesex	North Brunswick Twp	163	6	GPS	495586	586985	4476		
A1204090	#1	Domestic	Yes	Decommissioning	4/26/2012	765 Darmody Ave	Middlesex	North Brunswick Twp	163	6	GPS	495556	586984	4506		



Key:

- Potentially Potable Domestic Wells Installed Between 2010-2013

0' 1269'

Approximate Scale in Feet

ON-SITE ENVIRONMENTAL
119 Shefflerin Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: NBG2010-2013.drw

Date: 2/12/13

Figure 3 1 Mile Well Search 2010-2013

North Brunswick Gulf
1696 Georges Road
North Brunswick, NJ

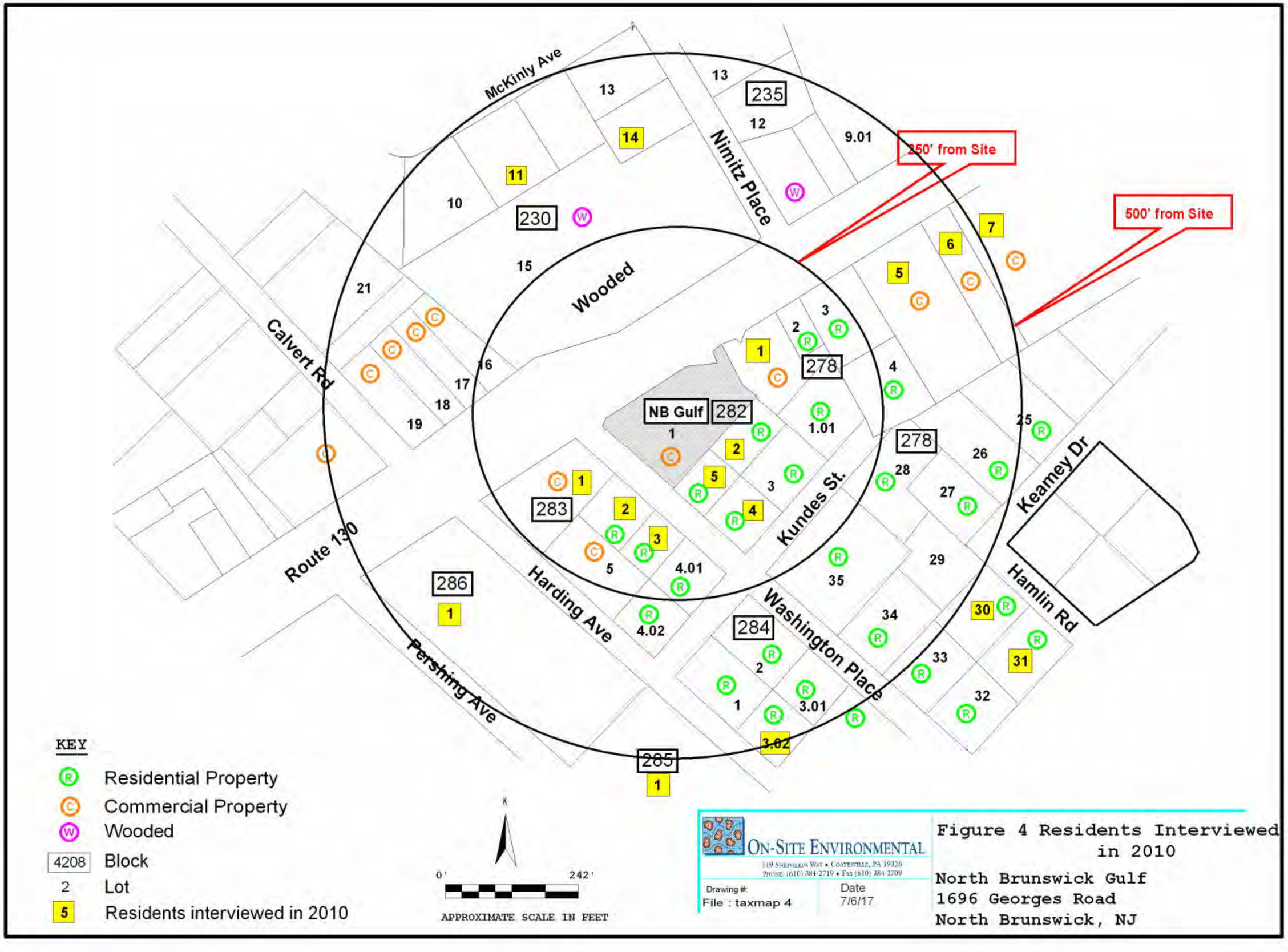

McKinly Ave
Nimitz Place
Wooded
Calvert Rd
Route 130
Kundes St.
Harding Ave
Washington Place
Pershing Ave
Keamey Dr
Hamlin Rd
250' from Site
500' from Site
235
230
278
NB Gulf
282
283
286
284
285
278
13
14
11
10
12
9.01
15
21
16
17
18
19
1
2
3
4
1.01
5
6
7
25
26
27
28
29
30
31
32
33
34
35
4.01
4.02
3.01
3.02
KEY
Residential Property
Commercial Property
Wooded
4208 Block
2 Lot
5 Residents interviewed in 2010
0'
242'
APPROXIMATE SCALE IN FEET
ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone (610) 384-2719 • Fax (610) 384-2709
Drawing #:
File : taxmap 4
Date
7/6/17
Figure 4 Residents Interviewed in 2010
North Brunswick Gulf
1696 Georges Road
North Brunswick, NJ

Table 5:

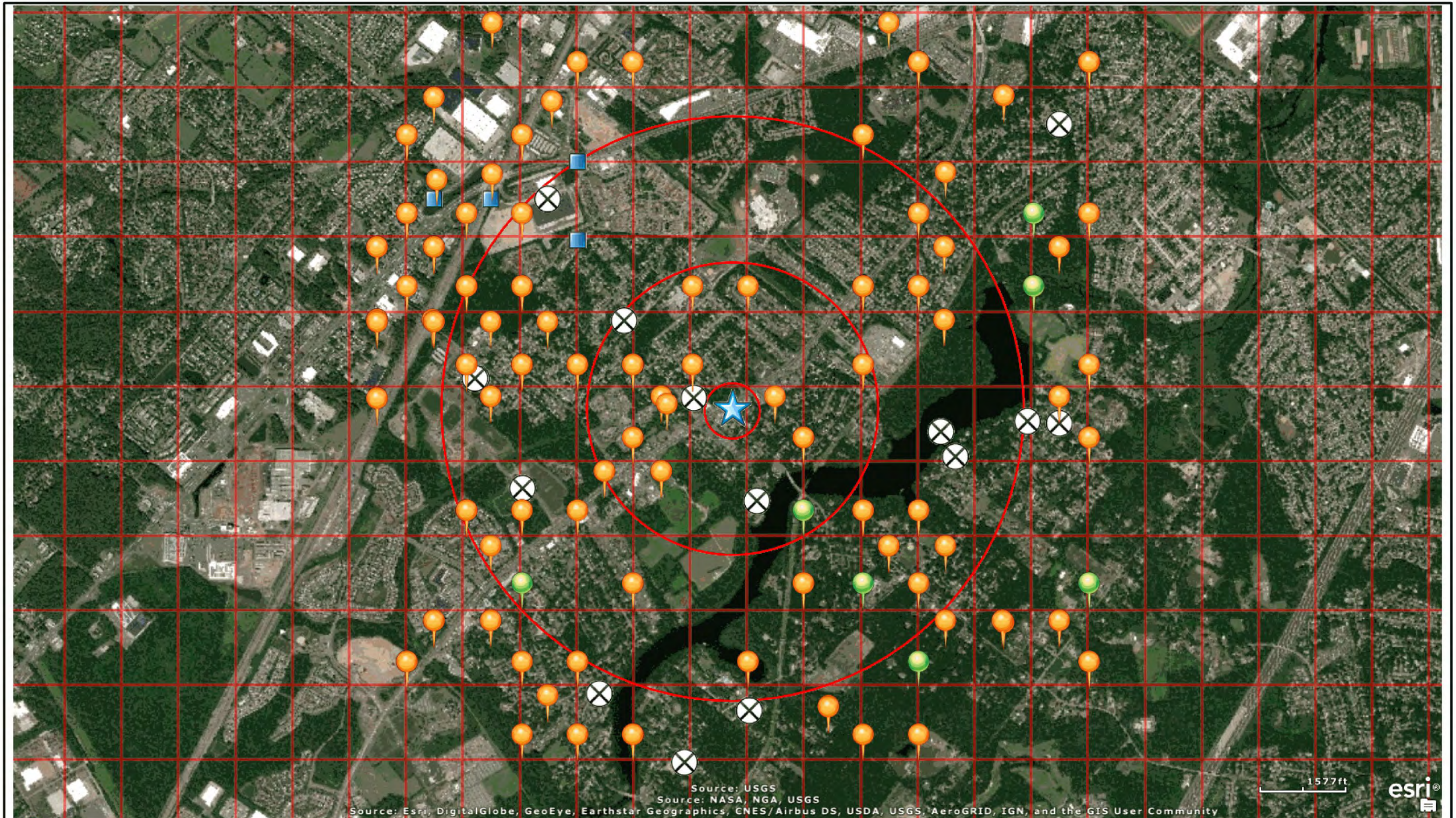
List of Residence Lettes Where Sent to on 4/18/18 to Complete Door to Door Survey

Block	Lot	Name	Address	City	State	Comment	Received letter back	Well	Basement	sent letter to on 4/18/18	Owner Address if Different
230	16	Calvert Associates, LLC = owner of 1709 RT 130	PO BOX 1021	Mt Laurel	NJ		received letter bacck no well			sent letter to owner on 4/18/18	PO Box 1021 Mt. Laurel, NJ 08054
230	16	Resident	1709 RT 130	NORTHBRUNSWICK	NJ						
278	1.01	AMEDURI CHRISTOPHER J & MICHELE	1675 KUNDES STREET	NORTHBRUNSWICK	NJ		received letter back no well: wants an update			sent letter to owner on 4/18/18	18 Mulberry Lane Edison NJ 08820
278	1	Krauser Family LLC owner of 1674 Rt 130	18 Mulberry Lane	Edison	NJ		received letter back no well			sent letter to tenant on 4/18/18	
278	1	Resident/Tenant	1674 RT 130	NORTHBRUNSWICK	NJ						
278	2	Roy & Amy Chereath = owner of 1670 Rt 130	2 Jumping Brook	Monroe	NJ			No	No	sent letter to owner & tenant on 4/18/18	2 Jumping Brook Monroe NJ 08831
278	2	Resident	1670 RT 130	NORTHBRUNSWICK	NJ						
278	3	Kolluru = new owner of 1660 Rt 130	4 Eddington Lane	Monroe	NJ					sent letter to owner & tenant on 4/18/18	
278	3	Resident	1660 RT 130	NORTHBRUNSWICK	NJ			vacant house for sale			
278	4	DAMATO JOSEPH & KATHLEEN	1665 KUNDES STREET	NORTHBRUNSWICK	NJ					sent letter to owner on 4/18/18	
278	25	JANCSEK RAYMOND & DEANNA	1645 KEARNEY DRIVE	NORTHBRUNSWICK	NJ		received letter back no well			sent letter to owner on 4/18/18	
278	26	RUKA EUGENE & SYLKE	1655 KEARNEY DRIVE	NORTHBRUNSWICK	NJ					sent letter to owner on 4/18/18	
278	27	Michael & Terry Beer = new owner	1665 KEARNEY DRIVE	NORTHBRUNSWICK	NJ	no longer lives here. New owner isThakkur.	received letter back no well			sent letter to owner on 4/18/18	
278	28	CONLIN MARK J & KATHLEEN M	1680 KUNDES STREET	NORTHBRUNSWICK	NJ		received letter back no well			sent letter to owner on 4/18/18	
278	29	SCOVELL THOMAS	304 HAMLIN ROAD	NORTHBRUNSWICK	NJ		received letter back no well			sent letter to owner on 4/18/18	
278	34	Rakesh & Susila Dogral = new owner	313 WASHINGTON PLACE	NORTHBRUNSWICK	NJ					sent letter to owner on 4/18/18	
278	35	RAVENS JUAN R & LUCILLE	321 WASHINGTON PLACE	NORTHBRUNSWICK	NJ			No	Yes concrete	sent letter to owner on 4/18/18	
282	3	Mendizabal Maynor = owner of 1685 Kundes St	1 Duer Lane	Statten Island	NY					sent letter to owner & tenant on 4/18/18	
282	3	ZHANG RONGHUI: resident	1685 KUNDES STREET	NORTHBRUNSWICK	NJ			No			
283	4.01	Tal J George = new owner	356 WASHINGTON PLACE	NORTHBRUNSWICK	NJ					sent letter to owner on 4/18/18	
283	4.02	PEDDI RAVINDRA & KAVITHA	333 HARDING AVENUE	NORTHBRUNSWICK	NJ					sent letter to owner on 4/18/18	
283	5	Pernice Family Partnership = new owner of Harding Ave	15 Brittanu Way	Kendall Park	NJ		received letter back no well			sent letter to owner & tenant on 4/18/18	15 Brittany Way Kendall, NJ 08824
283	5	Pernice Family Partnership/Resident	Harding Ave	NORTHBRUNSWICK	NJ		returned to sender				
284	1	MORBIT BRUCE & JOANNE	321 HARDING AVENUE	NORTHBRUNSWICK	NJ		received letter back no well			sent letter to owner on 4/18/18	
284	2	DEVELOPMENTAL DISABILITIES ASSOC NJ = owner of 330 Washington Place	40 Woodbridge Ave	Seawaren	NJ					sent letter to owner & tenant on 4/18/18	40 Woodbridge Ave Seawaren, NJ 07077
284	2	Resident	330 WASHINGTON PLACE	NORTHBRUNSWICK	NJ						
284	3.01	AHN SANG WOOK & JUNG JA	320 WASHINGTON PLACE	NORTHBRUNSWICK	NJ					sent letter to owner on 4/18/18	

Table 6: Wells within 1 mile of Site 7/11/17 updated 7/17/18

Download Documer	Permit Number	Well Use	Potentially Potable	Document	Date (permitted/drille	Physical Address	County	Municipality	Block	Lot	Location Method	Easting X	Northing Y	Distance (feet)	Depth (feet)	Capacity (gal/min)	COORD METHOD	TOP OPEN INT	BOT OPEN INT	STATIC LEVEL	STATUS	WELL SAMPLED?
	P2009029414	Domestic	Yes	Permit	3/13/2008	28 HENRY STREET	Middlesex	East Brunswick Twp	310	54.06	GPS	501971	580990	6061	80	20					Outside Canvass	
	P2009029414	Domestic	Yes	Record	4/10/2009	28 HENRY STREET	Middlesex	East Brunswick Twp	310	54.06	GPS	501968	580971	6078	120	25					Outside Canvass	
		Domestic	Yes	Decommissioning	3/26/1999	536 RIVA AVE	Middlesex	East Brunswick Twp	310	31	GIS Parcel Centroid	499359	580052								Outside Canvass	
		Domestic	Yes	Decommissioning	10/31/1991	24 GARDEN TERRACE	Middlesex	East Brunswick Twp	307.04	16.00	Prop Loc - Hand Copy	506133	580177								Outside Canvass	
		Domestic	Yes	Decommissioning	5/24/1993	RT 1 & JERSEY AVE	Middlesex	North Brunswick Twp	142	15-1	Prop Loc - Hand Copy	496875	590222								Outside Canvass	
		Domestic	Yes	Decommissioning	5/22/1990	28 VAN LEW AVE	Middlesex	Milltown Boro	24	7	Prop Loc - Hand Copy	506150	591575								Outside Canvass	
		Domestic	Yes	Decommissioning	5/1/2012	5 ANN TERRACE	Middlesex	East Brunswick Twp	308.03	6	GIS Parcel Centroid	504004	580025								Outside Canvass	
		Domestic	Yes	Decommissioning	8/30/2000	51 LOUISE DR	Middlesex	East Brunswick Twp	307.02	3	GIS Parcel Centroid	504269	585075								Outside Canvass	
PDF Document	handdug	Domestic	Yes	Decommissioning	4/2/2013	435 Calvert Road	Middlesex	North Brunswick Twp	230	21	GPS	499526	586633	740							Outside Canvass	
PDF Document	hand dug	Domestic	Yes	Decommissioning	1/3/2013	2053 Rt. 130 South	Middlesex	North Brunswick Twp	148	103	GPS	496420	584998	4054							Outside Canvass	
		Domestic	Yes	Decommissioning	12/17/2010	59 ADELPHIA ROAD	Monmouth	Howell Twp	219	11	Digital Image	497813	581291	5645							Outside Canvass	
PDF Document	Hand Dug	Domestic	Yes	Decommissioning	11/26/2012	626 Myrtle Road	Middlesex	North Brunswick Twp	218	12	GPS	498281	588026	2554							Outside Canvass	
PDF Document	hand dug	Domestic	Yes	Decommissioning	4/26/2012	765 Darmody Ave.	Middlesex	North Brunswick Twp	163	6	GPS	495538	586990	4726							Outside Canvass	
PDF Document	A1204091	Domestic	Yes	Decommissioning	4/26/2012	765 Darmody Ave	Middlesex	North Brunswick Twp	163	6	GPS	495588	586985	4677							Outside Canvass	
PDF Document	A1204090	Domestic	Yes	Decommissioning	4/26/2012	765 Darmody Ave	Middlesex	North Brunswick Twp	163	6	GPS	495556	586984	4707							Outside Canvass	
		Domestic	Yes	Decommissioning	6/22/2008	3 PERSHING CT	Middlesex	North Brunswick Twp	227	32.05	Digital Image	500659	584774	1679							Outside Canvass	
		Domestic	Yes	Decommissioning	11/14/2006	28 GARDEN TER	Middlesex	East Brunswick Twp	307.04	19	GIS Parcel Centroid	505576	585213								Outside Canvass	
		Domestic	Yes	Decommissioning	5/9/2008	502 RIVA AVE	Middlesex	East Brunswick Twp	310	44	GIS Parcel Centroid	500534	580986								Outside Canvass	
	2500005128	Domestic	Yes	Permit	10/2/11955		Somerset	Franklin Twp			Prop Loc - Hand Copy	504065	587560		150	10					Outside Canvass	
	2500004496	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	493783	587557		150	12					Outside Canvass	
	2500004495	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	493783	587557		150	12					Outside Canvass	
	2500004494	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	494788	587557		150	12					Outside Canvass	
	2500004489	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	493783	587557		0	0					Outside Canvass	
	2500004488	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	494788	587557		150	12					Outside Canvass	
	2800002092	Domestic	Yes	Permit	5/8/1955		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	505150	582096		75	10					Outside Canvass	
	2800002092	Domestic	Yes	Record	5/11/1956	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Dig Image	504093	582130	5757	68	0					Outside Canvass	
	2800001913	Domestic	Yes	Permit	10/27/1955		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	504065	587560		120	60					Outside Canvass	
	2800001816	Domestic	Yes	Permit	8/12/1955		Middlesex	Milltown Boro			Prop Loc - Hand Copy	506152	588876		100	110					Outside Canvass	
	2800001816	Domestic	Yes	Record	8/25/1955	FARRINGTON BLVD	Middlesex	Milltown Boro			Prop Loc - Hand Copy	506152	588876		85	0					Outside Canvass	
	2800001736	Domestic	Yes	Permit	6/28/1955		Middlesex	Milltown Boro			Prop Loc - Hand Copy	504065	588875		150	15					Outside Canvass	
	2800001724	Domestic	Yes	Permit	6/23/1955		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	495870	590168		100	15					Outside Canvass	
	2800001668	Domestic	Yes	Permit	5/25/1955		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	493783	586140		80	10					Outside Canvass	
	2800001668	Domestic	Yes	Record	5/31/1955	UNKNOWN	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	493783	586140		75	0					Outside Canvass	
	2800001604	Domestic	Yes	Permit	3/30/1955		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	505145	591608		100	10					Outside Canvass	
	2800001604	Domestic	Yes	Record	4/26/1955	KEARNEY DR.	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	505145	591608		82	0					Outside Canvass	
	2800001596	Domestic	Yes	Permit	3/28/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	495870	592920		200	50					Outside Canvass	
	2800001543	Domestic	Yes	Permit	1/25/1955		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	493783	587557		80	10					Outside Canvass	
	2800001543	Domestic	Yes	Record	2/23/1955	RT 1	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	493783	587557		108	0					Outside Canvass	
	2800000158	Domestic	Yes	Record	10/29/1949	GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	582127		6892	0					Outside Canvass	
	2800000149	Domestic	Yes	Record	9/17/1949	2370 RT 130	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	582127		6892	97					Outside Canvass	
	2800000147	Domestic	Yes	Record	9/21/1949	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	582127		6892	103					Outside Canvass	
	2800000123	Domestic	Yes	Record	7/2/1949	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	497907	584825		2800	103					Outside Canvass	
	2800000097	Domestic	Yes	Permit	2/28/1949		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	501516	582803			100	6					Outside Canvass	
	2800000088	Domestic	Yes	Record	12/28/1948	RT 130 S	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	504089	590224		5440	110	0					Outside Canvass	
	2800000073	Non-Public	Yes	Decommissioning	2/18/1992	ROUTE 1	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	503058	592922		7116	133	0					Outside Canvass	
	2800000073	Non-Public	Yes	Permit	10/13/1948		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	501516	581386			100	6					Outside Canvass	
	2800000073	Non-Public	Yes	Record	1/20/1949	ROUTE 1	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	503058	592922		7116	133	0					Outside Canvass	
	2800000038	Domestic	Yes	Permit	6/4/1948		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	497417	586748			100	6					Outside Canvass	
	2800000038	Domestic	Yes	Record	6/4/1948	WOOD AVE	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	498938	586174		1307	64	0					Outside Canvass	
	2800000033	Domestic	Yes	Permit	4/21/1948		Middlesex	New Brunswick City			Prop Loc - Hand Copy	494324	590896			100	6					Outside Canvass	
	2800000033	Domestic	Yes	Record	4/22/1948	RT 26	Middlesex	New Brunswick City			Prop Loc - Hand Copy	494324	590896			66.5	0					Outside Canvass	
	2500001150	Domestic	Yes	Permit	8/15/1951		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	496412	584117			100	10					Outside Canvass	
	2500001150	Domestic	Yes	Record	9/1/1951	HOWE LN	Monmouth	Freehold Twp			Prop Loc - Hand Copy	496412	584117			126	0					Outside Canvass	
	2500001009	Domestic	Yes	Record	8/7/1951	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	495845	586174	4387		220	0					Outside Canvass	
	2800001494	Domestic	Yes	Permit	11/16/1954		Middlesex	Milltown Boro			Prop Loc - Hand Copy	503601	588167			100	5					Outside Canvass	
	2800001343	Domestic	Yes	Permit	7/19/1954		Middlesex	New Brunswick City			Prop Loc - Hand Copy	496413	581385			100	10					Outside Canvass	
	2800001312	Domestic	Yes	Permit	6/29/1954		Middlesex	Highland Park Boro			Prop Loc - Hand Copy	505688	588168			100	20					Outside Canvass	
	2800001312	Domestic	Yes	Record	8/4/1954	ORCHARD AVE & GARDEN TERRACE CIR	Middlesex	Highland Park Boro			Prop Loc - Dig Image	506153	586177	5931		85	0					Outside Canvass	
	2800001301	Domestic	Yes	Record	7/22/1954	EAST OF RIVA AVE	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	504092	583479	4842		154	0					Outside Canvass	
	2800001160	Domestic	Yes	Permit	1/25/1954		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	497418	580070			150	10					Outside Canvass	
	2800001160	Domestic	Yes	Record	2/6/1954	CHURCH LN	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	497418	580070			54	0					Outside Canvass	
	2800001153	Non-Public	Yes	Record	2/6/1954	RT 130	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	580778	7799		162	0					Outside Canvass	
	2800001095	Domestic	Yes	Permit	11/2/1953		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494324	589479			120	10					Outside Canvass	
	2800001095	Domestic	Yes	Record	11/19/1953	RT 1	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494324	589479			68	0					Outside Canvass	
	2800001087	Domestic	Yes	Permit	10/26/1953		Middlesex	Monroe Twp			Prop Loc - Hand Copy	505688	588168			60	6					Outside Canvass	
	2800001061	Domestic	Yes	Permit	10/15/1953		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	499504	588165			99	9					Outside Canvass	
	2800001024	Domestic	Yes	Record	10/8/1953	UNKNOWN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	498938	584826	2029		88	0					Outside Canvass	
	2800001023	Domestic	Yes	Permit	9/23/1953		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	496412	586748			70	10					Outside Canvass	
	2800001000	Public Non-Community	Yes	Permit	9/8/1953		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494325	581385			200	67					Outside Canvass	
	2800001000	Public Non-Community	Yes	Record	12/31/1953	RT 130	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494325	581385			308	0					Outside Canvass	
	2800000928	Domestic	Yes	Permit	7/21/1953		Middlesex	New Brunswick City			Prop Loc - Hand Copy	494325	581385			115	5					Outside Canvass	
	2800000928	Domestic	Yes	Record	9/8/1953	RT 130	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494325	581385			80	0					Outside Canvass	
	2800000894	Domestic	Yes	Permit	6/18/1953		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	498424	580070			50	10					Outside Canvass	
	2800000894	Domestic	Yes	Record	8/20/1953	RIVA AVE	Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	498424	580070			24	5					Outside Canvass	
	2800000833	Domestic	Yes	Permit	4/17/1953		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	502598	584119			100	8					Outside Canvass	
	2800000833	Domestic	Yes	Record	5/21/1953	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	502598	584119			72	0					Outside Canvass	
	2800000788	Domestic	Yes	Permit	2/26/1953		Middlesex	Milltown Boro			Prop Loc - Hand Copy	503601	588167			140	20					Outside Canvass	
	2800000788	Domestic	Yes	Record	7/10/1953	RIVA AVE	Middlesex	Milltown Boro			Prop Loc - Dig Image	506153	586177	5931		150	0					Outside Canvass	
	2800000700	Domestic	Yes	Permit	12/9/1952		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	503603	584119			100	10					Outside Canvass	
	2800000700	Domestic	Yes	Record	10/1/1952	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	503603	584119			99.5	0					Outside Canvass	
	2800000618	Domestic	Yes	Permit	6/25/1952		Somerset	Franklin Twp			Prop Loc - Hand Copy	498425	582802			130	10					Outside Canvass	
	2800000605	Domestic	Yes	Permit	6/12/1952		Middlesex	New Brunswick City			Prop Loc - Hand Copy	496412	582802			75	8					Outside Canvass	
	2800000604	Domestic	Yes	Permit	6/12/1952		Middlesex	New Brunswick City			Prop Loc - Hand Copy	496412	582802			75	8					Outside Canvass	
	2800000592	Domestic	Yes	Permit	5/23/1952	368 Washington Place	Middlesex	North Brunswick Twp	283	2	Prop Loc - Hand Copy	500128	586189			100	8	GIS Parcel Centroid				Inactive	
	2800000592	Domestic	Yes	Record	10/14/1952	368 WASHINGTON PL	Middlesex	North Brunswick Twp	283	2	Prop Loc - Hand Copy	500128	586189			57	0	GIS Parcel Centroid				Inactive	
	2800000588	Domestic	Yes	Permit	5/20/1952		Middlesex	New Brunswick City			Prop Loc - Hand Copy	498422	586748			80	8					Outside Canvass	
	2800000588	Domestic	Yes	Record	6/5/1952	WOOD AVE	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	498422	586748			60	0					Outside Canvass	
	2800000582	Domestic	Yes	Permit	5/12/1952		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	497417	584117			80	3					Outside Canvass	
	2800000581	Domestic	Yes	Permit	5/8/1952		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	501515	585434			100	10					Outside Canvass	
	2800000581	Domestic	Yes	Record	6/14/1952	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Dig Image	503062	583479	4068		91.83	0					Outside Canvass	
	2800000543	Domestic	Yes	Permit	4/2/1952		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	502509	588165			100	10					Outside Canvass	
	2800000543	Domestic	Yes	Record	4/24/1952	UNKNOWN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	500999	586175	804		153	0					Outside Canvass	
	2800000537	Domestic	Yes	Permit	4/3/1952		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	499504	586749			250	69					Outside Canvass	
	2800000537	Domestic	Yes	Record	4/17/1952	RT 130	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	499504	586749			242	10					Outside Canvass	
	2800000510	Domestic	Yes	Permit	2/25/1952		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	502508	590868			100	5					Outside Canvass	
	2800000509	Domestic	Yes	Permit	2/25/1952		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	501515	585434			100	10					Outside Canvass	
	2800000509	Domestic	Yes	Record	2/28/1952	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	501515	585434			109	0					Outside Canvass	
	2800000415	Domestic	Yes	Permit	10/24/1951		Middlesex	New Brunswick City			Prop Loc - Hand Copy	498422	586748			100	5					Outside Canvass	

	2800000308	Domestic	Yes	Permit	10/6/1951		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498422	586748		100	8					Outside Canvass	
	2800000357	Domestic	Yes	Permit	9/11/1951		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	502597	586750		100	10					Outside Canvass	
	2800000357	Domestic	Yes	Record	10/3/1951	EDLYS LN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	502597	586750		130	0					Outside Canvass	
	2800000350	Domestic	Yes	Permit	8/29/1951		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	501515	584118		100	6					Outside Canvass	
	2800000350	Domestic	Yes	Record	9/8/1951	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Dig Image	503062	583479	4068	87.5	0					Outside Canvass	
	2800000341	Domestic	Yes	Permit	8/10/1951		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	502598	584119		100	6					Outside Canvass	
	2800000341	Domestic	Yes	Record	9/4/1951	HARDENBURGH LN	Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	502598	584119		81	0					Outside Canvass	
	2800000280	Domestic	Yes	Record	6/20/1951	RT 1	Middlesex	New Brunswick City			Prop Loc - Dig Image	493783	587523	6541	120	0					Outside Canvass	
	2800000227	Domestic	Yes	Record	1/24/1951	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	588872	5953	90	0					Outside Canvass	
	2800000226	Domestic	Yes	Record	12/9/1950	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	495845	582127	6115	99.5	0					Outside Canvass	
	2800000224	Domestic	Yes	Record	12/6/1950	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	495845	582127	6115	93	0					Outside Canvass	
	2800000170	Domestic	Yes	Permit	1/31/1950		Middlesex	New Brunswick City			Prop Loc - Hard Copy	506596	582806		150	6					Outside Canvass	
	2800002275	Domestic	Yes	Permit	9/17/1956		Middlesex	Milltown Boro			Prop Loc - Hard Copy	506592	589484		100	10					Outside Canvass	
	2800002275	Domestic	Yes	Record	1/28/1957	CHURCH LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	496877	580778	6539	41	0					Outside Canvass	
	2800002227	Domestic	Yes	Permit	8/3/1956		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	498424	580070		30	6					Outside Canvass	
	2800002144	Domestic	Yes	Permit	6/13/1956		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	494324	589479		100	12					Outside Canvass	
	2800002102	Domestic	Yes	Permit	5/14/1956		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495407	586748		100	10					Outside Canvass	
	2800002009	Domestic	Yes	Record	3/17/1956	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	498638	584826	2029	105	0					Outside Canvass	
	2500007146	Domestic	Yes	Permit	10/1/1957		Somerset	Green Brook Twp			Prop Loc - Hard Copy	505688	588168		150	10					Outside Canvass	
	2800003882	Domestic	Yes	Permit	9/28/1959		Middlesex	Milltown Boro			Prop Loc - Hard Copy	502596	588166		100	10					Outside Canvass	
	2800003882	Domestic	Yes	Record	10/5/1959	KEARNEY DR	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	502596	588166		100	0					Outside Canvass	
	2800003802	Domestic	Yes	Permit	7/20/1959		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498422	585433		100	15					Outside Canvass	
	2800003127	Domestic	Yes	Permit	5/23/1958		Middlesex	Milltown Boro			Prop Loc - Hard Copy	498424	580070		40	25					Outside Canvass	
	2800003127	Domestic	Yes	Record	6/1/1958	RIVA AVE	Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	498424	580070		26	0					Outside Canvass	
	2800003106	Domestic	Yes	Permit	4/24/1958		Middlesex	New Brunswick City			Prop Loc - Hard Copy	495406	588164		150	10					Outside Canvass	
	2800003106	Domestic	Yes	Record	4/29/1958	ADAMS PL	Middlesex	New Brunswick City			Prop Loc - Hard Copy	495406	588164		100	0					Outside Canvass	
	2800002910	Domestic	Yes	Permit	11/12/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	590896		150	20					Outside Canvass	
	2800002810	Domestic	Yes	Permit	10/4/1957		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	503605	580072		70	15					Outside Canvass	
	2800002801	Domestic	Yes	Permit	10/3/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496412	586748		75	10					Outside Canvass	
	2800002801	Domestic	Yes	Record	9/30/1957	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	495845	586174	4387	50	0					Outside Canvass	
	2800002800	Domestic	Yes	Record	10/5/1957	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	496875	587523	3536	55	0					Outside Canvass	
	2800002734	Domestic	Yes	Permit	9/5/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	494324	590896		100	3					Outside Canvass	
	2800002683	Domestic	Yes	Permit	8/6/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	494324	589479		110	4					Outside Canvass	
	2800002646	Domestic	Yes	Record	8/24/1957	HARDENBURG LANE	Middlesex	Milltown Boro			Prop Loc - Hard Copy	505124	582130	6494	140	0					Outside Canvass	
	2800002631	Domestic	Yes	Permit	7/12/1957		Middlesex	South Brunswick Twp			Prop Loc - Hard Copy	494324	588164		100	4					Outside Canvass	
	2800002622	Domestic	Yes	Record	8/21/1957	PRINCESS RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	591571	7490	124	0					Outside Canvass	
	2800002582	Domestic	Yes	Permit	6/14/1957		Middlesex	Milltown Boro			Prop Loc - Hard Copy	506691	592216		100	10					Outside Canvass	
	2800002582	Domestic	Yes	Record	6/22/1957	51 PARDUN AVE.	Middlesex	Milltown Boro			Prop Loc - Hard Copy	506691	592216		155	0					Outside Canvass	
REDACTED	2800002461	Public Community	Yes	Permit	3/6/1957	REDACTED	Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	0	0			15					Outside Canvass	
	2800002448	Domestic	Yes	Permit	2/27/1957		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	503600	589482		80	10					Outside Canvass	
	2800002447	Domestic	Yes	Permit	2/27/1957		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	503600	589482		80	10					Outside Canvass	
	2800002399	Domestic	Yes	Permit	1/9/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498422	586748		100	10					Outside Canvass	
	2800002399	Domestic	Yes	Record	1/14/1957	ADAMS RD	Middlesex	South Brunswick Twp			Prop Loc - Hard Copy	498422	586748		90	0					Outside Canvass	
	2800004279	Domestic	Yes	Permit	11/21/1961		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	590896		100	12					Outside Canvass	
	2800004245	Domestic	Yes	Permit	10/16/1961		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498420	592212		120	10					Outside Canvass	
	2800004245	Domestic	Yes	Record	10/17/1961	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	588872	5953	88	0					Outside Canvass	
	2800004170	Domestic	Yes	Permit	7/17/1961		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496412	586748		100	8					Outside Canvass	
	2800004170	Domestic	Yes	Record	8/7/1961	UNKNOWN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496412	586748		82	0					Outside Canvass	
	2800003920	Domestic	Yes	Permit	7/13/1960		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	497418	581385		40	8					Outside Canvass	
	2800005116	Domestic	Yes	Record	11/18/1964	ADAMS LN & 7TH AVE	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	495844	587523	4525	100	0					Outside Canvass	
	2800005084	Domestic	Yes	Permit	4/24/1964		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	589480		75	12					Outside Canvass	
	2800005084	Domestic	Yes	Record	8/26/1964	DRISCOLL AVE	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	588872	5953	74	10					Outside Canvass	
	2800004923	Domestic	Yes	Permit	12/6/1963		Middlesex	New Brunswick City			Prop Loc - Hard Copy	496413	580070		52	10					Outside Canvass	
	2800004923	Domestic	Yes	Record	12/11/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	588872	5953	52	6					Outside Canvass	
	2800004835	Domestic	Yes	Permit	9/25/1963		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495406	588164		60	20					Outside Canvass	
	2800004835	Domestic	Yes	Record	11/1/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	587523	5529	60	0					Outside Canvass	
	2800004835	Domestic	Yes	Record	11/1/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495406	588164		60	0					Outside Canvass	
	2800004767A	Domestic	Yes	Permit	7/21/1963		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	589480		70	10					Outside Canvass	
	2800004767A	Domestic	Yes	Record	9/5/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	493783	588872	6903	70	0					Outside Canvass	
	2800004667	Domestic	Yes	Permit	4/29/1963		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495406	588164		60	15					Outside Canvass	
	2800004667	Domestic	Yes	Record	4/20/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	587523	5529	60	0					Outside Canvass	
	2800004667	Domestic	Yes	Record	4/20/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495406	588164		60	0					Outside Canvass	
	2800004629	Domestic	Yes	Permit	3/11/1963		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	506697	581389		50	15					Outside Canvass	
	2800004572	Domestic	Yes	Permit	11/25/1962		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	503599	592214		130	10					Outside Canvass	
	2800004572	Domestic	Yes	Record	1/10/1963	ROUTES 1 & 130	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	503599	592214		150	10					Outside Canvass	
	2800006443	Domestic	Yes	Permit	8/8/1968	FRESH PONDS RD	Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	506695	585436		200	15					Outside Canvass	
	2800006389	Domestic	Yes	Permit	6/5/1968		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	497418	581385		80	15					Outside Canvass	
	2800006389	Domestic	Yes	Record	3/2/1970	CHURCH RD	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	497418	581385		72	0					Outside Canvass	
	2800006295	Domestic	Yes	Permit	1/9/1968		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	502599	580071		150	10					Outside Canvass	
	2800006250	Domestic	Yes	Permit	9/26/1967		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	588164		125	10					Outside Canvass	
	2800006250	Domestic	Yes	Record	9/27/1967	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	588164		95	0					Outside Canvass	
	2800006756	Domestic	Yes	Permit	1/24/1966		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498422	585433		125	8					Outside Canvass	
	2800005467	Domestic	Yes	Record	6/20/1965	FRESH PONDS RD	Middlesex	East Brunswick Twp			Prop Loc - Dig Image	506155	582131	7303	107	0					Outside Canvass	
	2800005360	Domestic	Yes	Permit	1/27/1965		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	506696	582806		150	10					Outside Canvass	
	2800005360	Domestic	Yes	Record	6/15/1965	FRESH PONDS RD	Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	506155	582131	7303	220	10					Outside Canvass	
	2800007434	Domestic	Yes	Record	2/21/1972	ADAMS ST.	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	493783	588872	6903	485	0					Outside Canvass	
	2800007422	Domestic	Yes	Record	2/1/1972	ADAMS ST.	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	493783	588872	6903	120	0					Outside Canvass	
	2500017966	Domestic	Yes	Permit	6/17/1975		Middlesex	East Brunswick Twp	824	18	Prop Loc - Hard Copy	501516	582803		175	10					Outside Canvass	
	2800008973	Domestic	Yes	Permit	10/9/1975		Middlesex	South Brunswick Twp	24	28B	Prop Loc - Hard Copy	497416	592212		50	10					Outside Canvass	
	2800011757	Domestic	Yes	Permit	7/24/1980		Middlesex	South Brunswick Twp	29	38C	Prop Loc - Hard Copy	495407	584117		200	10					Outside Canvass	
	2800011519	Domestic	Yes	Permit	12/5/1979		Mercer	Hopewell Twp	43L	14	Prop Loc - Hard Copy	506694	586752		200	10					Outside Canvass	
	2800012915	Domestic	Yes	Permit	3/4/1982		Hunterdon	East Amwell Twp	36	10	Prop Loc - Hard Copy	503603	582804		300	10					Outside Canvass	
	2800012614	Domestic	Yes	Permit	11/19/1981		Middlesex	East Brunswick Twp	308.21	18.23	Prop Loc - Hard Copy	505688	588168		150	15					Outside Canvass	
	2800012546	Domestic	Yes	Record	10/22/1981	OLD GEORGES ROAD	Middlesex	South Brunswick Twp	87	11	Prop Loc - Hard Copy	495407	586748		200	0					Outside Canvass	
	2800012360	Irrigation	Yes	Permit	7/7/1981		Middlesex	North Brunswick Twp	74	2	Prop Loc - Hard Copy	505688	589483		150	10					Outside Canvass	
	2800012317	Domestic	Yes	Permit	6/1/1981		Middlesex	North Brunswick Twp	325	6	Prop Loc - Hard Copy	495407	584117		15	10					Outside Canvass	
	2800012317	Domestic	Yes	Record	7/17/1981	OLD GEORGES ROAD	Middlesex	North Brunswick Twp	325	6	Prop Loc - Hard Copy	495407	584117		85	0					Outside Canvass	
	2800012147	Irrigation	Yes	Permit	3/3/1981		Middlesex	North Brunswick Twp	227	32D5	Prop Loc - Hard Copy	506696	582806		200	15					Outside Canvass	
	2800012103	Irrigation	Yes	Permit	2/11/1981	1 Persing Court	Middlesex	North Brunswick Twp	227	32-4	Prop Loc - Hard Copy	505567	584957		200	50	Approx. Addr. Match				Outside Canvass	
	2800012084	Domestic	Yes	Permit	2/3/1981		Middlesex	South Brunswick Twp	21	28-K	Prop Loc - Hard Copy	498424	580070		65	8					Outside Canvass	
	2800013671	Domestic	Yes	Permit	7/14/1983		Middlesex	North Brunswick Twp	74	29	Prop Loc - Hard Copy	494865	590087		300	10					Outside Canvass	
	2800015892	Domestic	Yes	Permit	10/22/1985	282 Old Georges Road	Middlesex	North Brunswick Twp	227	17.1	Prop Loc - Hard Copy	495840	585040		150	10	Approx. Addr. Match				Outside Canvass	
	2800015892	Domestic	Yes	Record	12/17/1985	OLD GEORGES ROAD	Middlesex	North Brunswick Twp	227	17.1	Prop Loc - Dig Image	495845	583476	5264	150	0					Outside Canvass	
	2800015044	Domestic	Yes	Permit	3/15/1985		Middlesex	North Brunswick Twp	142	15	Prop Loc - Hard Copy	499552	591504		200	10					Outside Canvass	
	2800015044	Domestic	Yes	Record	6/1/1985	1555 LIVINGSTON AVE	Middlesex	North Brunswick Twp	142	15	Prop Loc - Hard Copy	499552	591504		200	10					Outside Canvass	
REDACTED	2800017525	Public Community	Yes	Permit	8/25/1986	REDACTED	Somerset	Green Brook Twp	15	8	Prop Loc - Hard Copy	0	0		200	10					Sealed	
REDACTED	2800017525	Public Community	Yes	Record	9/13/1986	REDACTED	Somerset	Green Brook Twp	15	8	Prop Loc - Hard Copy	0	0		200	0					Sealed	
	2800019275	Domestic	Yes	Permit	8/11/1987		Middlesex	East Brunswick Twp	310	76D40	Prop Loc - Hard Copy	505511	581366		200	10					Outside Canvass	
	2800019275	Domestic	Yes	Record	8/17/1987	10 HILLCREST AVE	Middlesex	East Brunswick Twp	310	76D40	Prop Loc - Hard Copy	505511	581366		600	5					Outside Canvass	
	2800021308	Domestic	Yes	Permit	8/26/1988		Middlesex	North Brunswick Twp	148	107	Prop Loc - Hard Copy	497417	586748		300	10					Outside Canvass	
	2800021308	Domestic	Yes	Record	9/21/1988	RT 130	Middlesex	North Brunswick Twp	148	107	Prop Loc - Dig Image	497507	584825	2800	200	5					Outside Canvass	
	2800029770	Domestic	Yes	Permit	4/14/1992		Somerset	Franklin Twp	20	74	Prop Loc - Hard Copy	495406	589480		200	10					Outside Canvass	
	4800034891	Irrigation	Yes	Permit	11/7/1994	153 HARDENBURG LANE	Middlesex	East Brunswick Twp	310	60.01	Prop Loc - Hard Copy	503604	581387		100	5					Outside Canvass	
	4800036935	Irrigation	Yes	Permit	10/20/1995	205 HARDENBURG LANE	Middlesex	East Brunswick Twp	309.03	28.04	Prop Loc - Hard Copy	501515	584118		130	4					Outside Canvass	
	4800040147	Irrigation	Yes	Permit	5/8/1997	32 FARRINGTON AVE	Middlesex	East Brunswick Twp	307.06	26.01,27	Prop Loc - Hard Copy	505688	588168		13	15					Outside Canvass	
	2800039966	Irrigation	Yes	Permit	4/4/1997	433 RIVA AVENUE	Middlesex	East Brunswick Twp	309.02	46	Prop Loc - Hard Copy	502598	582803		200	50					Outside Canvass	
	2800039966	Irrigation	Yes	Record	4/16/1997	433 RIVA AVENUE	Middlesex	East Brunswick Twp	309.02	46	Prop Loc - Hard Copy	502598	582803		195	50					Outside Canvass	
	2800001543	Domestic	Yes	Record	2/23/1955	RT 1	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	493783	587557		108	0					Outside Canvass	
	2800000021	Industrial	Yes	Permit	1/16/1948		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	497416	590897		300	300					Outside Canvass	
	2800000021	Industrial	Yes	Record	6/1/1948	RT 26	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	495844	590221	5,818.15	404	0					Outside Canvass	
	2800002529	Industrial	Yes	Permit	5/8/1957		Middlesex	Cranbury Twp			Prop Loc - Hard Copy	497416	589480		300	1000					Outside Canvass	
	2800003527	Industrial	Yes	Record	7/19/1996	1735 JERSEY AVE	Middlesex	North Brunswick Twp	17	9B	Prop Loc - Dig Image	494813	590221	6,629.17	300	0					Outside Canvass	
	2800031806	Industrial	Yes	Record	5/24/1993	1735 JERSEY AVE	Middlesex	North Brunswick Twp	17	9B	Prop Loc - Dig Image	494813	590221	6,629.17	260	0					Outside Canvass	



Domestic Well

Irrigation Well

Non-Public, Public Non Community, Public Community not shown per NJDEP directive

Decommissioned Well

1696 Rt 130, LLC AKA North Brunswick Gulf

Inactive Domestic Well within Canvas Area

Industrial Well

0' 1415'
Approximate scale in feet

N

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: well search 7/2018

Date 7/17/18

Figure 5 Wells within 1-mile
7/17/2018

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

½-mile radius

500 ft radius

1-mile radius

Source: USGS
Source: NASA, NGA, USGS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

1577ft

esri

- Domestic Well
- Irrigation Well
- Non-Public, Public Non Community, Public Community not shown per NJDEP directive
- Decommissioned Well
- 1696 Rt 130, LLC AKA North Brunswick Gulf
- Inactive Domestic Well within Canvas Area
- Industrial Well

0' 1415'
Approximate scale in feet

N

ON-SITE ENVIRONMENTAL
119 Shepherds Way • Coatesville, PA 19320
Phone: (610) 384-2719 • Fax (610) 384-2709

Drawing #: well search 8/2019
Date 8/29/19

Figure 6 Wells within 1-mile
8/29/19

North Brunswick Gulf
1696 Georges Road RT 130
North Brunswick, New Jersey 08902

Table 7: Well Search 8/29/19

Download Documer	Permit Number	Well Use	Potentially Potable	Document	Date (permitted/drill	Physical Address	County	Municipality	Block	Lot	Location Method	Easting X	Northing Y	Distance (feet)	Depth (feet)	Capacity (gal/min)	COORD METHOD	TOP OPEN INT	BOT OPEN INT	STATIC LEVEL	STATUS	WELL SAMPLED?
	P200902414	Domestic	Yes	Permit	3/13/2009	28 HENRY STREET	Middlesex	East Brunswick Twp	310	54.06	GPS	501971	580590	6,060.65	90	20					Outside Canvass	
	P200902414	Domestic	Yes	Record	4/10/2009	28 HENRY STREET	Middlesex	East Brunswick Twp	310	54.06	GPS	501968	580571	6,077.98	120	25					Outside Canvass	
PDF Document	HAND DUG	Domestic	Yes	Decommissioning	7/2/2019	286 RIVA AVE	Middlesex	East Brunswick Twp	308.26	14	GPS	506163	586084	5,945.09							Outside Canvass	
PDF Document	Hand dug	Domestic	Yes	Decommissioning	7/9/2018	336 Riva Ave	Middlesex	East Brunswick Twp	308.19	4.01	GPS	505218	585241	5,123.42							Outside Canvass	
PDF Document	Hand dug	Domestic	Yes	Decommissioning	6/27/2018	302 old Georges rd	Middlesex	North Brunswick Twp	227	20.01	GPS	499359	584974	1,863.76							Outside Canvass	
PDF Document	A1806028	Domestic	Yes	Decommissioning	6/13/2018	197 Herdenburg Lane	Middlesex	East Brunswick Twp	309.03	27.26	GPS	501606	583867	2,879.26							Outside Canvass	
PDF Document	Hand dug	Domestic	Yes	Decommissioning	6/6/2018	302 old Georges rd	Middlesex	North Brunswick Twp	227	20.01	GPS	499275	585129	1,582.6							Outside Canvass	
		Domestic	Yes	Decommissioning	3/26/1999	536 RIVA AVE	Middlesex	East Brunswick Twp	310	31	GIS Parcel Centroid	499359	580052								Outside Canvass	
		Domestic	Yes	Decommissioning	10/31/1991	24 GARDEN TERRACE	Middlesex	East Brunswick Twp	307.04	18.00	Prop Loc - Hand Copy	506153	586177								Outside Canvass	
		Domestic	Yes	Decommissioning	5/24/1993	RT 1 & JERSEY AVE	Middlesex	North Brunswick Twp	142	15-1	Prop Loc - Hand Copy	496875	590222								Outside Canvass	
		Domestic	Yes	Decommissioning	5/22/1990	28 VAN LIEW AVE	Middlesex	Milltown Boro	24	7	Prop Loc - Hand Copy	506150	591575								Outside Canvass	
		Domestic	Yes	Decommissioning	5/1/2012	5 ANN TERRACE	Middlesex	East Brunswick Twp	308.03	6	GIS Parcel Centroid	504004	585025								Outside Canvass	
		Domestic	Yes	Decommissioning	8/30/2000	51 LOUISE DR	Middlesex	East Brunswick Twp	307.02	3	GIS Parcel Centroid	504269	585575								Outside Canvass	
PDF Document	handdug	Domestic	Yes	Decommissioning	4/2/2013	435 Calvert Road	Middlesex	North Brunswick Twp	230	21	GPS	499526	586633	739.68							Outside Canvass	
PDF Document	hand dug	Domestic	Yes	Decommissioning	1/3/2013	2053 Rt. 130 South	Middlesex	North Brunswick Twp	148	103	GPS	498420	584998	4,053.94							Outside Canvass	
		Domestic	Yes	Decommissioning	12/17/2010	59 ADELPHIA ROAD	Monmouth	Howell Twp	219	11	Digital Image	497813	581291	5,644.75							Outside Canvass	
PDF Document	Hand Dug	Domestic	Yes	Decommissioning	11/26/2012	626 Myrtle Road	Middlesex	North Brunswick Twp	218	12	GPS	498261	588026	2,564.34							Outside Canvass	
PDF Document	hand dug	Domestic	Yes	Decommissioning	4/26/2012	765 Darmody Ave.	Middlesex	North Brunswick Twp	163	6	GPS	495538	586990	4,725.73							Outside Canvass	
PDF Document	A1204091	Domestic	Yes	Decommissioning	4/26/2012	765 Darmody Ave	Middlesex	North Brunswick Twp	163	6	GPS	495586	586985	4,677.49							Outside Canvass	
PDF Document	A1204090	Domestic	Yes	Decommissioning	4/26/2012	765 Darmody Ave	Middlesex	North Brunswick Twp	163	6	GPS	495558	586984	4,707.12							Outside Canvass	
		Domestic	Yes	Decommissioning	8/22/2008	3 PERSHING CT	Middlesex	North Brunswick Twp	227	32.05	Digital Image	500669	584774	1,679.48							Outside Canvass	
		Domestic	Yes	Decommissioning	11/14/2006	28 GARDEN TER	Middlesex	East Brunswick Twp	307.04	19	GIS Parcel Centroid	505576	586213								Outside Canvass	
		Domestic	Yes	Decommissioning	5/6/2008	502 RIVA AVE	Middlesex	East Brunswick Twp	310	44	GIS Parcel Centroid	500534	580986								Outside Canvass	
	2500005128	Domestic	Yes	Permit	10/21/1955		Somerset	Franklin Twp			Prop Loc - Hand Copy	504055	587950		150	10					Outside Canvass	
	2500004496	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	493783	587957		150	12					Outside Canvass	
	2500004495	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	493783	587957		150	12					Outside Canvass	
	2500004494	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	494788	587957		150	12					Outside Canvass	
	2500004489	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	493783	587957		0	0					Outside Canvass	
	2500004488	Domestic	Yes	Permit	4/25/1955		Middlesex	New Brunswick City			Prop Loc - Hand Copy	494788	587957		150	12					Outside Canvass	
	2800002092	Domestic	Yes	Permit	5/8/1955		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	503150	582096		75	10					Outside Canvass	
	2800002092	Domestic	Yes	Record	5/11/1956	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Dig Image	504093	582130	5,756.51	88	0					Outside Canvass	
	2800001913	Domestic	Yes	Permit	10/27/1955		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	504065	587950		120	60					Outside Canvass	
	2800001816	Domestic	Yes	Permit	8/12/1955		Middlesex	Milltown Boro			Prop Loc - Hand Copy	506152	588876		100	110					Outside Canvass	
	2800001816	Domestic	Yes	Record	8/25/1955	FARRINGTON BLVD	Middlesex	Milltown Boro			Prop Loc - Hand Copy	506152	588876		65	0					Outside Canvass	
	2800001736	Domestic	Yes	Permit	6/29/1955		Middlesex	Milltown Boro			Prop Loc - Hand Copy	504065	588875		150	15					Outside Canvass	
	2800001724	Domestic	Yes	Permit	6/23/1955		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	495870	590188		100	15					Outside Canvass	
	2800001688	Domestic	Yes	Permit	5/25/1955		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	493783	586140		80	10					Outside Canvass	
	2800001688	Domestic	Yes	Record	5/31/1955	UNKNOWN	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	493783	586140		75	0					Outside Canvass	
	2800001604	Domestic	Yes	Permit	3/30/1955		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	505145	591608		100	10					Outside Canvass	
	2800001604	Domestic	Yes	Record	4/20/1955	KEARNEY DR.	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	505145	591608		82	0					Outside Canvass	
	2800001596	Domestic	Yes	Permit	3/28/1955		Middlesex	South Brunswick Twp			Prop Loc - Hand Copy	495870	592920		200	50					Outside Canvass	
	2800001543	Domestic	Yes	Permit	1/25/1955		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	493783	587557		80	10					Outside Canvass	
	2800001543	Domestic	Yes	Record	2/23/1955	RT 1	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	493783	587557		108	0					Outside Canvass	
	2800000158	Domestic	Yes	Record	10/29/1949	GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	582127	6,891.65	153.5	0					Outside Canvass	
	2800000149	Domestic	Yes	Record	9/17/1949	2370 RT 130	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	582127	6,891.65	97	0					Outside Canvass	
	2800000147	Domestic	Yes	Record	9/21/1949	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	582127	6,891.65	103	0					Outside Canvass	
	2800000123	Domestic	Yes	Record	7/2/1949	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	497907	584825	2,799.77	103	0					Outside Canvass	
	2800000097	Domestic	Yes	Permit	2/28/1949		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	501516	582803		100	6					Outside Canvass	
	2800000088	Domestic	Yes	Record	12/28/1948	RT 130 S	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	504089	590224	5,440.05	110	0					Outside Canvass	
	2800000073	Non-Public	Yes	Decommissioning	2/18/1992	ROUTE 1	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	503058	592922	7,116.14	133	0					Outside Canvass	
	2800000073	Non-Public	Yes	Permit	10/13/1948		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	501516	581386		100	6					Outside Canvass	
	2800000073	Non-Public	Yes	Record	1/20/1949	ROUTE 1	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	503058	592922	7,116.14	133	0					Outside Canvass	
	2800000038	Domestic	Yes	Permit	6/4/1948		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	497417	585748		100	6					Outside Canvass	
	2800000038	Domestic	Yes	Record	6/4/1948	WOOD AVE	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	498938	586174	1,307.1	64	0					Outside Canvass	
	2800000033	Domestic	Yes	Permit	4/21/1948		Middlesex	New Brunswick City			Prop Loc - Hand Copy	494324	590896		100	6					Outside Canvass	
	2800000033	Domestic	Yes	Record	4/22/1948	RT 26	Middlesex	New Brunswick City			Prop Loc - Hand Copy	494324	590896		86.5	0					Outside Canvass	
	2800000021	Industrial	Yes	Permit	1/19/1948		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	497416	590897		300	300					Outside Canvass	
	2800000021	Industrial	Yes	Record	8/1/1948	RT 26	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	495844	590221	5,818.15	404	0					Outside Canvass	
	2500001150	Domestic	Yes	Permit	8/15/1951		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	496412	584117		100	10					Outside Canvass	
	2500001150	Domestic	Yes	Record	9/1/1951	HOWE LN	Monmouth	Freehold Twp			Prop Loc - Hand Copy	496412	584117		126	6					Outside Canvass	
	2500001009	Domestic	Yes	Record	8/7/1951	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	498545	586174	4,386.87	220	0					Outside Canvass	
	2800001494	Domestic	Yes	Permit	11/16/1954		Middlesex	Milltown Boro			Prop Loc - Hand Copy	503601	588167		100	5					Outside Canvass	
	2800001343	Domestic	Yes	Permit	7/19/1954		Middlesex	New Brunswick City			Prop Loc - Hand Copy	496413	581385		100	10					Outside Canvass	
	2800001312	Domestic	Yes	Permit	6/29/1954		Middlesex	Highland Park Boro			Prop Loc - Hand Copy	505689	588168		100	20					Outside Canvass	
	2800001312	Domestic	Yes	Record	8/4/1954	ORCHARD AVE & GARDEN TERRACE DR.	Middlesex	Highland Park Boro			Prop Loc - Dig Image	506153	586177	5,930.97	85	0					Outside Canvass	
	2800001301	Domestic	Yes	Record	7/22/1954	EAST OF RIVA AVE	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	504092	583479	4,842.09	154	0					Outside Canvass	
	2800001160	Domestic	Yes	Permit	1/25/1954		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	497418	580070		150	10					Outside Canvass	
	2800001160	Domestic	Yes	Record	2/6/1954	CHURCH LN	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	497418	580070		54	0					Outside Canvass	
	2800001153	Non-Public	Yes	Record	2/6/1954	RT 130	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	580778	7,799.26	162	0					Outside Canvass	
	2800001095	Domestic	Yes	Permit	11/2/1953		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494324	589479		120	10					Outside Canvass	
	2800001095	Domestic	Yes	Record	11/19/1953	RT 1	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494324	589479		68	0					Outside Canvass	
	2800001087	Domestic	Yes	Permit	10/28/1953		Middlesex	Monroe Twp			Prop Loc - Hand Copy	505688	588168		60	6					Outside Canvass	
	2800001061	Domestic	Yes	Permit	10/15/1953		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	498504	588165		99	9					Outside Canvass	
	2800001024	Domestic	Yes	Record	10/8/1953	UNKNOWN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	498938	584826	2,029.47	88	0					Outside Canvass	
	2800001023	Domestic	Yes	Permit	9/23/1953		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	496412	586748		70	10					Outside Canvass	
	2800001000	Public Non-Community	Yes	Permit	9/8/1953		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494325	581385		200	67					Outside Canvass	
	2800001000	Public Non-Community	Yes	Record	12/31/1953	RT 130	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494325	581385		308	0					Outside Canvass	
	2800000928	Domestic	Yes	Permit	7/21/1953		Middlesex	New Brunswick City			Prop Loc - Hand Copy	494325	581385		115	5					Outside Canvass	
	2800000928	Domestic	Yes	Record	9/8/1953	RT 130	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	494325	581385		80	0					Outside Canvass	
	2800000894	Domestic	Yes	Permit	6/18/1953		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	498424	580070		50	10					Outside Canvass	
	2800000894	Domestic	Yes	Record	6/20/1953	RIVA AVE.	Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	498424	580070		24	5					Outside Canvass	
	2800000833	Domestic	Yes	Permit	4/17/1953		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	502598	584119		100	8					Outside Canvass	
	2800000833	Domestic	Yes	Record	5/21/1953	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	502598	584119		72	0					Outside Canvass	
	2800000788	Domestic	Yes	Permit	2/26/1953		Middlesex	Milltown Boro			Prop Loc - Hand Copy	503601	588167		140	20					Outside Canvass	
	2800000788	Domestic	Yes	Record	7/16/1953	RIVA AVE	Middlesex	Milltown Boro			Prop Loc - Dig Image	506153	586177	5,930.97	150	0					Outside Canvass	
	2800000700	Domestic	Yes	Permit	12/9/1952		Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	503603	584119		100	10					Outside Canvass	
	2800000700	Domestic	Yes	Record	10/11/1952	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Hand Copy	503603	584119		99.5	0					Outside Canvass	
	2800000618	Domestic	Yes	Permit	6/23/1952		Somerset	Franklin Twp			Prop Loc - Hand Copy	498423	582802		130	10					Outside Canvass	
	2800000605	Domestic	Yes	Permit	6/12/1952		Middlesex	New Brunswick City			Prop Loc - Hand Copy	496412	582802		75	8					Outside Canvass	
	2800000604	Domestic	Yes	Permit	6/12/1952		Middlesex	New Brunswick City			Prop Loc - Hand Copy	496412	582802		75	8					Outside Canvass	
	2800000592	Domestic	Yes	Permit	5/23/1952	368 Washington Place	Middlesex	North Brunswick Twp	283	2	Prop Loc - Hand Copy	500128	586189		100	8	GIS Parcel Centroid				Inactive	
	2800000592	Domestic	Yes	Record	10/14/1952	368 Washington Palce	Middlesex	North Brunswick Twp	283	2	Prop Loc - Hand Copy	500128	586189		57	0	GIS Parcel Centroid				Inactive	
	2800000588	Domestic	Yes	Permit	5/20/1952		Middlesex	New Brunswick City			Prop Loc - Hand Copy	498422	586748		80	8					Outside Canvass	
	2800000588	Domestic	Yes	Record	6/5/1952	WOOD AVE	Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	498422	586748		60	0					Outside Canvass	
	2800000582	Domestic	Yes	Permit	5/12/1952		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	497417	584117		80	3					Outside Canvass	
	2800000581	Domestic	Yes	Permit	5/8/1952		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	501515	585434		100	10					Outside Canvass	
	2800000581	Domestic	Yes	Record	6/14/1952	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Dig Image	503062	583479	4,067.54	91.83	0					Outside Canvass	
	2800002543	Domestic	Yes	Permit	4/2/1952		Middlesex	North Brunswick Twp			Prop Loc - Hand Copy	500509	588165		100	10					Outside Canvass	

	2800000543	Domestic	Yes	Record	4/24/1952	UNKNOWN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	500999	586175	803.79	153	0					Outside Canvass	
	2800000537	Domestic	Yes	Permit	4/3/1952		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	499504	586749		250	69					Outside Canvass	
	2800000537	Domestic	Yes	Record	4/17/1952	RT 130	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	499504	586749		242	10					Outside Canvass	
	2800000510	Domestic	Yes	Permit	2/25/1952		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	502595	590898		100	5					Outside Canvass	
	2800000509	Domestic	Yes	Permit	2/25/1952		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	501515	585434		100	10					Outside Canvass	
	2800000509	Domestic	Yes	Record	2/28/1952	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	501515	585434		109	0					Outside Canvass	
	2800000415	Domestic	Yes	Permit	10/24/1951		Middlesex	New Brunswick City			Prop Loc - Hard Copy	498422	586748		100	5					Outside Canvass	
	2800000398	Domestic	Yes	Permit	10/8/1951		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498422	586748		100	8					Outside Canvass	
	2800000357	Domestic	Yes	Permit	9/11/1951		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	502597	586750		100	10					Outside Canvass	
	2800000357	Domestic	Yes	Record	10/3/1951	EDLYS LN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	502597	586750		130	0					Outside Canvass	
	2800000350	Domestic	Yes	Permit	8/29/1951		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	501515	584118		100	6					Outside Canvass	
	2800000350	Domestic	Yes	Record	9/8/1951	HARDENBURG LN	Middlesex	East Brunswick Twp			Prop Loc - Dig Image	503062	583479	4,067.54	87.5	0					Outside Canvass	
	2800000341	Domestic	Yes	Permit	8/10/1951		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	502598	584119		100	6					Outside Canvass	
	2800000341	Domestic	Yes	Record	9/4/1951	HARDENBURGH LN	Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	502598	584119		81	0					Outside Canvass	
	2800000280	Domestic	Yes	Record	8/20/1951	RT 1	Middlesex	New Brunswick City			Prop Loc - Dig Image	493783	587523	6,541.43	120	0					Outside Canvass	
	2800000227	Domestic	Yes	Record	1/24/1951	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	588872	5,952.87	90	0					Outside Canvass	
	2800000226	Domestic	Yes	Record	1/29/1950	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	493845	582127	6,115.27	99.5	0					Outside Canvass	
	2800000224	Domestic	Yes	Record	12/6/1950	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	493845	582127	6,115.27	93	0					Outside Canvass	
	2800000170	Domestic	Yes	Permit	1/31/1950		Middlesex	New Brunswick City			Prop Loc - Hard Copy	508596	582806		150	6					Outside Canvass	
	2800002275	Domestic	Yes	Permit	9/17/1956		Middlesex	Milltown Boro			Prop Loc - Hard Copy	508592	589484		100	10					Outside Canvass	
	2800002275	Domestic	Yes	Record	1/28/1957	CHURCH LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	498877	580778	6,538.86	41	0					Outside Canvass	
	2800002227	Domestic	Yes	Permit	8/3/1956		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	498424	580070		30	6					Outside Canvass	
	2800002144	Domestic	Yes	Permit	6/13/1956		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	494324	589479		100	12					Outside Canvass	
	2800002102	Domestic	Yes	Permit	5/14/1956		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495407	586748		100	10					Outside Canvass	
	2800002009	Domestic	Yes	Record	3/17/1956	OLD GEORGES RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	498938	584826	2,029.47	105	0					Outside Canvass	
	2500007148	Domestic	Yes	Permit	10/1/1957		Somerset	Green Brook Twp			Prop Loc - Hard Copy	505688	588168		150	10					Outside Canvass	
	2800003582	Domestic	Yes	Permit	9/28/1959		Middlesex	Milltown Boro			Prop Loc - Hard Copy	502598	588166		100	10					Outside Canvass	
	2800003582	Domestic	Yes	Record	10/5/1959	KEARNEY DR	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	502598	588166		100	0					Outside Canvass	
	2800003802	Domestic	Yes	Permit	7/20/1959		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498422	585433		100	15					Outside Canvass	
	2800003127	Domestic	Yes	Permit	5/23/1958		Middlesex	Milltown Boro			Prop Loc - Hard Copy	498424	580070		40	25					Outside Canvass	
	2800003127	Domestic	Yes	Record	6/1/1958	RIVA AVE	Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	498424	580070		26	0					Outside Canvass	
	2800003106	Domestic	Yes	Permit	4/24/1958		Middlesex	New Brunswick City			Prop Loc - Hard Copy	495406	588164		150	10					Outside Canvass	
	2800003106	Domestic	Yes	Record	4/29/1958	ADAMS PL	Middlesex	New Brunswick City			Prop Loc - Hard Copy	495406	588164		100	0					Outside Canvass	
	2800002910	Domestic	Yes	Permit	11/12/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	590896		150	20					Outside Canvass	
	2800002810	Domestic	Yes	Permit	10/4/1957		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	503605	580072		70	15					Outside Canvass	
	2800002801	Domestic	Yes	Permit	10/3/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496412	586748		75	10					Outside Canvass	
	2800002801	Domestic	Yes	Record	9/30/1957	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	495845	586174	4,386.87	50	0					Outside Canvass	
	2800002800	Domestic	Yes	Record	10/5/1957	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	496875	587523	3,535.79	55	0					Outside Canvass	
	2800002734	Domestic	Yes	Permit	9/5/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	494324	590896		100	3					Outside Canvass	
	2800002683	Domestic	Yes	Permit	8/6/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	494324	589479		110	4					Outside Canvass	
	2800002646	Domestic	Yes	Record	8/24/1957	HARDENBURG LANE	Middlesex	Milltown Boro			Prop Loc - Dig Image	505124	582130	6,493.92	140	0					Outside Canvass	
	2800002631	Domestic	Yes	Permit	7/12/1957		Middlesex	South Brunswick Twp			Prop Loc - Hard Copy	494324	588164		100	4					Outside Canvass	
	2800002622	Domestic	Yes	Record	8/21/1957	PRINCESS RD	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	591571	7,489.75	124	0					Outside Canvass	
	2800002582	Domestic	Yes	Permit	6/14/1957		Middlesex	Milltown Boro			Prop Loc - Hard Copy	506691	592216		100	10					Outside Canvass	
	2800002582	Domestic	Yes	Record	6/22/1957	51 PARDUN AVE.	Middlesex	Milltown Boro			Prop Loc - Hard Copy	506691	592216		155	0					Outside Canvass	
	2800002529	Industrial	Yes	Permit	5/8/1957		Middlesex	Cranbury Twp			Prop Loc - Hard Copy	497416	589480		300	1000					Outside Canvass	
REDACTED	2800002451	Public Non-Community	Yes	Permit	3/6/1957	REDACTED	Middlesex	East Brunswick Twp		REDACTED	Prop Loc - Hard Copy	0	0	REDACTED		15					Outside Canvass	
	2800002448	Domestic	Yes	Permit	2/27/1957		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	503600	589482		80	10					Outside Canvass	
	2800002447	Domestic	Yes	Permit	2/27/1957		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	503600	589482		80	10					Outside Canvass	
	2800002399	Domestic	Yes	Permit	1/9/1957		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498422	586748		100	10					Outside Canvass	
	2800002399	Domestic	Yes	Record	1/14/1957	ADAMS RD	Middlesex	South Brunswick Twp			Prop Loc - Hard Copy	498422	586748		90	0					Outside Canvass	
	2800004279	Domestic	Yes	Permit	11/21/1951		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	590896		100	12					Outside Canvass	
	2800004245	Domestic	Yes	Permit	10/16/1961		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498420	592212		120	10					Outside Canvass	
	2800004245	Domestic	Yes	Record	10/17/1961	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	588872	5,952.87	88	0					Outside Canvass	
	2800004170	Domestic	Yes	Permit	7/11/1961		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496412	586748		100	6					Outside Canvass	
	2800004170	Domestic	Yes	Record	9/7/1961	UNKNOWN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496412	586748		82	0					Outside Canvass	
	2800003920	Domestic	Yes	Permit	7/13/1960		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	497418	581385		40	8					Outside Canvass	
	2800005116	Domestic	Yes	Record	11/18/1964	ADAMS LN & 7TH AVE	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	493844	587523	4,524.64	100	0					Outside Canvass	
	2800005084	Domestic	Yes	Permit	4/24/1964		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	589480		75	12					Outside Canvass	
	2800005084	Domestic	Yes	Record	8/26/1964	DRISCOLL AVE	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	588872	5,952.87	74	10					Outside Canvass	
	2800004923	Domestic	Yes	Permit	12/6/1963		Middlesex	New Brunswick City			Prop Loc - Hard Copy	496413	580070		52	10					Outside Canvass	
	2800004923	Domestic	Yes	Record	12/17/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494813	588872	5,952.87	52	0					Outside Canvass	
	2800004835	Domestic	Yes	Permit	9/25/1963		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495406	588164		60	20					Outside Canvass	
	2800004835	Domestic	Yes	Record	11/1/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	587523	5,528.88	60	0					Outside Canvass	
	2800004835	Domestic	Yes	Record	11/1/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495406	588164		60	0					Outside Canvass	
	28000476?A	Domestic	Yes	Permit	7/21/1963		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	589480		70	10					Outside Canvass	
	28000476?A	Domestic	Yes	Record	9/5/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	493783	588872	6,903.46	70	0					Outside Canvass	
	2800004667	Domestic	Yes	Permit	4/29/1963		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495406	588164		60	15					Outside Canvass	
	2800004667	Domestic	Yes	Record	4/20/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	494814	587523	5,528.88	60	0					Outside Canvass	
	2800004667	Domestic	Yes	Record	4/20/1963	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	495406	588164		60	0					Outside Canvass	
	2800004629	Domestic	Yes	Permit	3/11/1963		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	506697	581389		50	15					Outside Canvass	
	2800004572	Domestic	Yes	Permit	11/26/1962		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	503599	592214		130	10					Outside Canvass	
	2800004572	Domestic	Yes	Record	1/10/1963	ROUTES 1 & 130	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	503599	592214		150	10					Outside Canvass	
	2800006443	Domestic	Yes	Permit	8/8/1968	FRESH PONDS RD	Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	506695	585436		200	15					Outside Canvass	
	2800006389	Domestic	Yes	Permit	6/5/1968		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	497418	581385		80	15					Outside Canvass	
	2800006389	Domestic	Yes	Record	3/2/1970	CHURCH RD	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	497418	581385		72	0					Outside Canvass	
	2800006265	Domestic	Yes	Permit	1/8/1968		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	502599	580071		150	10					Outside Canvass	
	2800006250	Domestic	Yes	Permit	9/26/1967		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	588164		125	10					Outside Canvass	
	2800006250	Domestic	Yes	Record	9/27/1967	ADAMS LN	Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	496411	588164		95	0					Outside Canvass	
	2800005756	Domestic	Yes	Permit	1/24/1966		Middlesex	North Brunswick Twp			Prop Loc - Hard Copy	498422	585433		125	8					Outside Canvass	
	2800005467	Domestic	Yes	Record	6/20/1965	FRESH PONDS RD	Middlesex	East Brunswick Twp			Prop Loc - Dig Image	506155	582131	7,302.77	107	0					Outside Canvass	
	2800005360	Domestic	Yes	Permit	1/27/1965		Middlesex	East Brunswick Twp			Prop Loc - Hard Copy	506696	582806		150	10					Outside Canvass	
	2800005360	Domestic	Yes	Record	6/15/1965	FRESH PONDS RD	Middlesex	East Brunswick Twp			Prop Loc - Dig Image	506155	582131	7,302.77	220	10					Outside Canvass	
	2800007434	Domestic	Yes	Record	2/21/1972	ADAMS ST	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	493783	588872	6,903.46	465	0					Outside Canvass	
	2800007422	Domestic	Yes	Record	2/1/1972	ADAMS ST	Middlesex	North Brunswick Twp			Prop Loc - Dig Image	493783	588872	6,903.46	120	0					Outside Canvass	
	2500017966	Domestic	Yes	Permit	6/17/1975		Middlesex	East Brunswick Twp	824	18	Prop Loc - Hard Copy	501516	582803		175	10					Outside Canvass	
	2800008973	Domestic	Yes	Permit	10/9/1975		Middlesex	South Brunswick Twp	24	28B	Prop Loc - Hard Copy	497416	592212		50	10					Outside Canvass	
	2800011757	Domestic	Yes	Permit	7/24/1980		Middlesex	South Brunswick Twp	29	38C	Prop Loc - Hard Copy	495407	584117		200	10					Outside Canvass	
	2800011519	Domestic	Yes	Permit	12/5/1979		Mercer	Hopewell Twp	43L	14	Prop Loc - Hard Copy	506694	586752		200	10					Outside Canvass	
	2800012915	Domestic	Yes	Permit	5/4/1982		Hunterdon	East Amwell Twp	36	10	Prop Loc - Hard Copy	503603	582804		300	10					Outside Canvass	
	2800012614	Domestic	Yes	Permit	11/19/1981		Middlesex	East Brunswick Twp	308.21	16.23	Prop Loc - Hard Copy	505688	588168		150	15					Outside Canvass	
	2800012546	Domestic	Yes	Record	10/22/1981	OLD GEORGES ROAD	Middlesex	South Brunswick Twp	87	11	Prop Loc - Hard Copy	495407	586748		200	5					Outside Canvass	
	2800012360	Irrigation	Yes	Permit	7/7/1981		Middlesex	North Brunswick Twp	74	2	Prop Loc - Hard Copy	505688	589483		150	10					Outside Canvass	
	2800012317	Domestic	Yes	Permit	6/1/1981		Middlesex	North Brunswick Twp	325	6	Prop Loc - Hard Copy	495407	584117		15	10					Outside Canvass	
	2800012317	Domestic	Yes	Record	7/17/1981	OLD GEORGES ROAD	Middlesex	North Brunswick Twp	325	6	Prop Loc - Hard Copy	495407	584117		85	0					Outside Canvass	
	2800012147	Irrigation	Yes	Permit	3/3/1981		Middlesex	North Brunswick Twp	227	32/5	Prop Loc - Hard Copy	506696	582806		200	15					Outside Canvass	
	2800012103	Irrigation	Yes	Permit	2/11/1981	1 Persing Court	Middlesex	North Brunswick Twp	227	32-4	Prop Loc - Hard Copy	503567	584667		200	50	Approx. Addr. Match				Inactive	
	2800012084	Domestic	Yes	Permit	2/3/1981		Middlesex	South Brunswick Twp	21	28-K	Prop Loc - Hard Copy	498424	580070		65	8					Outside Canvass	
	2800013971	Domestic	Yes	Permit	7/14/1983		Middlesex	North Brunswick Twp	74	29	Prop Loc - Hard Copy	494805	590087		300	10					Outside Canvass	
	2800015892	Domestic	Yes	Permit	10/23/1985	282 old georges rd	Middlesex	North Brunswick Twp	227	17.1	Prop Loc - Hard Copy	499040	586042		150	10	Approx. Addr. Match				Sealed	
	2800015892	Domestic	Yes	Record	12/17/1985	OLD GEORGES ROAD	Middlesex	North Brunswick Twp	227	17.1	Prop Loc - Dig Image	495845	583476	5,263.51	150	0					Outside Canvass	
	2800015044	Domestic	Yes	Permit	3/15/1985		Middlesex	North Brunswick Twp	142	15	Prop Loc - Hard Copy	499502	591504		200	10					Outside Canvass	
	2800015044	Domestic	Yes	Record	6/1/1985	1555 LIVINGSTON AVE	Middlesex	North Brunswick Twp	142	15	Prop Loc - Hard Copy	499502	591504		200	10					Outside Canvass	
	2800017525	Public Non-Community	Yes	Permit	8/25/1986		Somerset	Green Brook Twp	15	8	Prop Loc - Hard Copy	500045	588772		200	10					Sealed	
	2800017525	Public Non-Community	Yes	Record	9/13/1986	US HIGHWAY 22	Somerset	Green Brook Twp	15	8	Prop Loc - Hard Copy	500045	588772		200	0					Sealed	
	2800019275	Domestic	Yes	Permit	8/11/1987		Middlesex	East Brunswick Twp	310	76040	Prop Loc - Hard Copy	503511	581366		200	10					Outside Canvass	
	2800019275	Domestic	Yes	Record	8/17/1987	10 HILLCREST AVE	Middlesex	East Brunswick Twp	310	76040	Prop Loc - Hard Copy	503511	581366		600	5					Outside Canvass	
	2800021308	Domestic	Yes	Permit	8/26/1988		Middlesex	North Brunswick Twp	148	107	Prop Loc - Hard Copy	497417	586748		300	10					Outside Canvass	
	2800021308	Domestic	Yes	Record	9/21/1988	RT 130	Middlesex	North Brunswick Twp	148	107	Prop Loc - Dig Image	497907	584825	2,799.77	200	5					Outside Canvass	
	2800020770	Domestic	Yes	Permit	4/14/1992		Somerset	Franklin Twp	20	74	Prop Loc - Hard Copy	495406	589480		200	10					Outside Canvass	
	4800034891	Irrigation	Yes	Permit	11/7/1994	153 HARDENBURG LANE	Middlesex	East Brunswick Twp	310	60.01	Prop Loc - Hard Copy	503604	581367		100	5					Outside Canvass	
	4800036935	Irrigation	Yes	Permit	10/20/1995	205 HARDENBURG LANE	Middlesex	East Brunswick Twp	309.03	28.04	Prop Loc - Hard Copy	501515	584118		130	4					Outside Canvass	
	2800038527	Industrial	Yes	Record	7/10/1996	1735 JERSEY AVE	Middlesex	North Brunswick Twp	17	98	Prop Loc - Dig Image	494813	590221	6,629.17	300	0					Outside Canvass	
	4800040147	Irrigation	Yes	Permit	5/8/1997	32 FARRINGTON AVE	Middlesex	East Brunswick Twp	307.06	26.01.27	Prop Loc - Hard Copy	505688	588168		13	15					Outside Canvass	
	2800039966	Irrigation	Yes	Permit	4/4/1997	433 RIVA AVENUE	Middlesex	East Brunswick Twp	309.02	46	Prop Loc - Hard Copy	502598	582803		200	50					Outside Canvass	
	2800039966	Irrigation	Yes	Record	4/16/1997	433 RIVA AVENUE	Middlesex	East Brunswick Twp	309.02	46	Prop Loc - Hard Copy	502598	582803		195	50					Outside Canvass	
	2800031806	Industrial	Yes	Record	5/24/1993	1735 JERSEY AVE	Middlesex	North Brunswick Twp	17	98	Prop Loc - Dig Image	494813	590221	6,629.17	260	0					Outside Canvass	
PDF Document	2800021813	Industrial	Yes	Decommissioning	12/14/2018	1735 JERSEY AVENUE	Middlesex	North Brunswick Twp	17	98.01	GPS	494999	590881	6,668.61	540						Outside Canvass	