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**Remedial Action Report Former MGP Plant Parcels,
Block 39.04, Lots 22 and 23, and
214 39th Street Residential Property**

Sea Isle City Former MGP Site Remediation Project

Sea Isle City, Cape May County, New Jersey
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Volume 1 of 2

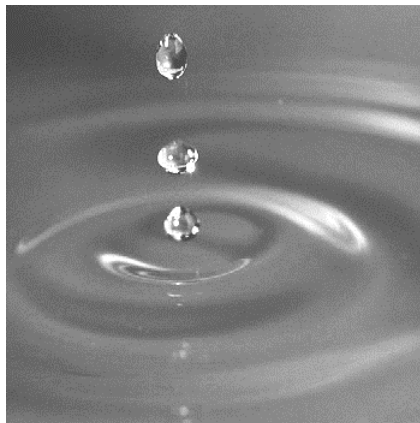
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Table of Contents

Abbreviations and Acronyms	iv
Executive Summary	vi
1. Introduction	1
1.1 Purpose	1
1.2 Background	3
2. Site Description	5
2.1 Site History	5
2.2 Site Location and Description	6
2.3 Surrounding Land Use	6
2.4 Previous Remedial Actions	7
3. Physical Setting	10
3.1 Topography and Regional Drainage	10
3.2 Regional Geology	10
3.3 Regional Hydrogeology	10
3.4 Water Use	11
3.5 Subject Property Geology	11
3.5.1 Subject Property Soils	11
3.5.2 Subject Property Hydrogeology	11
4. Receptor Evaluation	12
5. Soil Remediation Activities	13
5.1 Permits	13
5.2 Waste Characterization	15
5.3 Site Preparation	15
5.4 Support System Monitoring	16
5.5 Dewatering System	16
5.6 Depressurization System	17
5.7 Remedial Excavation	20
5.8 Subsurface Features	21
5.9 Post-Excavation Soil Sampling	21
5.10 Post-Excavation Soil Sample Results	22
5.11 Quality Assurance and Quality Control	23
5.12 Material Transportation and Disposal	24
5.13 Excavation Backfilling	24

5.14 Site Restoration	24
6. Project Costs	25
7. Work Plan Variances	26
8. Conclusions	27
9. References	1

Tables

- 1 Post-Excavation Soil Sample Analytical Results

Figures

- 1 Site Location Map
- 2 Site Plan
- 3 Remedial Action Phases
- 4 Limits of Excavation
- 5 Post Excavation Sample Locations and Results
- 6 Post Remediation Site Plan

Appendices

- A Cover-Certification Form/Remedial Action Report Form/Response Action Outcome Form/Response Action Outcome Letters/Case Inventory Document
- B Previous Remedial Action Reports (CDs) and Response Action Outcome Letters
- C Receptor Evaluation
- D Photolog
- E Permit Approvals
- F Monitoring Well Permits, Form As, and Well Abandonment Documentation
- G Weekly Air Monitoring Reports
- H Data Usability Summary Report
- I. Laboratory Analytical Results (CD)

Volume 2

- 1 Construction Debris Disposal Tickets
- 2 Clean Earth Certificates of Destruction and Waste Disposal Manifests
- 3 Waste Disposal Permits
- 4 Clean Fill Certification Letters and Delivery Tickets

Abbreviations and Acronyms

BEE	Baseline Ecological Evaluation
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene and xylenes
CAFRA	Coastal Area Facilities Review Act
CMCMUA	Cape May County Municipal Utilities Authority
COCs	Contaminants of Concern
DI	Distilled Water
DPW	Department of Public Works
Emilcott	Emilcott Associates, Inc.
EPH	Extractable Petroleum Hydrocarbons
GAC	Granular activated carbon
gpm	Gallons per minute
GWQS	Groundwater Quality Standards
HDPE	High Density Polyethylene
hp	Horsepower
IAL	Integrated Analytical Laboratories
IRA	Interim Remedial Action
IRM	Interim Remedial Measure
JCP&L	Jersey Central Power & Light Company
MGP	Manufactured gas plant
N.J.A.C.	New Jersey Administrative Code
NAPL	Non-aqueous phase liquid
NFA	No Further Action
NJDEP	New Jersey Department of Environmental Protection
NJDOT	New Jersey Department of Transportation
NJNG	New Jersey Natural Gas
NJPDES	New Jersey Pollutant Discharge Elimination System
PAH	Polycyclic aromatic hydrocarbons
PAMS	Perimeter air monitoring system
PCBs	Polychlorinated biphenyls
PDI	Pre-Design Investigation
PID	Photo-ionization detector
ppm	Parts per million
QA/QC	Quality Assurance/Quality Control
RA	Remedial Action
RAO	Response Action Outcome
RAR	Remedial Action Report
RAWP	Remedial Action Work Plan
RAWPA	Remedial Action Work Plan Addendum
RDCSRS	Residential Direct Contact Soil Remediation Standards
RDCSCC	Residential Direct Contact Soil Cleanup Criteria
RI	Remedial Investigation
RIR	Remedial Investigation Report
SCC	Soil Cleanup Criteria
SES	Sevenson Environmental Services
SRI	Supplemental Remedial Investigation
SRIR	Supplemental Remedial Investigation Report
SRIWP	Supplemental Remedial Investigation Work Plan
SRS	Soil Remediation Standards

REMEDIAL ACTION REPORT
SEA ISLE CITY FORMER MGP SITE
SEA ISLE CITY, CAPE MAY COUNTY
JULY 2016

TCLP
TOC
UST
VI
VOCs
yds³

Toxicity Characteristic Leachate Procedure
Total Organic Carbon
Underground storage tank
Vapor intrusion
Volatile Organic Compounds
Cubic Yards

Executive Summary

This Remedial Action Report (RAR) was prepared by GEI Consultants, Inc. (GEI) on behalf of Jersey Central Power & Light Company (JCP&L). This RAR is written in accordance with the New Jersey Administrative Code (N.J.A.C.), Section 7:26E 5.7 of the Technical Requirements for Site Remediation. It documents the remedial action (RA) performed from October 2010 through May 2011 at the majority of the remaining portions of two of the former manufactured gas plant (MGP) parcels (Block 39.04, Lots 22 and 23) that were not addressed during the September 2008 – May 2009 RA, as well as the adjacent residential property at 214 39th Street, (Block 39.04, Lots 33 and 34), west of the MGP site in Sea Isle City, Cape May County, New Jersey. Due to logistical constraints regarding access to properties adjacent to and south of Lots 22 and 23 and sheeting placement for dewatering activities, the southernmost portion of Lots 22 and 23 were remediated in a subsequent RA performed in 2013 and 2014. This RAR has been prepared to document and summarize the remedial actions conducted at Block 39.04, Lots 22, 23, 33, and 34. Separate RARs have been prepared and submitted to the New Jersey Department of Environmental Protection (NJDEP) to document additional remedial activities at Block 39.04, Lots 22, 23, and 24, as well as remediation work completed at Lots 9, 10.01, 10.02, 11.01, 11.02, 12.01, 12.02, 13, 14, 15, 16, and 120. From October 4, 2010, through May 24, 2011, Severson Environmental Services, Inc., (SES) with oversight from GEI, conducted soil excavation activities to remove MGP-impacted soil. An irregularly shaped area measuring approximately 9,460 square feet was excavated to varying depths of 8 to 17 feet below ground surface (bgs). A total of 4,588 cubic yards (yds³) of soil was excavated and transported offsite for thermal treatment. A total of 123,900 gallons of water was pumped from the excavation during dewatering activities and treated on-site prior to discharge to the public sanitary sewerage system. An additional 2,441,500 gallons of groundwater from the deep aquifer depressurization system were pumped, treated, and discharged to the bay. The excavation was backfilled with 2,993.59 tons of New Jersey Department of Transportation (NJDOT) approved I5 material and 4,662.5 tons of NJDOT approved I8 material obtained from Future Mining and Recycling Inc. of Cape May Courthouse, New Jersey. Prior to the backfilling, thirteen post-excitation bottom soil samples were collected by GEI. Post-excitation bottom sample locations were selected based on field observations and the size of the excavation, with sample locations biased towards areas where MGP impacts had existed prior to excavation or at locations that exhibited evidence of potential remaining impacts. The soil samples were submitted under chain of custody to Integrated Analytical Laboratories (IAL) of Randolph, New Jersey, a New Jersey-certified laboratory (Cert. #14751) for polycyclic aromatic hydrocarbons analysis by United States Environmental protection Agency (USEPA) Method 8270C. Five sample locations from the 2008-2009 RA conducted at the former MGP site and presented in this RAR were also analyzed for the

volatile organic compounds (VOCs) benzene, toluene, ethylbenzene and total xylene (BTEX) by USEPA Method 8260B.

The analysis of the post-excavation soil samples confirmed that the soils remaining at the bottom of the excavation are in compliance with the NJDEP approved February 2007 Remedial Action Work Plan (RAWP). Horizontal delineation of the impacts had been performed in the spring of 2009, as the excavation support sheeting would make it impossible to collect sidewall samples during soil excavation. The perimeter excavation limits were established to ensure compliance with the approved RAWP. GEI submitted a variance request to allow the analytical results from the perimeter delineation samples to be collected during the supplemental remedial investigation, in lieu of post-excavation sidewall samples, as part of the April 29, 2010 Remedial Action Work Plan Addendum. The report and variance request were approved by the NJDEP in a letter dated July 6, 2010. As part of the 2013-2014 RA at 205, 207 and 209 40th Street, a small area along the southern edge of the former plant parcels was addressed. This southern area was not excavated during the 2010-2011 RA because of the sheeting line configuration. Based on the post excavation soil analytical results from the 2008-2009, 2010-2011 and 2013-2014 RAs conducted at the former MGP site and portions of the abutting residential properties previously referenced, no further remedial action for soils is required for these areas of concern.

An area of MGP-impacted soils remains at depth in the southwest portion of the former MGP site. Analytical results for post-excavation soil samples collected from this area did not meet the Residential Direct Contact Soil Remediation Standards (RDCSRS) and were not excavated due to technical issues related to the deep aquifer depressurization system. However, the RAWP prepared for the remediation of this area which was submitted to the NJDEP in February 2007 and approved by the NJDEP in August 2007, required the post excavation samples to meet the Residential Direct Contact Soil Cleanup Criteria (RDCSCC) which were in effect until June 2, 2008. All post excavation soil samples reported analytical results below the RDCSCC and below an order of magnitude greater than the current RDCSRS. New Jersey Administrative Code 7:26E-1.3(c)1 states that the person responsible for conducting the remediation must remediate a site to the RDCSCC that were in effect prior to June 2, 2008 when:

- i. The remediating party has submitted a remedial action work plan or a remedial action report before December 2, 2008 that establish the SCCs as the standards for the site;
- ii. The remedial action work plan or a remedial action report is in compliance with the Technical Rules, N.J.A.C. 7:26E-6; and
- iii. The SCC for the site are not greater by an order of magnitude or more, than the soil remediation standards adopted by N.J.A.C. 7:26D.

The results of the RA presented in this RAR indicates JCP&L has met all of these requirements. Based on the post-excavation soil analytical results, no further remedial action for soils is required for this area of concern.

1. Introduction

1.1 Purpose

This Remedial Action Report (RAR) documents the removal of 4,588 cubic yards (yds³) of manufactured gas plant (MGP) impacted soils from the remaining portions of two of the on-site parcels comprising the former plant (Block 39.04, Lots 22 and 23) and an adjacent residential property identified as 214 39th Street, Sea Isle City, Cape May County, New Jersey. A location map of the former MGP site is provided as Figure 1. A site plan of the preconstruction conditions of the remediated parcels is provided as Figure 2.

The soil removal Remedial Action (RA) described herein was conducted in association with remediation activities being implemented at, and in the vicinity of, the Sea Isle City former MGP site by Jersey Central Power & Light Company (JCP&L). The site includes the former plant parcels, identified on the Sea Isle City, New Jersey tax map as Block 39.04, Lots 22, 23 and 24. The remediated adjacent residential property, which is also included as part of this RAR, is identified in the Sea Isle City, New Jersey tax map as Block 39.04, Lots 33 and 34. Subsurface soil at the site contained benzene, toluene, ethyl benzene and total xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs). Soils at the adjacent property contained PAHs at concentrations that exceeded the New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Cleanup Criteria (RDCSCC), dated May 12, 1999. This RAR documents the removal of impacted soil exceeding the RDCSCC in accordance with the work scope presented and subsequently approved by the NJDEP in the October 15, 2009 Remedial Action Work Plan Addendum (RAWPA) to the February 22, 2007 Remedial Action Work Plan (RAWP).

The analytical results of the confirmatory soil samples collected from the base of the excavations and those soil analytical results obtained through the remedial investigation (RI) to delineate the horizontal and vertical extent of the MGP impacts and define the limits of the soil removal were compared to the RDCSCC which were in effect until June 2, 2008 to ensure compliance with the RAWP that was approved by the NJDEP in August 2007.

Based on the analytical results of the delineation and post-excavation sampling of both this phase and the previous and subsequent phases of remediation, no further action regarding MGP-related soil contamination at the site, Block 39.04, Lots 22, 23 and 24, and the 214 39th Street property, Block 39.04, Lots 33 and 34, is required. Remaining shallow groundwater impacts are addressed by a post-remediation groundwater monitoring plan and a Classification Exception Area (CEA) that has been established for the site. The official closure instrument will be a Response Action Outcome (RAO), to be issued by Mr. Robert P.

Blauvelt, the Licensed Site Remediation Professional (LSRP License No. 575013) of GEI. The RAO will be an Area of Concern (AOC)-Specific RAO for MGP-related soil contamination at the site (Block 39.04, Lots 22, 23 and 24) and at the 214 39th Street (Block 39.04, Lots 33 and 34) properties based on the analytical results, which are in compliance with the RDCSCC.

MGP-related impacts consisting of BTEX and PAHs were present both on and off the site. JCP&L currently owns the three properties comprising the former site. Remediation of the site and the surrounding off-site properties was completed in phases based on access to properties, sheeting placement, and a moratorium on remedial activities placed by Sea Isle City during their tourism season from Memorial Day through Labor Day. Figure 3 illustrates the areas covered during each phase of remediation. The following is a brief summary of the phases that have been completed as part of the remediation of the site and surrounding properties:

- ***Phase 1 RA (Block 39.04, Lot 24 and portions of Lots 22 and 23):*** addressed soil impacts at the former MGP site including Block 39.04 Lot 24 and portions of Lots 22 and 23. The Phase 1 RA was performed in 2008-2009 and documented in the August 2009 Remedial Action Report (RAR) which was approved by NJDEP in a letter dated March 16, 2010, but the NJDEP did not issue a letter of “no further action” (NFA) for the site because only portions of Lots 22 and 23 were remediated.
- ***Phase 2 RA (Block 38.04, Lots 16, 17 and 18 and Block 39.04, Lot 34 and Portions of Lots 22, 23 and 33):*** The Phase 2 RA was completed in 2010-2011 and included properties on both sides of 39th Street. The RA performed on the residential properties north of 39th Street was documented in the August 2011 RAR for 213 and 217 39th Street (Block 38.04, Lots 16, 17 and 18) which resulted in a No Further Action (NFA) letter issued by the NJDEP dated January 12, 2012. Remediation of the properties south of 39th Street (Block 39.04, Lot 34 and portions of Lots 22, 23 and 33) continued during Phase 2 of the RA performed in 2010-2011 and is the subject of this report. This portion of the Phase 2 RA addressed a majority of the remaining soils on the MGP site (Block 39.04, Lots 22 and 23) and included remediation of a portion of an adjacent off-site residential property at 214 39th Street (Block 39.04, Lots 33 and 34). The remediation of these properties are detailed in this report.
- ***Phase 3 RA (Block 39.04, Lots 31, 32 and portions of Lots 9, 16 and 33):*** The Phase 3 RA was performed in March through July of 2012 and included the 218 39th Street property (Block 39.04, Lots 31 and 32) the *western* portion of the former 214 39th Street property (Block 39.04, Lot 33) and northern portions of the

211 and 219 40th Street properties (Block 39.04, Lots 9 and 16). The Phase 3 RA was documented in an RAR dated August 5, 2015 and approved by the LSRP with an RAO for the 218 39th Street property dated October 28, 2015.

- **Phase 4 RA (Block 39.04, Lots 13, 14, 15, 110, and 120 and portions of Lots 9, 10.01 and 16):** The Phase 4 RA was completed in 2012-2013 and was documented in the RAR for 205, 207, 209, 211, 219, 223, and 227 40th Street and portions of 210 39th Street and 3904 Central Avenue dated November 2014. This was a combined RAR that included the results of the Phase 4 RA and the Phase 5 RA. The combined RAR was approved by the LSRP who issued RAO letters for the properties that were remediated during the Phase 4 RA (Block 39.04, Lots 9, 13, 14, 15, 16, 110 and 120) on July 16, 2015.
- **Phase 5 RA (Block 39.04, Lots 10.02, 11.01, 11.02, 12.01, and 12.02 and portions of Lots 10.01, 22 and 23):** The Phase 5 RA was completed in 2013-2014 and included the *southernmost* portions of the former MGP site on Block 39.04 Lots 22 and 23 and portions of the residential properties to the south at 205, 207, and 209 40th Street (Block 39.04, lots 10.02, 11.01, 11.02, 12.01, and 12.02 and portions of Lot 10.01). Phase 5 RAR was part of the combined RAR with the Phase 4 RAR dated November 2014 (see Phase 4 RA) that was approved by the site LSRP who issued RAO letters for the fully remediated properties (205, 207 and 209 40th Street) on July 16, 2015.

Remediation of the two remaining portions of the site (Block 39.04, Lots 22 and 23) and the 214 39th Street residential property (Block 39.04, lots 33 and 34) during Phase 2 of remediation (the subject of this report) was conducted by Severson Environmental Services (SES) of Niagara Falls, New York. Perimeter air monitoring during soil disturbance activities was performed by Emilcott Associates, Inc. (Emilcott) of Chatham, New Jersey. Oversight and documentation of remediation activities was provided by GEI Consultants, Inc. (GEI) of Mount Laurel, New Jersey. The Cover-Certification Form, Remedial Action Report Form, Response Action Outcome Form, Response Action Outcome Letter and Case Inventory Document are included as Appendix A.

1.2 Background

The former MGP site is south and west of the intersection of Central Avenue and 39th Street in Sea Isle City, Cape May County, New Jersey. Several RI phases have been conducted previously to identify the extent of impacts at the former MGP site and on off-site properties in the vicinity of the former MGP site.

As part of remedial investigations conducted prior to the start of this RA, soil borings were advanced on the former MGP site, within the 39th Street, 40th Street, and Central Avenue

rights-of-way, on City-owned property south of the MGP site and on privately-owned residential properties in the vicinity of the former MGP site. In preparation for the remediation of the former MGP site and off site properties, various pre-design investigation (PDI) engineering studies including geotechnical investigations consisting of cone penetrometer explorations, standard penetration tests, sieve tests, a pump test, and slug tests were performed to provide additional information for the final design of the soil excavation RA. Groundwater sampling has identified impacts in the shallow aquifer at and to the east and southeast of the site.

2. Site Description

The following sections provide a brief discussion of the site history and previous investigations conducted at the former MGP site and at the 214 39th Street residential property. Additional discussions and the results and findings of those investigations are provided in the work plans and reports cited in the proceeding sections of this RAR.

2.1 Site History

MGP operations were conducted at the site during the late 1800s and early 1900s. Historical data indicates that, in the late 1800s, and at least as early as 1889, the plant was owned and operated by the Sea Shore Gas Company. In 1920, the Sea Shore Gas Company sold the plant to the American Gas Generator Company, who, in turn, sold it to Friars Gas Company in 1921. It was resold in 1921 to Sea Isle City. In 1926, JCP&L purchased the facility. The facility, exclusive of the gas holder and oil tank, was demolished in 1942. In 1952, JCP&L sold the property to the New Jersey Natural Gas Company (NJNG). The locations of the former coal gas plant oil tank and gas holder were determined from aerial photographs. The locations of the other original plant components (e.g., gas house), however, are not specifically known.

In 1978, NJNG sold the property to a private individual who subdivided the property into the current three lots (Block 39.04, Lots 22, 23, and 24) that comprise the former MGP site. The lots were then sold separately to private individuals prior to the early 1980s. Following these transactions, residential dwellings were constructed on Lots 22 and 23 by the respective property owners. The single-story dwelling constructed on Lot 23 was supported by approximately 27 wood pilings driven into the subgrade; it was subsequently demolished in 1988. In contrast, the 2-story dwelling constructed on Lot 22 was elevated above grade by concrete columns, which, in turn, were supported by a concrete grade beam set on wood piles. The dwelling at lot 22 was relocated to the Sea Isle City Department of Public Works parcel in 2008. Both the interior and exterior of the building were renovated and currently the structure is being used by the Sea Isle City Department of Public Works (DPW) as an office building. Lot 24 has been vacant since the dismantling of the former gas plant.

A RA was conducted by JCP&L at the former MGP site between September 2008 and May 2009. During that RA, approximately 4,935 yds³ of soil was excavated from the former plant parcels. As part of the Phase 2 RA, soil remediation was conducted at two off-site residential properties north of the site designated as 213 39th Street (Block 38.04, Lots 17 and 18) and 217 39th Street (Block 38.04, Lot 16) in December 2010. During that RA, approximately 745 yds³ of soil was excavated from the two residential properties. The RA resulted in a No

Further Action (NFA) letter issued by the NJDEP dated January 12, 2012 for the two aforementioned residential properties.

A narrow strip of land along the southern portion of the former plant parcels was addressed during the 2013-2014 RA. As part of that RA, remediation included portions of the southern edge of 210 39th Street (Block 39.04, Lots 22 and 23) that was not excavated during this phase of remediation. This area was excavated during the remediation of the 205, 207 and 209 40th Street properties and are included in the 205, 207, 209, 211, 219, 223 and 227 40th Street, and Portions of 210 39th Street and 3904 Central Avenue Remedial Action Report. The report was approved by the LSRP on July 16, 2015 and an electronic copy of the report is included in Appendix B. This was also the case for the western edge of the 214 39th Street property (Block 39.04, Lot 33). This area was excavated during the remediation of the 218 39th Street property and is included in the 218 39th Street Remedial Action Report. Figure 3 highlights the extent of each RA phase. The report was approved by the LSRP on August 20, 2015 and an electronic copy of the report is included in Appendix B.

2.2 Site Location and Description

The former MGP site is in Sea Isle City, Cape May County, New Jersey. The former MGP is south and west of the intersection of 39th Street and Central Avenue. The RA work activities discussed in this RAR are for the two remaining portions of the former MGP site not previously remediated and designated as Block 39.04 Lots 22 and 23 and the off-site residential property west of the site and designated as Block 39.04, Lots 33 and 34. The work area of this RA encompasses approximately 0.23 acres.

Sea Isle City has been a seasonal vacation community since its original development in the early 1900s. As of 2008, the City reported a year-round population of 3,000 and summer population of 50,000.

2.3 Surrounding Land Use

Land use in the area of the former MGP site is residential with dwellings to the north, south, east and west. A DPW property is east of the site and contains City potable water supply wells, a water tower, water works facility, and DPW office space.

Most of the area within a 0.5 mile radius of the former MGP site is residential. The former MGP site is approximately 1,500 feet to the west-northwest of the Atlantic Ocean and approximately 1,500 feet southeast of Ludlum Bay. A marina, DPW facility, and small shops and restaurants are within ½ mile of the former MGP site, generally along or near JFK Boulevard.

Natural resources in the area consist of tidal wetlands along Ludlam Thorofare, Ludlam Beach, and the Kirkwood Formation which is used as a water supply aquifer.

2.4 Previous Remedial Actions

Previous RAs were conducted to remediate contamination associated with the former MGP site and are illustrated on Figure 3.

In 1987, a RA was conducted on Block 39.04, Lot 24 to remove an underground storage tank containing sand and a black viscous substance. Impacted soil and groundwater encountered within the excavation were also removed. This remediation also included the placement of a 6-inch layer of clean fill over Lot 24.

Between 1988 and 1989, JCP&L provided health and safety oversight and material disposal during a utility reconstruction project conducted by Sea Isle City. MGP-impacted soil and groundwater, which were identified through field observations, were removed from portions of the utility trenches along 39th Street, Central Avenue, and 40th Street and transported to a treatment/recycling facility.

A RA was completed in 1990 and involved the installation of an asphalt cover and perimeter fence on Block 39.04, Lots 23 and 24. In 1991, a shallow excavation and installation of geotextile fabric and sand, stone, soil, and/or concrete cover were completed on Block 39.04, Lot 22.

In 2003, a RA was conducted on Block 40.04, Lot 22 (210 40th Street) to remove MGP-impacted soil. Approximately 550 tons of soil were removed. The remediation achieved complete removal of MGP-impacted soil from the property. The NJDEP issued a No Further Action (NFA) letter for this property in June 2006.

Between 2007 and 2009, the Phase 1 RA was conducted at the three parcels comprising the former site (Block 39.04, Lots 22, 23, and 24) to remove MGP-impacted soils, with the exception of a small strip of land on Block 39.04, Lots 22 and 23 which abutted the residential properties to the south. A total of 7,814 tons of soil was removed for off-site thermal treatment. The excavation support sheeting was purposely left in place on the southern and western limits of the excavation area for use during future planned RA phases. Low permeability barriers were installed on the northern and eastern limits of the excavation area to reduce the likelihood of migration of MGP impacts back onto the site following remediation. The NJDEP approved the RAR submitted for this remediation phase, in a letter dated March 16, 2010.

In February 2008, JCP&L assisted the City and implemented a RA at the Sea Isle City Department of Public Works lot to the east of the former MGP site. The work was

performed due to construction activities that were occurring at the lot, which uncovered the presence of hydrocarbon-impacted soils and subsequently an underground storage tank. Although a direct nexus with the site did not exist and a MGP origin of hydrocarbon impacts could not be established, JCP&L assisted the City with the remediation of this occurrence. 140.62 tons of soils were shipped off-site by Freehold Cartage, Inc. for disposal at the Environmental Recovery facility in Lancaster, Pennsylvania and CWM Chemical Services, L.L.C. facility in Model City, New York. Approximately 2,100 gallons of ground water were transported by Freehold Cartage, Inc. for treatment and disposal at the E.I. Dupont Denemours & Company Chamber Works facility located in Deepwater, New Jersey. The excavation was backfilled with 129.61 tons of clean fill. Seven post-excavation soil samples were collected by GEI and submitted under chain of custody to a New Jersey-certified laboratory. The soil samples were analyzed for volatile organic compounds (VOC) and PAH compounds. The analytical results of post-excavation soil samples were in compliance with the applicable NJDEP Soil Cleanup Criteria (SCC), the applicable action level at the time of the RA. The NJDEP issued a NFA letter for the RA work conducted by JCP&L on January 30, 2009.

In addition to the remediation of parcels of the former site (Block 39.04, Lots 22 and 23) and the residential property at 214 39th Street (Block 39.04, Lots 33 and 34), the Phase 2 RA performed in 2010 and 2011, the subject of this RAR, included excavation of the soil at the 213 and 217 39th Street residential properties (Block 38.04, Lots 17 and 18, and 15 and 16, respectively) on the north side of 39th Street. At the 213 and 217 39th Street properties, the excavation extended to depths of 12 to 13 feet below ground surface (bgs.) Post-excavation bottom samples in compliance with the RDCSRS were obtained from the base of the excavation. 1,152.8 tons of soil were removed from these two properties and transported to Clean Earth of New Castle for thermal treatment. 1,136.52 tons of clean fill material were imported from Future Mining and Recycling Inc. of Cape May Courthouse, New Jersey to backfill the excavation. The NJDEP issued an NFA letter for the 213 and 217 39th Street properties on January 12, 2012.

The 2011-2012 Phase 3 RA involved excavation at the 218 39th Street property and also included a small strip of the 214 39th Street parcel along the boundary between 214 and 218 39th Street. Soil excavation work was limited to 12 to 13 feet bgs, with post-excavation soil samples collected and analyzed for PAH compounds. 3,264 tons of impacted soil were excavated and transported to Clean Earth of New Castle, for thermal desorption. 3,582 tons of clean fill material were transported to the site from Daley's Pit of South Seaville, New Jersey to backfill the excavation.

From November 26, 2012 through May 21, 2014, the Phase 4 and Phase 5 RAs were implemented over two Fall to Spring construction seasons. The first occurred between November 26, 2012 and July 3, 2013. The second occurred between November 4, 2013 and

May 21, 2014. In total, a rectangular-shaped area measuring approximately 33,225 square feet was excavated to depths of 12 to 15 feet bgs. 17,222 cubic yards of soil were excavated. 30,493.24 tons of clean fill material was transported from Daley's Pit of South Seaville, Cape May County, New Jersey for backfill. A 6-inch layer of topsoil was placed over the sand backfill and hydro-seeded. 336,045 gallons of water were pumped from the project site and excavations during dewatering activities, treated and discharged to the sanitary sewer. Prior to backfilling, 24 post-excavation bottom soil samples were collected. Seventeen of the 24 samples were analyzed for BTEX and all 24 samples were analyzed for PAHs.

PAH results were below the RDCSRS; however, one of the analytical results for benzene remained slightly above the RDCSRS for benzene of 2 mg/kg and two of the samples were above 2 mg/kg, but below 2.5 mg/kg and were rounded down to 2 mg/kg to demonstrate compliance. Additional excavation at this location was not possible because the maximum depth of the excavation of 15 feet had been reached. Therefore, statistical evaluation of the samples was completed using a spatially weighted average approach based on Thiessen Polygons. The evaluation of the post-excavation soil samples confirmed that the soils remaining at the bottom of the excavation were in compliance with the May 7, 2012 RDCSRS. The LSRP granted a variance for the impacts remaining in this area after it was demonstrated that the RA achieved the objectives of an unrestricted use remediation and attained the purpose of this remedial phase.

3. Physical Setting

3.1 Topography and Regional Drainage

Sea Isle City is on a barrier island within the Coastal Plain Physiographic province of southern New Jersey. Topographic elevations range from approximately 5 to 10 feet above mean sea level relative to the North American Vertical Datum of 1988.

The former MGP site is depicted on the United States Geological Survey, Sea Isle City, New Jersey Quadrangle 7.5-minute series provided as Figure 1. The former MGP site is approximately 1,500 feet to the west-northwest of the Atlantic Ocean and approximately 1,500 feet southeast of Ludlam Bay.

3.2 Regional Geology

Sea Isle City is on an estimated 6,000 feet of Mid-Atlantic Coastal Plain sediments overlying Precambrian Age bedrock. Native surface soil on the barrier island is comprised of recent marsh and alluvial deposits. The marsh and alluvial deposits are underlain by the Cape May Formation, comprised of Quarternary Period marine and deltaic sand and clay. The Cohansey Sand, a Miocene Age sand unit with thick clay lenses predominant along the coast, underlies the Cape May Formation.

The Kirkwood Formation, a Miocene Age system comprised of interbedded clay and sand, approximately 250 feet in thickness, underlies the Cape May Formation. Tertiary and Cretaceous Age sediments underlie the Kirkwood Formation to a depth of approximately 6,000 feet.

3.3 Regional Hydrogeology

Shallow groundwater on the barrier island occurs in unconsolidated Coastal Plain sediments in a brackish water table aquifer. Recharge to shallow groundwater occurs from precipitation. Because the surficial marsh deposits are relatively impermeable, the shallow groundwater is not considered an extensive aquifer system.

Water in the deltaic and marine Cape May Formation is saline. The unconfined aquifer, known as the Cohansey Aquifer in the area of Atlantic City, extends downward to the upper confining unit of the underlying Kirkwood Formation. The Cohansey sand unit is underlain by an approximate 375-foot thick layer, containing a 30-foot thick sand interval (“Rio Grande” or “250-foot horizon”) in the middle of the clay layer. Beneath the clay layer is the

Kirkwood Formation “Atlantic City 800-foot sand” aquifer. Water in the Atlantic City 800-foot sand aquifer is used as a water supply.

3.4 Water Use

There are no surface or near-surface fresh water sources at or in the vicinity of the former MGP site. Surrounding surface water bodies are tidal. The potable well (Well #7) at the DPW property across Central Avenue from the former MGP site is screened in the Kirkwood Formation (Atlantic City 800-foot-sand) strata. Only the Atlantic City 800-foot-sand formation is used as a water supply source in Sea Isle City.

Well #7 was installed in 1996. The intake section of Well #7 is between 720 and 902 feet bgs. The static water level was 58.83 feet bgs. The level during pumping is 71.67 feet bgs. The well yield is 800 gallons per minute (gpm), with a pump capacity of 700 gpm. The zone of withdrawal of Well #7 is vertically isolated from the former MGP site by several hundred feet of deposits, including approximately 350 feet of clay confining beds.

3.5 Subject Property Geology

3.5.1 Subject Property Soils

Soils observed in the excavation during implementation of the RA consisted of brown to light brown sand with silt to a depth of four to five feet bgs, grayish sand with silt from five to eight feet, and a sphagnum peat layer below eight feet.

The soils in this area have been classified by the United States Department of Agriculture Soil Conservation Service as Urban land-Psamments, wet substratum, zero to eight percent slopes, rarely flooded. The formation consists of approximately 60 percent urban land and 30 percent Psamments. Urban land consists of surfaces covered by concrete, pavement, buildings, and other structures underlain by disturbed and natural soil material. Depth to the seasonal high water table is 12 to 24 inches bgs.

3.5.2 Subject Property Hydrogeology

During excavation activities, groundwater was encountered at depths of two to four feet bgs. Based on the topography at the subject properties and groundwater elevation measurements previously collected at and in the vicinity of the former MGP site, groundwater is expected to flow to the south-southeast, toward Central Avenue.

4. Receptor Evaluation

Pursuant to N.J.A.C. 7:26E 1.12, an updated Receptor Evaluation was completed. A Baseline Ecological Evaluation (BEE) was conducted in 2004, and a vapor intrusion (VI) investigation was conducted in 2007. NJDEP provided comments regarding the BEE in a letter dated May 24, 2004. In their letter, the NJDEP agreed that while contaminants of ecological concern were present on the former MGP site, the soil and groundwater contamination was limited to residential lots and city streets, and there were no environmentally sensitive natural resources at or within the surrounding areas of the former MGP site. The results of the VI investigation confirmed that the former MGP site had not contributed to VI issues at the nearby residences.

GEI has conducted a well search for the area. The well search determined that the Sea Isle City public water supply well discussed above is the only potable water well within a 2,000 foot radius of the former MGP site. Eight public community supply wells, one irrigation well, and two domestic wells were identified within a one-mile radius of the MGP site during the well search. One public water supply well is adjacent to the east of the project area, while the remaining public water supply wells appear to be over ½ mile to the south-southwest. The public water supply wells are screened well below the shallow groundwater impacts associated with the former MGP site, and are separated from the impacts by low permeability clay layers. The irrigation well is at 8005 Central Avenue, which is over one mile from the project area. The two domestic wells are listed as being located in Dennis Township. They therefore appeared to be miss-plotted, as the coordinates for both wells are within a wetlands area to the northwest of the project area and residential properties in Dennis Township are more than one mile away from the project area. The updated Receptor Evaluation Form, well search data, and a figure showing receptors within a 200-foot radius are included as Appendix C of this RAR.

5. Soil Remediation Activities

The following section describes the RA implemented at the former MGP site and adjacent residential parcels from October 4, 2010 through the completion of restoration activities on May 24, 2011. A photolog of the RA is in Appendix D.

5.1 Permits

The following permits were obtained for the RA.

Local Construction Permits

The City received certification that utility services to the 214 39th Street structure had been disconnected and removed prior to the initiation of demolition and excavation activities. Sea Isle City issued permits to replace the sidewalks and curbing that were removed during the remediation, and a permit to replace a concrete patio at the 211 40th Street residential property, which was damaged during the remediation, was obtained by SES. Copies of the permits are included in Appendix E of this RAR.

Dewatering – Discharge to Sanitary Sewer or NJPDES and Treatment Works Approval

Groundwater that entered the excavation by seepage or storm water runoff was removed using sump pumps, whose locations were changed based on the area being excavated. The groundwater was conveyed to a 20,000 gallon holding tank, treated, and discharged to the sanitary sewer system. Approvals from City, County, and State agencies were necessary to discharge the pumped groundwater to the sanitary sewer.

Discharge to the sanitary sewer is subject to approval by Sea Isle City (conveyance system), the CMCMUA (treatment system), and the NJDEP (permit for discharge to CMCMUA, as the CMCMUA is not a “delegated authority”). The NJDEP Bureau of Pretreatment and Residuals indicated that a discharge under 25,000 gallons per day would not require an NJDEP permit. JCP&L sought and obtained approval from both the CMCMUA and Sea Isle City for discharge of treated water to the sanitary sewer. Sampling of the water was performed on a regular basis by SES to verify compliance with CMCMUA discharge standards. Results of the effluent sampling and discharge totals were provided on a monthly basis to the CMCMUA.

The groundwater pumped during the depressurization of the deep aquifer was treated and discharged to surface water via above ground temporary piping which was conveyed into city storm drains under the requirements of the BGR Permit. In accordance with the

requirements of the BGR Permit, a pump test was conducted prior to the 2008-2009 RA to validate the quantity and quality of the groundwater required to depressurize the deep aquifer. The pump test results indicated that the quantity that needed to be continually pumped was approximately 2,000 gpm, substantially in excess of the 500 gpm that was originally anticipated. As a result of this increased quantity, the design of the storage and treatment system, as well as the system to convey the water to the points of discharge at Ludlam Thoroughfare, was completely redesigned from the original plan which was submitted prior to the 2008-2009 RA. The BGR and NJPDES permit was approved by the NJDEP on May 28, 2010. The redesigned treatment works system was approved by NJDEP in a letter dated June 7, 2010. These are included in Appendix E.

Coastal Area Facilities Review Act Permit

GEI applied for a Coastal Area Facilities Review Act (CAFRA) General Permit #15 for the remediation activities. The permit application was submitted to the NJDEP Division of Land Use on June 30, 2009. The NJDEP approved the CAFRA General Permit #15 and issued a permit for the proposed activity on August 31, 2010. Per NJDEP requirements, the CAFRA permit was recorded at the Cape May County Clerk's Office. A copy of the permit is included in Appendix E of this RAR. At the completion of the RA and intrusive restoration work, GEI submitted a Project Completion form to the NJDEP, Coastal and Land Use Compliance and Enforcement.

Soil Erosion and Sediment Control Plan

A soil erosion and sediment control plan was prepared by Code Environmental Services during the prior RA for approval by the Cape-Atlantic Soil Conservation District and amended by SES on October 5, 2010 to include the new work area. The Cape-Atlantic Soil Conservation District approved the original application on September 5, 2008. A copy of the original permit is included in Appendix E of this RAR.

Well Permits

Well permits were required for the additional dewatering well (DW-4), six piezometers and three inclinometers installed by SES. A copy of the monitoring well permits, monitoring well installation (Form A) and monitoring well location surveys (Form B) documentation is included in Appendix F of this RAR.

Well Abandonment

At the conclusion of the RA, piezometers P4A, P4B, P5A, P5B, P8S, and P8D were properly abandoned in place by a licensed well driller. Inclinometers I4, I5 and I8 were also abandoned. Copies of the well abandonment forms are included in Appendix F of this RAR.

5.2 Waste Characterization

In situ pre-characterization of excavated soil was performed because no on-site staging areas were available for stockpiling and sampling the soil. The purpose of characterizing soil in situ was to obtain facility approval in advance of RA implementation and allow direct loading of soil during excavation for transport to the facility. To ensure the uninterrupted transportation of soil from the remediation area, the waste classification sampling was performed to satisfy the acceptance criteria of the off-site treatment facility, Clean Earth of New Castle, Delaware. Samples were collected from soil borings and analyzed for:

Toxicity Characteristic Leachate Procedure (TCLP) Volatile Compounds
Volatile Organic Compounds (BTEX)
TCLP Semi-Volatile Organic Compounds
Pesticides/Polychlorinated Biphenyls (PCBs)
TCLP Herbicides
TCLP Pesticides/PCBs
TCLP Metals
Total Petroleum Hydrocarbons

5.3 Site Preparation

Prior to remediation activities being conducted, the utilities servicing the 214 39th Street residence were disconnected. These included water, electric, cable and telephone. After disconnecting the utilities, an asbestos abatement was completed, and the structure and foundation were demolished and removed from the property. SES conducted the building demolition. Disposal tickets for the demolition debris are included in Volume 3, Tab 1 of this RAR.

After demolition of the residential structure from the planned remediation area, a perimeter sheet pile wall was installed and used as an excavation support system and as a barrier to reduce the likelihood of migration of groundwater into the excavation. The sheets were advanced by SES using an ABI Mobilram. The perimeter sheet piles were driven to a depth of 45 feet bgs. The interior sheets, used to create individual excavation cells, were installed to a depth of 25 feet bgs. Walers and bracing were installed as additional internal support to prevent deflection of the perimeter sheet piles. The sheeting design was prepared and approved by a New Jersey-licensed professional engineer.

Adeka[®] was applied to the joints of each sheet pile to help control water leaks. The Adeka[®] expands upon contact with moisture, thereby providing a seal which restricts water flow through the joints. Upon completion of the RA, the walers, interior bracing, interior sheeting

and most of the perimeter sheeting was removed. However, steel sheeting adjacent to planned future excavation areas was left in place as discussed in Section 7.0.

5.4 Support System Monitoring

Three inclinometers installed during previous RAs were used to monitor for potential lateral deflection of the sheeting. One of the existing inclinometers (I5) was to the north and two to the south (I2 and I3). In addition to the three existing inclinometers, three additional inclinometers were installed around the perimeter of Lots 33 and 34, one each to the north (I9), south (I7), and west (I8). The locations of the inclinometers are illustrated on Figure 4 and were installed on the opposite side of the sheeting from the excavation, to a depth of approximately 65 feet bgs. Shallow (20 feet total depth) and deep (60 feet total depth) piezometers were installed in conjunction with and adjacent to the inclinometers to monitor the static water level for the shallow and deep aquifers during the excavation and ground water depressurization activities. During soil excavation activities, GEI measured the inclinometers closest to the work area daily to check for deflection in the excavation support system; the six inclinometers were checked a minimum of once per week. If and when deflection of the sheeting was recorded at tolerances that approached or exceeded the design tolerances, the walers and corner struts were adjusted by SES to arrest this movement. InstanTel Blastmats were used at some of the surrounding properties and were monitored daily for vibrations caused by construction activities.

Additionally, Vargo Associates, a New Jersey-licensed surveyor, conducted biweekly survey of points in the vicinity of the construction area for movement. The monitoring points included the pavement in front of the excavation along 39th Street, the DPW water tower and office building, and a residential property at 218 39th Street, the closest structure to the excavation. The results of the measurements collected at the structures indicated that no significant movement occurred. Vibration monitoring also occurred adjacent to nearby structures when sheeting and earthwork was conducted. The vibration monitoring recorded some short duration exceedances of the 0.5 inches per second action limit during the sheeting installation and removal.

5.5 Dewatering System

Dewatering of the shallow aquifer was conducted to facilitate the excavation of impacted soils below the shallow water table. Several temporary sumps were installed throughout the site during excavation activities to control groundwater within the excavation. Water from the sumps was pumped to a settling tank prior to treatment. Bag filters and granular activated carbon (GAC) filters were used to pre-treat the water prior to its discharge to the Cape May County Municipal Utilities Authority (CMCMUA) treatment system. The treated water was sampled and analyzed on a regular basis to confirm that the water quality

complied with CMCMUA discharge standards. 123,900 gallons of water was pumped from the excavation, treated on-site, and discharged into the CMCMUA sanitary sewer system.

5.6 Depressurization System

The former MGP site and surrounding off-site properties sit on a confined portion of the Cohansey Aquifer. The Cohansey Aquifer is a very prolific aquifer that consists primarily of saline marine water. It is characterized in a similar way to water found in the backbay that contains a high percentage of elemental sulfur and hydrogen sulfide. The Cohansey Aquifer begins at a depth of between 30 to 40 feet below grade and is cutoff from the unconfined aquifer found just below the ground surface by a series of silt and clay layers and a meadow matt consisting primarily of peat that is continuous below the former MGP site and surrounding properties. Because of the hydraulic uplift pressure from the Cohansey Aquifer and the depth of the MGP impacts, which are estimated to be as deep as 20 feet in some areas, depressurization of the Cohansey Aquifer was required to safely excavate soil at depths greater than 15 feet at the site and surrounding properties.

During the previous remedial investigation, four deep wells (TW, DW-1, DW-2, and DW-3) were installed in the southwest area of the former MGP site in the vicinity where the proposed deep excavation was planned. Due to the volume of water needed to depressurize the Cohansey Aquifer and the high concentrations of hydrogen sulfide gas that were released during the previous phase of remediation, the deep excavation beneath the former MGP site could not be completed as part of the prior RA. The previously installed four deep wells, and an additional deep well, DW-4, installed during this phase of the RA, were used for the depressurization of the deep excavation.

The depressurization system was designed to continuously pump water from the five depressurization wells when the excavation depth exceeded 12 feet. This was done to reduce the risk of rupturing the bottom of the excavation and causing catastrophic damage to the surrounding properties. Depressurization water from five dewatering wells was manifolded into two 21,000 gallon frac tanks and two 21,000 gallon settling tanks at the front end of the system, followed by three multibag sediment filters. Each treatment system was designed to run independently with a peak flow of 2,000 gpm. Once in the tanks, the depressurization water was aerated to treat the high concentrations of naturally occurring hydrogen sulfide that are present in the water pumped from the Cohansey Aquifer. To accomplish aeration, depressurization water was drawn from three different places by 27 horsepower (hp) Flygt Model 2670 submersible pumps. Each pump was matched with a Venturi VA-1100 nozzle. Water was pumped through the nozzle and then discharged under the water at the opposite end of the tank. As the water passed through the nozzle, existing hydrogen sulfide molecules were introduced to oxygen molecules, converting them to sulfates which remained water soluble until they were reduced by sulfate reducing bacteria. As the water passed through the

aerator nozzle, it was also saturated with oxygen, limiting future reduction of sulfates in the water.

The water was recirculated through the nozzles as it passed through the tank. The three pumps and three aerators had a combined flow capacity of 3,000 gpm. Water was discharged with sufficient pressure to mix the water in the tank. The oxygen rich water rose to the top of the tank to assure that the pumps would draw the untreated water first. Water was gravity fed from these treatment tanks to a second set of tanks. The treated water had additional reaction time in the second tanks before it was pumped out. The frac tanks were fitted with specialized overflow connections and piping to allow the water to flow in at the same rate as it flowed out. Water from the second tanks was drawn out and pumped through the bag filter system to the point of discharge. Discharge pressure was provided by the combination of one 27 hp Flygt Model 2670 submersible pump and one 15 hp Flygt model 2660 submersible pump. The bag filter system consisted of three BF1000 bag filter housings set up in parallel with a single inlet and outlet manifold. The manifold was designed to allow the isolation of housing for service should issues occur.

After treatment, the water was pumped through a valve bank to a pair of 10-inch high-density polyethylene (HDPE) pipes that ran on the ground from the site, west down the center of 39th Street to where 39th Street ended at Kneass Avenue. The HDPE pipes were barricaded to block traffic from damaging them and were buried in front of the site and at two intersections to allow for cross traffic. While each pipe was designed to handle a flow of 2,000 gpm from the depressurization system, a minimum flow of 200 gpm was required from each pipe to prevent the line from freezing. Once the flow made it to the end of 39th Street, another valve bank was installed to allow the flow to discharge to either the 38th or 39th Street outfall that was permitted for the discharge under a New Jersey Pollution Discharge Elimination System BGR permit. Both outlets were required to operate at full capacity, because GEI determined that a single outlet would not have sufficient capacity to handle the maximum design flow.

The depressurization system was designed as a semi-closed system with a continuous vacuum being generated by air that was drawn from each set of tanks by a blower and then through four 1,000 pound vapor carbon units (two units per tank). The odor control system was an induced draft system designed to avoid odor leakage. The motive force was provided by a Cincinnati Blower model PB-18 Centrifugal fan with five hp TEFC motor.

After the system was installed, the depressurization system was tested to calibrate the system and test its capacity. For the pumping test, four of the five depressurization wells were pumped to near their full yield and were able to withdraw 1,700 gpm from the Cohansew Aquifer through the treatment system and ultimately discharge to Ludlam Thorofare. Results from the pumping test found that even at near full capacity, the groundwater was only able to be depressed to an elevation of -7 which is still six feet above the maximum design elevation

of -15. Thus, even at a pumping rate of 1,700 gpm, the possibility of bottom failure of the excavation remained. The results of the pumping test indicated that a pumping rate as high as 3,000 gpm would be required to depressurize the Cohansey Aquifer below the bottom of the excavation and that even with the system running near its full capacity of 2,000 gpm, there would still be some risk in excavating more than 20 feet below grade to an elevation of -12.

As the excavation proceeded below 12 feet, the depressurization system continued to run near full capacity. However, when the system was run near full capacity for a prolonged period (about 7 days), sea foam was generated which began to be pulled into the carbon units, thereby saturating them and rendering them ineffective at controlling odors. NJDEP was notified of the problem and a request was made to add an antifoaming agent to the treatment system. Following NJDEP approval, an antifoaming agent was added to the system in an effort to allow the system to be run at full capacity. This had limited success, as the non-MGP hydrogen sulfide odors released from the groundwater pumped from the deep aquifer continued to be a nuisance to the surrounding community. In addition, as the system continued to operate, the color of the discharged water slowly turned from a dark brown to a bright yellow. The NJDEP enforcement branch was notified of the change in discharge and the continued nuisance odor problems and efforts to try to control them; but at that time it was impossible to completely shut down the system without risking catastrophic failure of the excavation as the excavation depth was below 15 feet, which was the greatest depth deemed to be safe without depressurization of the Cohansey Aquifer.

In response to complaints from the local community and further careful consideration, JCP&L instructed SES to backfill the excavation and shut down the depressurization system. Representatives from the Southern Enforcement Office of the NJDEP were on site on January 26, 2011 after the decision was made to shut down the depressurization system and agreed that because of the nuisance odors emanating from the discharge, and color of the discharge being released into Ludlam Thorofare, that the system should be shut down. The NJDEP Case Manager was informed of the decision and the circumstances under which the decision was made. Discharge Monitoring Reports were submitted monthly to the NJDEP Division of Water Quality Office of Permit Management.

2,441,500 gallons of water from depressurization activities was discharged to surface water via city storm drains from January 17, 2011 to January 28, 2011 under the requirements of the BGR Permit. Results of the analytical testing of the discharged water confirmed that effluent requirements for the discharged water were maintained below the BGR Permit effluent concentration limits during the discharge event.

5.7 Remedial Excavation

SES conducted excavation and backfilling activities between January 7, 2011 and April 21, 2011. A deep excavation was planned for portions of the site, however, due to the shutdown of the depressurization system, which was described in more detail in Section 5.6, target depths for the deep excavation area was not achieved. Earthwork activities were conducted inside a temporary enclosure. The enclosure measured 98 feet long by 70 feet wide by 34 feet high. It was supported by seven steel arch supports spaced approximately 16 feet apart within the structure. The enclosure was used to protect the surrounding community from the off-site migration of fugitive emissions (e.g., dust, odors, organic vapors) encountered during the excavation activities, and also to permit the implementation of construction activities during periods of inclement weather and low visibility. The enclosure was attached to an air exchange/purification system, which maintained a negative pressure on the enclosure and provided the equivalent of approximately five air volume changes per hour. The air withdrawn from the enclosure was conveyed through an activated carbon bed treatment vessel prior to its discharge to the ambient air. The carbon bed treatment vessel contained 20,000 pounds of activated carbon. Monitoring of air quality within the excavation area was conducted in accordance with the project protocols and action levels established in the site-specific Health and Safety Plan prepared and implemented by SES's Health and Safety Officer.

Perimeter air monitoring was also conducted by Emilcott in the immediate vicinity of the excavation as protection to the surrounding community.

A perimeter air monitoring system (PAMS) was set up along the work area perimeter and operated and maintained by Emilcott. The PAMS consisted of four individual monitoring stations (one in north, south, east and west of the excavation), which continuously monitored ambient air for particulate matter (PM10) and total VOCs. Operation of the PAMS was initiated 30 minutes prior to the start of daily construction activity and continued for at least 30 minutes after work activities ceased for the day. No exceedances of the action levels attributable to the excavation of the soil or backfilling of the excavation were detected at the work area boundary during the construction period. A copy of the air monitoring report is included on CD-ROM as Appendix G.

The excavation area was separated into twelve excavation cells designated as F1, F2, G1, G2, G3, H1, H2, I1, I2, I3, I4 and I5, as illustrated on Figure 4. The excavation was initiated at the southeast corner of the remediation area to address that portion that was not completed during the 2008-2009 RA, at cells I3 and I4, and proceeded to cells I5 and I6. Excavation cells, I3 and I4, in the southern portion of the deep excavation were excavated and backfilled concurrently. The same procedure was followed for cells I5 and I6, which were along the northern portion of the deep excavation.

Due to the shutdown of the depressurization system, the excavation was stopped at a depth of approximately 17 feet bgs (elevation -9) in cells I3 and I4, and 12 feet bgs (elevation -4) in cell I5, instead of 20 feet bgs (elevation -12) as was initially designed. No further excavation activities were conducted in this area. The shutdown of the depressurization system also prevented deep excavation in grids H1, H2, I1 and I2 below 12 feet bgs (elevation -4) as was originally planned. The total excavation area of the twelve cells measured approximately 9,461 square feet from which soil was removed to a depth of 12 to 17 feet bgs (elevation -4 to -9) as shown on Figure 4. Approximately of 4,588 yds³ of soil was excavated.

During excavation, groundwater was encountered at a depth of approximately two to four feet bgs. Groundwater was removed from the excavation using the dewatering system described in Section 5.3. Approximately 123,900 gallons of groundwater were removed from the excavation, treated, and discharged to the sanitary sewer.

In order to provide separation barrier between the northern boundary of the excavated area and the 39th Street right-of-way, sections of plywood covered with 20 mil thick HDPE sheeting were placed to a depth of 12 feet bgs.

Due to the placement of the southern sheeting line, a small strip of impacted soil along the southern boundary of Lots 22 and 23 of the former MGP site was left in place. This area was addressed during the 2013-2014 RA and was included within the November 2014 Remedial Action Report for the properties along 40th Street. A copy of this report is included in Appendix B of this RAR.

5.8 Subsurface Features

Concrete from the base of the former gas holder was encountered in excavation cells I4 and I5, concrete was also present in excavation cell G3. The concrete in these areas was broken into smaller pieces, removed with the soil, and transported for thermal treatment. The top of the concrete from the former holder was approximately three feet bgs and extended down to approximately six feet bgs.

Wood pilings were present throughout the excavation. They were most numerous within the footprint of the former gas holder. The lengths of the pilings varied from 10 feet to approximately 20 feet. The smaller pilings were removed from the excavation. The longer pilings were cut at the base of the excavation.

5.9 Post-Excavation Soil Sampling

Upon completion of soil removal activities within each individual cell, a post-excavation soil sample was collected from the base of the excavation. The sample nomenclature provides the sample location according to the grid system employed. Based on the size of the

excavation twelve post-excavation bottom soil samples were required, but one additional sample (designated I6) was collected due to the reconfiguration of the sampling grid for the deep excavation. Concentrations of MGP related compounds were reported above the SRS in sample G-2. Cell G2 was excavated an additional six inches and an additional sample G-2A, was collected. An additional sample was also collected at the location of the temporary stockpile area within the enclosure. While the temporary stockpile was maintained on polyethylene sheeting and covered, some of the excess water from the soils leaked onto the underlying soils and the area needed to be remediated and resampled. This sample was collected from the zero to six-inch interval below the former stockpile and was designated as SPA-1.

The sample collection locations were biased to the area in each excavation cell where the previously existing soils exhibited the greatest visual (staining and/or dye test kits), olfactory, or instrumental (elevated photo-ionization detector [PID readings]) evidence of contamination, in accordance with the requirements of section 6.3.4 of the *Technical Guidance for Site Investigation of Soil, Remedial Investigation of Soil, and Remedial Action Verification for Soil*, dated August 1, 2012 (Technical Guidance). If the bottom of the excavated grid cell was generally uniform in appearance, the bottom sample was collected from the center of the grid cell.

In accordance with the Technical Guidance, bottom samples were collected within 24 hours of excavation from the zero to six-inch interval at the excavation floor.

Soil samples were collected using decontaminated hand sampling tools and placed into laboratory-supplied glassware for PAH analysis. Samples I3, I4, I5, I5-DUP, and I6 were also collected using laboratory supplied glassware and analyzed for BTEX compounds. The samples were transported under chain of custody to Integrated Analytical Laboratories (IAL) of Randolph, New Jersey, a New Jersey-certified laboratory (Cert. # 14751).

5.10 Post-Excavation Soil Sample Results

The final analytical results from the post-excavation soil samples were in compliance with the applicable NJDEP RDCSCC. The RAWP prepared for the remediation of this area which was submitted to the NJDEP in February 2007 and approved by the NJDEP in August 2007, required the post excavation samples to meet the RDCSCC which were in effect until June 2, 2008. Post excavation soil samples showed analytical results below the RDCSCC and below an order of magnitude greater than the current RDCSRS. The New Jersey Administrative Code 7:26E-1.3(c)1 states that the person responsible for conducting the remediation must remediate a site to the RDCSCC that were in effect prior to June 2, 2008 when:

1. The remediating party has submitted a remedial action work plan or a remedial action report before December 2, 2008 that establish the SCCs as the standards for the site;
2. The remedial action work plan or a remedial action report is in compliance with the Technical Rules, N.J.A.C. 7:26E-6; and
3. The SCC for the site are not greater by an order of magnitude or more, than the soil remediation standards adopted by N.J.A.C. 7:26D.

JCP&L has met these requirements.

Analytical results for the sample designated G2 (12-12.5), exceeded the NJDEP RDCSCC. The area was excavated an additional six inches and resampled. The final analytical results from the G2A (12.5-13) sample were in compliance with the applicable NJDEP RDCSCC.

Table 1 provides a summary of the post-excavation soil sample analytical results. A copy of the laboratory analytical report and the Data Usability Summary Form are in Volume 2, Tabs 1 and 2, respectively. Figure 5 shows the post-excavation sample locations and results. NJDEP issued EDD submittal pass notifications. Copies of the submittal and pass notifications are included in Volume 2, Tab 2 of this report.

5.11 Quality Assurance and Quality Control

Quality Assurance and Quality Control (QA/QC) procedures were implemented to document the analytical methods, precision, accuracy, completeness, comparability, and representativeness of the data generated as part of the RA.

Analytical methods and QA sample frequencies used for sampling consisted of the following:

Soil Sample Analysis:

- PAHs: EPA Method 8270C
- BTEX: EPA Method 8260B

Soil QA Samples:

- One replicate PAH/BTEX sample per 20 samples
- One equipment blank PAH sample per 20 samples
- One matrix spike/matrix spike duplicate analysis per 20 samples

Analytical data was reviewed and validated by GEI. The Data Usability Summary Form is included as Appendix H.

5.12 Material Transportation and Disposal

Soils excavated during the RA were disposed of by thermal desorption and recycling. The treatment/disposal facility was Clean Earth of New Castle, at 94 Pyles Lane, in New Castle, Delaware. The facility operates under Delaware Resource Recovery Facility Permit No. SW-95/07. The permit was valid from July 1, 2005, until March 31, 2011. 8,581.78 tons of soil was transported for thermal treatment. Copies of the operating permit for Clean Earth New Castle, signed waste manifests acknowledging receipt of the transported soils at the disposal facility and certificates of disposal/recycling are in Volume 2, Tabs 1, 2 and 3.

5.13 Excavation Backfilling

The excavation was backfilled using clean fill material provided by Future Mining and Recycling Inc. in Cape May Courthouse, New Jersey. The excavation was backfilled with 2,993.59 tons of New Jersey Department of Transportation (NJDOT) approved I5 material and 4,662.5 tons of NJDOT approved I8 material, for a total of 7,656.09 tons of clean fill to backfill the excavation in compacted lifts. In accordance with the requirements of the Alternative Fill Guidance for SRP Sites, dated December 29, 2011, the fill material used to restore the site was similar in physical properties to the material removed; however, the fill was more permeable than the soil removed. The backfill was more granular than the *in situ* soils, which consisted primarily of silty organic material. Because of the need to compact the backfill in the excavation to maintain stability for redevelopment, NJDOT I5 and I8 material were used as backfill. Grain size analyses were performed on the imported fill to insure the material met the NJDOT requirement for I8 and I5. Although the Alternative Fill Guidance for SRP Sites was not completed prior to selecting fill for this project, GEI has obtained analytical samples, facility permits and fill certification letters and load tickets which are provided in Volume 2, Tab 4 of this RAR. The Post Construction Site Plan is presented as Figure 6.

5.14 Site Restoration

Upon completion of the RA, the residential property, 214 39th Street, and the former MGP site were restored to the requirements of the RAWP. These requirements included: utility replacement, surface grading, and sidewalk and street repair. Additionally, a geotextile was used to cover the site, and approximately two inches of decorative stone was placed over the geotextile. The residential property and former MGP site were restored with a slight slope to allow for drainage toward 39th Street.

6. Project Costs

The components of the RA implemented by JCP&L at the 214 39th Street property and the former MGP site included: site preparation, sheeting installation and removal, soil excavation, transportation and thermal treatment; groundwater dewatering, treatment and disposal; backfill placement; property restoration; perimeter air monitoring; remediation contractor oversight; analytical testing; and report preparation. The cost of the RA implemented by JCP&L is approximately \$3,872,545.

7. Work Plan Variances

Changes from the Work Plan included reconfiguring the sampling grids in the deep excavation, and the collection of one additional post-excavation bottom sample. SES initiated the deep excavation in I3 and I4. However, during the excavation, it was determined that the depressurization treatment system was not removing enough hydrogen sulfide from the discharge water to adequately reduce the nuisance odors, and JCP&L decided to terminate the operation of the depressurization system, a decision that was fully supported by the NJDEP and Sea Isle City government representatives, and local area residents. After the shutdown of the system, the risk of a hydraulic up-surge of deep aquifer water was considered too great to warrant the safe excavation of soil beyond a depth of 12 feet bgs. The open excavation, which had been dug to approximately 17 feet bgs was sampled and backfilled, and SES excavated cells I4 and I5 as deep as was considered safe, approximately 12 feet bgs, and a bottom sample was collected at that depth to document remaining MGP impacts.

8. Conclusions

A RA was conducted at two lots comprising the former MGP site (Block 39.04, Lots 22 and 23) and a residential property at 214 39th Street (Block 39.04 Lots 33 and 34) to remove MGP-impacted soils. An area measuring approximately 9,460 square feet was excavated to a depth of eight to 17 feet bgs.

4,588 yds³ (9,047.24 tons) of soil was excavated from the remediated areas. Thirteen post-excavation soil samples were collected using laboratory supplied bottles and submitted under chain of custody to IAL for analysis. The soil samples were analyzed for VOCs and PAHs. The analytical results were compared to the NJDEP RDCSCC. Excavated soils and groundwater from dewatering operations were disposed of in accordance with applicable regulations, and the excavation was backfilled with clean fill.

The analysis of post-excavation soil samples confirmed that soils remaining at the bottom of the excavation are in compliance with the approved February 2007 RAWP. Horizontal delineation of the impacts had been performed in the spring of 2009, prior to RA implementation, as the excavation support sheeting would make it impossible to collect sidewall samples during the soil excavation work. The perimeter excavation limits were established to ensure compliance with the approved RAWP. GEI submitted a variance request to allow the analytical results for the perimeter delineation soil samples to be collected during the supplemental remedial investigation, in lieu of post-excavation sidewall samples, as part of the April 29, 2010 RAWPA. The report and variance request were approved by the NJDEP in a letter dated July 6, 2010.

The RAWP, which was submitted to and approved by the NJDEP, required the post excavation samples to meet the RDCSCC which were in effect until June 2, 2008. Post excavation soil samples showed analytical results below the RDCSCC and below an order of magnitude greater than the current RDCSRS. New Jersey Administrative Code 7:26E-1.3(c)1 states that the person responsible for conducting the remediation must remediate a site to the RDCSCC that were in effect prior to June 2, 2008 when:

- i. The remediating party has submitted a remedial action work plan or a remedial action report before December 2, 2008 that establish the SCCs as the standards for the site;
- ii. The remedial action work plan or a remedial action report is in compliance with the Technical Rules, N.J.A.C. 7:26E-6; and

- iii. The SCC for the site are not greater by an order of magnitude or more, than the soil remediation standards adopted by N.J.A.C. 7:26D.

GEI, on behalf of JCP&L has demonstrated that these requirements have been met and JCP&L is requesting a Site Wide AOC Specific RAO, issued by the project LSRP, Mr. Robert P. Blauvelt, License No. 575013, for MGP related soil contamination at the former MGP parcels (Block 39.04, Lots 22, 23) and the 214 39th Street residential property (Block 39.04, Lots 33 and 34) based on the analytical results, which are in compliance with the NJDEP's RDCSCC.

9. References

New Jersey Administrative Code 7:26E. (2012) “Technical Requirements for Site Remediation”, Last amended May 7, 2012.

GEI Consultants, Inc. (2007). “Remedial Action Work Plan – Former Plant Parcels, Sea Isle City Former MGP Site” prepared for Jersey Central Power & Light. February 2007.

GEI Consultants, Inc. (2010). “Remedial Action Work Plan Addendum Post Excavation Sidewall Samples for 218 39th Street, Sea Isle City Former MGP Site” prepared for Jersey Central Power & Light. April 2010.

GEI Consultants, Inc. (2009). “Remedial Action Report – Former Plant Parcels, Central Avenue between 39th Street and 40th Street, Sea Isle City Former MGP Site” prepared for Jersey Central Power & Light. August 2009.

GEI Consultants, Inc. (2014). “Remedial Action Report – 205, 207, 209, 211, 219, 223 and 227 40th Street, Block 39.04, Lots 10.01, 10.02, 11.01, 11.02, 12.01, 12.02, 13, 14, 15, 16, 22, 23 and 120, Sea Isle City Former MGP Site” prepared for Jersey Central Power & Light. July 2014.

Tables

Table 1
 Confirmatory Soil Analytical Results
 Sea Isle City Former MGP
 Sea Isle City, New Jersey

validated

				Location Name	F1	F2	G1	G2	G-2A	G3	H1
				Sample Depth	12-12.5	12-12.5	12-12.5	12-12.5	12.5-13	12-12.5	12-12.5
				Sample Date	3/18/2011	3/17/2011	3/17/2011	3/17/2011	3/21/2011	3/14/2011	3/1/2011
Analyte	cas_rn	RDCSRS	RDCSCC								
BTEX (mg/kg)											
Benzene	71-43-2	2	3	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	6300	1000	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	7800	1000	NA	NA	NA	NA	NA	NA	NA	NA
Total Xylene	1330-20-7	12000	410	NA	NA	NA	NA	NA	NA	NA	NA
PAHs (mg/kg)											
Acenaphthene	83-32-9	3400	3400	0.102 U	0.118	0.104 U	1.6	0.109 U	0.102 U	0.621	
Acenaphthylene	208-96-8	NE	NE	0.102 U	0.114 U	0.104 U	2.45	0.109 U	0.102 U	0.128	
Anthracene	120-12-7	17000	10000	0.102 U	0.089 J	0.197	2.98	0.109 U	0.102 U	0.794	
Benzo[g,h,i]perylene	191-24-2	380000	NE	0.102 U	0.114 U	0.104 U	0.69	0.109 U	0.102 U	0.168	
Fluoranthene	206-44-0	2300	2300	0.102 U	0.111 J	0.212	3.41	0.109 U	0.039 J	1.05	
Fluorene	86-73-7	2300	2300	0.102 U	0.089 J	0.199	3.53	0.109 U	0.102 U	0.772	
Naphthalene	91-20-3	6	230	0.102 U	0.19	0.465	11.5	0.109 U	0.434	0.141	
Phenanthrene	85-01-8	NE	NE	0.102 U	0.278	0.641	9.59	0.109 U	0.098 J	2.96	
Pyrene	129-00-0	1700	1700	0.102 U	0.168	0.329	4.98	0.109 U	0.057 J	1.93	
Benz[a]anthracene	56-55-3	0.6	0.9	0.102 U	0.071 J	0.107	1.73	0.109 U	0.102 U	0.512	
Benzo[a]pyrene	50-32-8	0.2	0.66	0.102 U	0.114 U	0.104 U	1.51	0.109 U	0.102 U	0.334	
Benzo[b]fluoranthene	205-99-2	0.6	0.9	0.102 U	0.114 U	0.104 U	0.752	0.109 U	0.102 U	0.131	
Benzo[k]fluoranthene	207-08-9	6	0.9	0.102 U	0.114 U	0.104 U	0.851	0.109 U	0.102 U	0.228	
Chrysene	218-01-9	62	9	0.102 U	0.059 J	0.118	1.9	0.109 U	0.102 U	0.546	
Dibenz[a,h]anthracene	53-70-3	0.2	0.66	0.102 U	0.114 U	0.104 U	0.163 J	0.109 U	0.102 U	0.044 J	
Indeno[1,2,3-cd]pyrene	193-39-5	0.6	0.9	0.102 U	0.114 U	0.104 U	0.532	0.109 U	0.102 U	0.125	

Notes:

- mg/kg milligrams/kilogram
- BTEX benzene, toluene, ethylbenzene, and xylenes
- PAHs polycyclic aromatic hydrocarbons
- NE not established
- NA not analyzed
- Bolding** indicates a detected result value
- Bolding** indicates that the detected result value exceeds established RDCSRS
- RDCSCC Residential Direct Contact Soil Cleanup Criteria
- RDCSRS Residential Direct Contact Soil Remediation Standard
- U analyzed for, but not detected above the reported sample quantitation limit
- J positively identified; the associated numerical value is an approximate concentration

Table1 - Confirmatory Soil Analytical
Results Sea Isle City Former MGP
Sea Isle City, New Jersey

validated

Location Name				H2	I1	I2	I3	I4	I5	I5 (Dup-1)
Sample Depth				12-12.5	12-12.5	12-12.5	16-16.5	16-16.5	12-12.5	12-12.5
Sample Date				3/1/2011	2/25/2011	2/25/2011	1/24/2011	1/26/2011	2/3/2011	2/3/2011
Analyte	cas_rn	RDCSRS	RDCSCC							
BTEX (mg/kg)										
Benzene	71-43-2	2	3	NA	NA	NA	0.00638	0.353	0.469	0.432
Toluene	108-88-3	6300	1000	NA	NA	NA	0.0015 U	0.109 U	0.138 U	0.126 U
Ethylbenzene	100-41-4	7800	1000	NA	NA	NA	0.00689	1.05	0.418	0.398
Total Xylene	1330-20-7	12000	410	NA	NA	NA	0.0084	1.41	0.486	0.465
PAHs (mg/kg)										
Acenaphthene	83-32-9	3400	3400	1.65	0.089 U	0.13	0.163	0.194	0.094 U	0.094 U
Acenaphthylene	208-96-8	NE	NE	0.153 J	0.089 U	0.083 U	0.098 U	0.085 U	0.094 U	0.094 U
Anthracene	120-12-7	17000	10000	0.148 J	0.089 U	0.097	0.07 J	0.047 J	0.094 U	0.094 U
Benzo[g,h,i]perylene	191-24-2	380000	NE	0.19 U	0.089 U	0.083 U	0.098 U	0.085 U	0.094 U	0.094 U
Fluoranthene	206-44-0	2300	2300	0.161 J	0.089 U	0.101	0.12	0.069 J	0.094 U	0.094 U
Fluorene	86-73-7	2300	2300	0.19 U	0.089 U	0.081 J	0.097 J	0.09	0.094 U	0.094 U
Naphthalene	91-20-3	6	230	22.7	0.089 U	0.152	0.292	2.32	3.18	2.86
Phenanthrene	85-01-8	NE	NE	0.589	0.089 U	0.281	0.281	0.219	0.094 U	0.094 U
Pyrene	129-00-0	1700	1700	0.3	0.089 U	0.141	0.207	0.081 J	0.094 U	0.094 U
Benz[a]anthracene	56-55-3	0.6	0.9	0.103 J	0.089 U	0.048 J	0.065 J	0.085 U	0.094 U	0.094 U
Benzo[a]pyrene	50-32-8	0.2	0.66	0.19 U	0.089 U	0.083 U	0.098 U	0.085 U	0.094 U	0.094 U
Benzo[b]fluoranthene	205-99-2	0.6	0.9	0.19 U	0.089 U	0.083 U	0.098 U	0.085 U	0.094 U	0.094 U
Benzo[k]fluoranthene	207-08-9	6	0.9	0.19 U	0.089 U	0.083 U	0.098 U	0.085 U	0.094 U	0.094 U
Chrysene	218-01-9	62	9	0.084 J	0.089 U	0.053 J	0.082 J	0.085 U	0.094 U	0.094 U
Dibenz[a,h]anthracene	53-70-3	0.2	0.66	0.19 U	0.089 U	0.083 U	0.098 U	0.085 U	0.094 U	0.094 U
Indeno[1,2,3-cd]pyrene	193-39-5	0.6	0.9	0.19 U	0.089 U	0.083 U	0.098 U	0.085 U	0.094 U	0.094 U

Notes:

- mg/kg milligrams/kilogram
- BTEX benzene, toluene, ethylbenzene, and
- PAHs polycyclic aromatic hydrocarbons
- NE not established
- NA not analyzed
- Bolding** indicates a detected result value
- Bolding** indicates that the detected result value
- RDCSCC Residential Direct Contact Soil Clear
- RDCSRS Residential Direct Contact Soil Remediation
- U analyzed for, but not detected above
- J positively identified; the associated result

Table 1
 Confirmatory Soil Analytical Results
 Sea Isle City Former MGP
 Sea Isle City, New Jersey

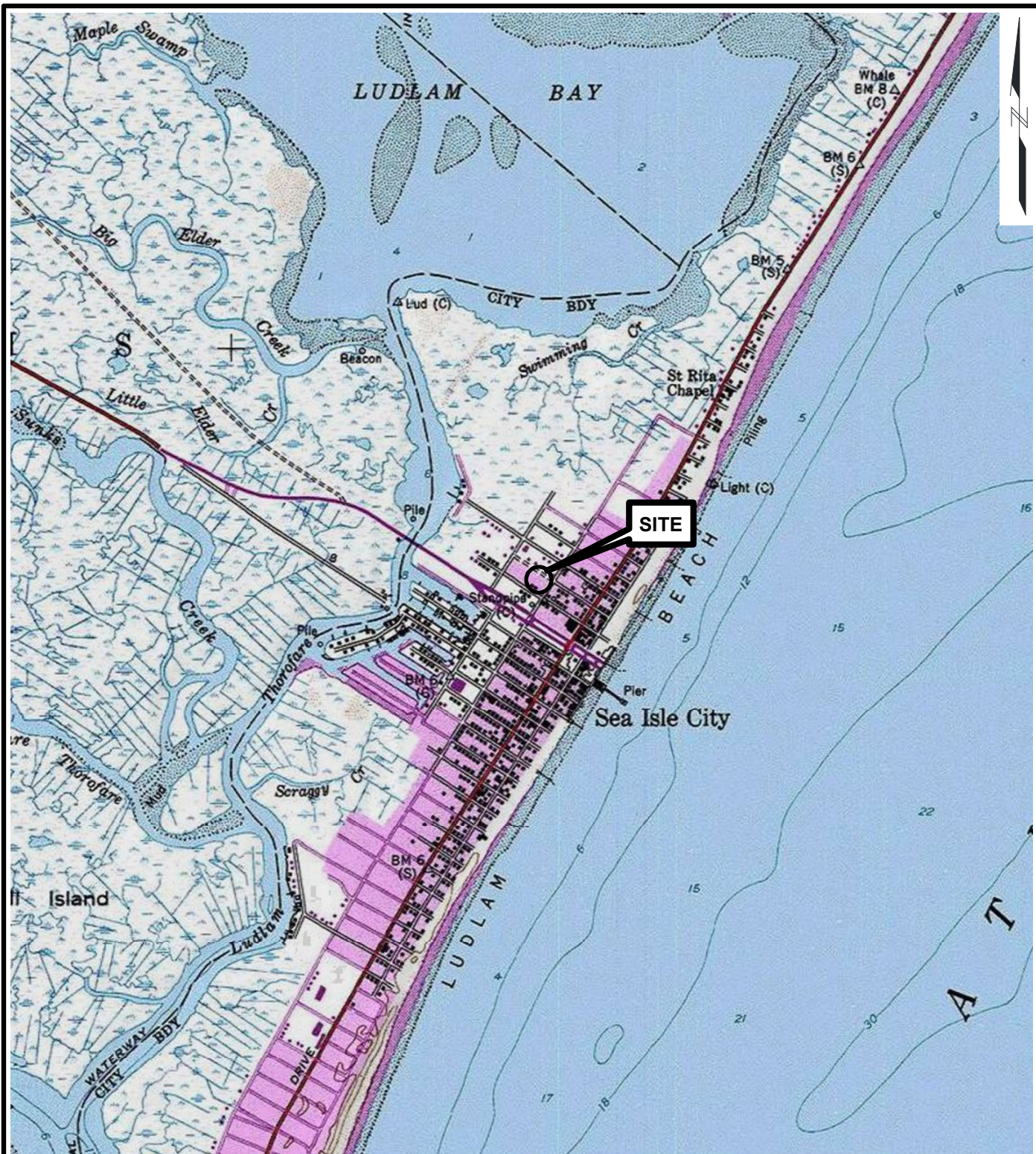
validated

				Location Name	I6	SPA-1	FB-1
				Sample Depth	12-12.5	0-0.5	AQ
				Sample Date	2/8/2011	3/18/2011	2/3/2011
Analyte	cas_rn	RDCSRS	RDCSCC				
BTEX (mg/kg)							
Benzene	71-43-2	2	3	0.123 U	NA	0.00037 U	
Toluene	108-88-3	6300	1000	0.123 U	NA	0.00028 U	
Ethylbenzene	100-41-4	7800	1000	0.287	NA	0.00038 U	
Total Xylene	1330-20-7	12000	410	0.391	NA	0.00079 U	
PAHs (mg/kg)							
Acenaphthene	83-32-9	3400	3400	2.64	0.08 U	0.000213 U	
Acenaphthylene	208-96-8	NE	NE	0.401	0.08 U	0.000222 U	
Anthracene	120-12-7	17000	10000	0.961	0.08 U	0.000242 U	
Benzo[g,h,i]perylene	191-24-2	380000	NE	0.202	0.08 U	0.000218 U	
Fluoranthene	206-44-0	2300	2300	1.23	0.08 U	0.000235 U	
Fluorene	86-73-7	2300	2300	1.36	0.08 U	0.000231 U	
Naphthalene	91-20-3	6	230	10.2	0.08 U	0.000266 U	
Phenanthrene	85-01-8	NE	NE	3.58	0.08 U	0.000321 U	
Pyrene	129-00-0	1700	1700	1.81	0.047 J	0.000238 U	
Benz[a]anthracene	56-55-3	0.6	0.9	0.547	0.08 U	0.00023 U	
Benzo[a]pyrene	50-32-8	0.2	0.66	0.371	0.08 U	0.00021 U	
Benzo[b]fluoranthene	205-99-2	0.6	0.9	0.201	0.08 U	0.00029 U	
Benzo[k]fluoranthene	207-08-9	6	0.9	0.191	0.08 U	0.00022 U	
Chrysene	218-01-9	62	9	0.531	0.08 U	0.000215 U	
Dibenz[a,h]anthracene	53-70-3	0.2	0.66	0.168 U	0.08 U	0.00022 U	
Indeno[1,2,3-cd]pyrene	193-39-5	0.6	0.9	0.162 J	0.08 U	0.00026 U	

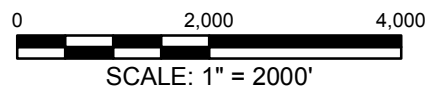
Notes:

- mg/kg milligrams/kilogram
- BTEX benzene, toluene, ethylbenzene, and
- PAHs polycyclic aromatic hydrocarbons
- NE not established
- NA not analyzed
- Bolding** indicates a detected result value
- Bolding** indicates that the detected result value
- RDCSCC Residential Direct Contact Soil Clear
- RDCSRS Residential Direct Contact Soil Remediation
- U analyzed for, but not detected above background
- J positively identified; the associated result is

Figures



SOURCE:
 1. USGS TOPOGRAPHIC MAP ACCESSED
 VIA ARCGIS ONLINE SERVICES.



Remedial Action Report
 Sea Isle City Former MGP Site
 Sea Isle City, New Jersey



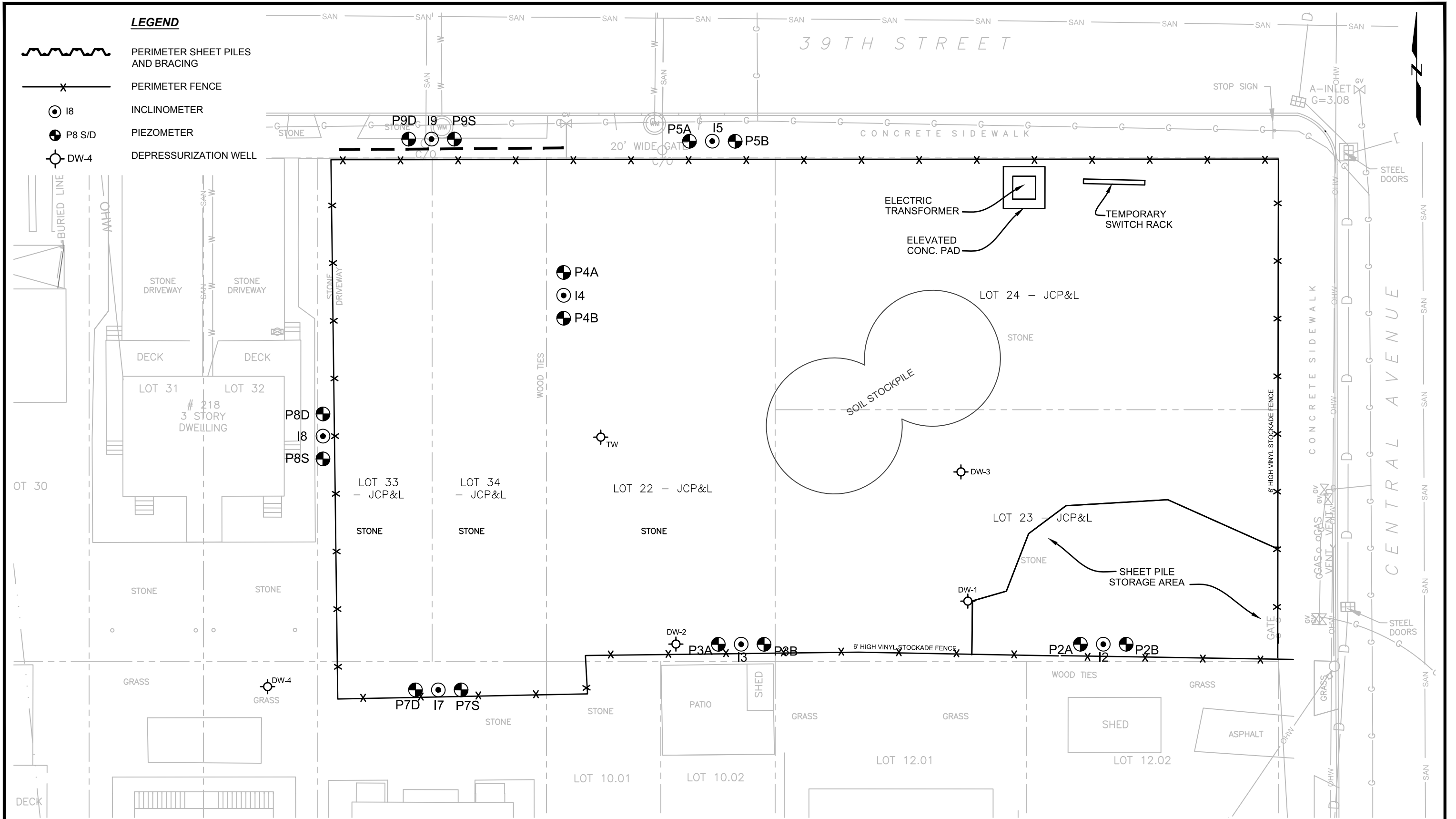
SITE LOCATION MAP

Jersey Central Power & Light Company
 Morristown, New Jersey

Project 013660

June 2016

Fig. 1



LEGEND

- PERIMETER SHEET PILES AND BRACING
- PERIMETER FENCE
- I8 INCLINOMETER
- P8 S/D PIEZOMETER
- DW-4 DEPRESSURIZATION WELL

39TH STREET



Remedial Action Report
 Sea Isle City Former MGP Site
 Sea Isle City, New Jersey



SITE PLAN

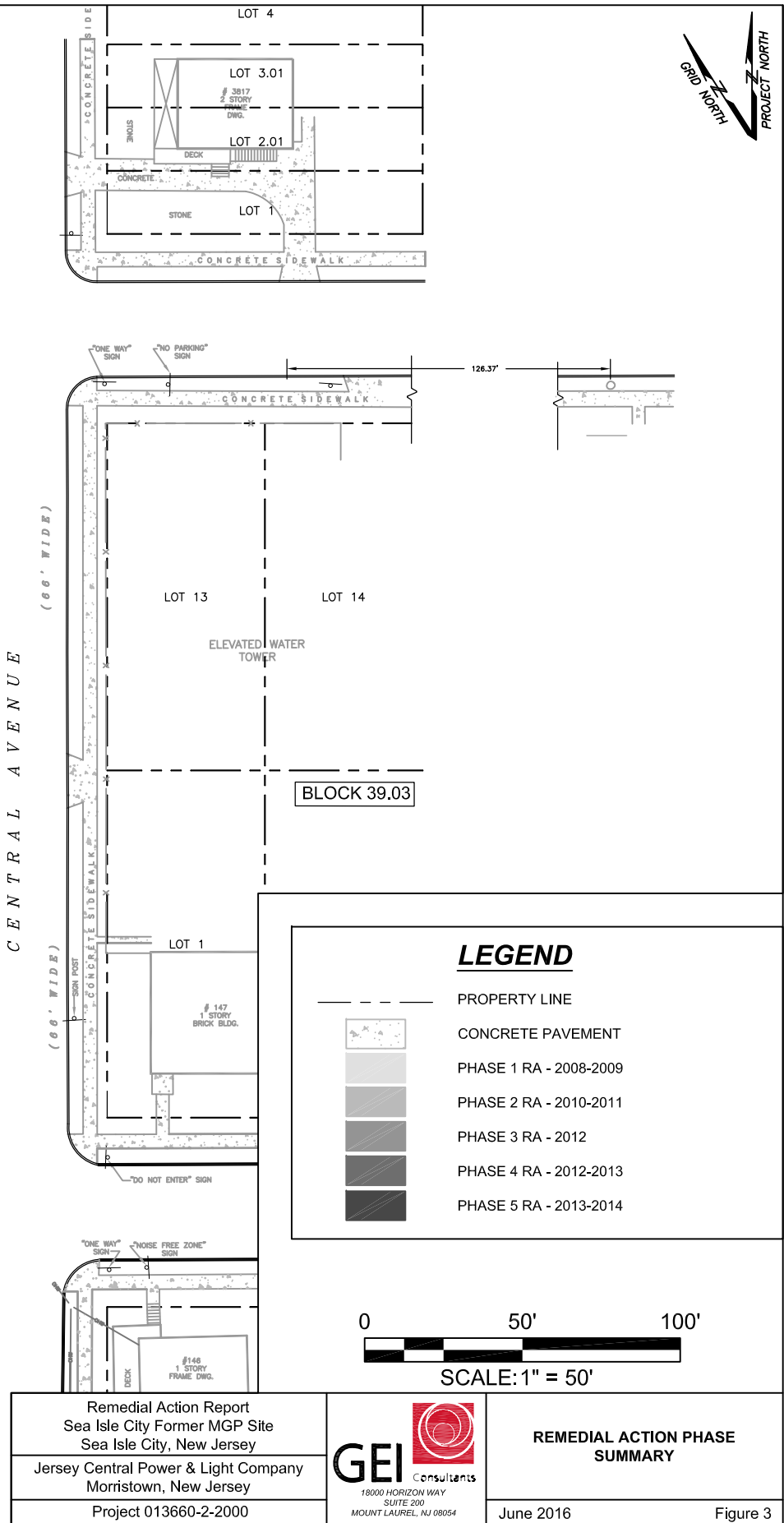
Jersey Central Power & Light Company
 Morristown, New Jersey

Project 013660

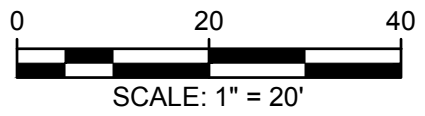
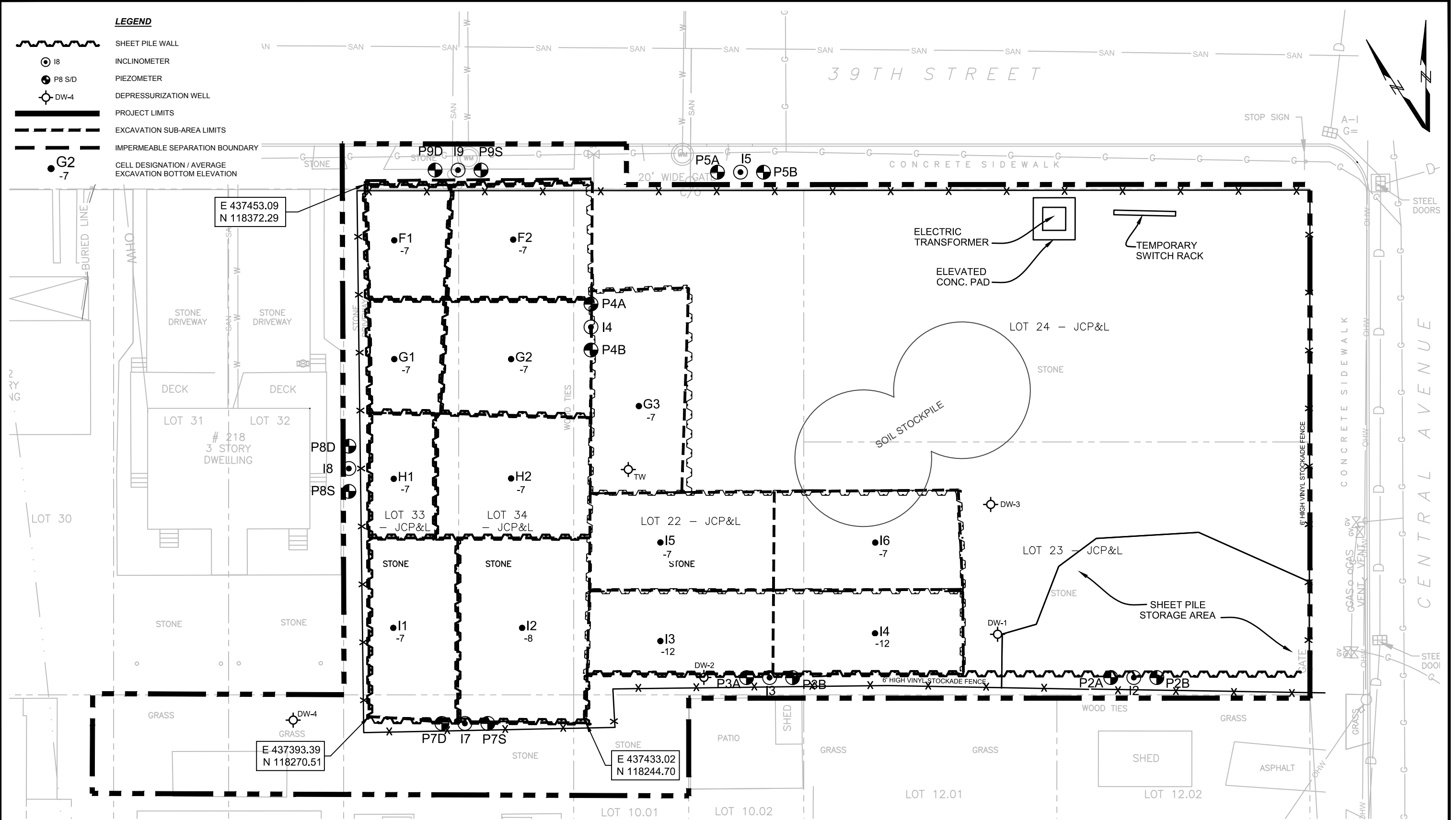
June 2016

Figure 2





Remedial Action Report Sea Isle City Former MGP Site Sea Isle City, New Jersey Jersey Central Power & Light Company Morristown, New Jersey Project 013660-2-2000	 18000 HORIZON WAY SUITE 200 MOUNT LAUREL, NJ 08054	REMEDIAL ACTION PHASE SUMMARY June 2016 Figure 3
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Remedial Action Report
 Sea Isle City Former MGP Site
 Sea Isle City, New Jersey
 Jersey Central Power & Light Company
 Morristown, New Jersey



LIMITS OF EXCAVATION
 Project 013660 June 2016 Figure 4

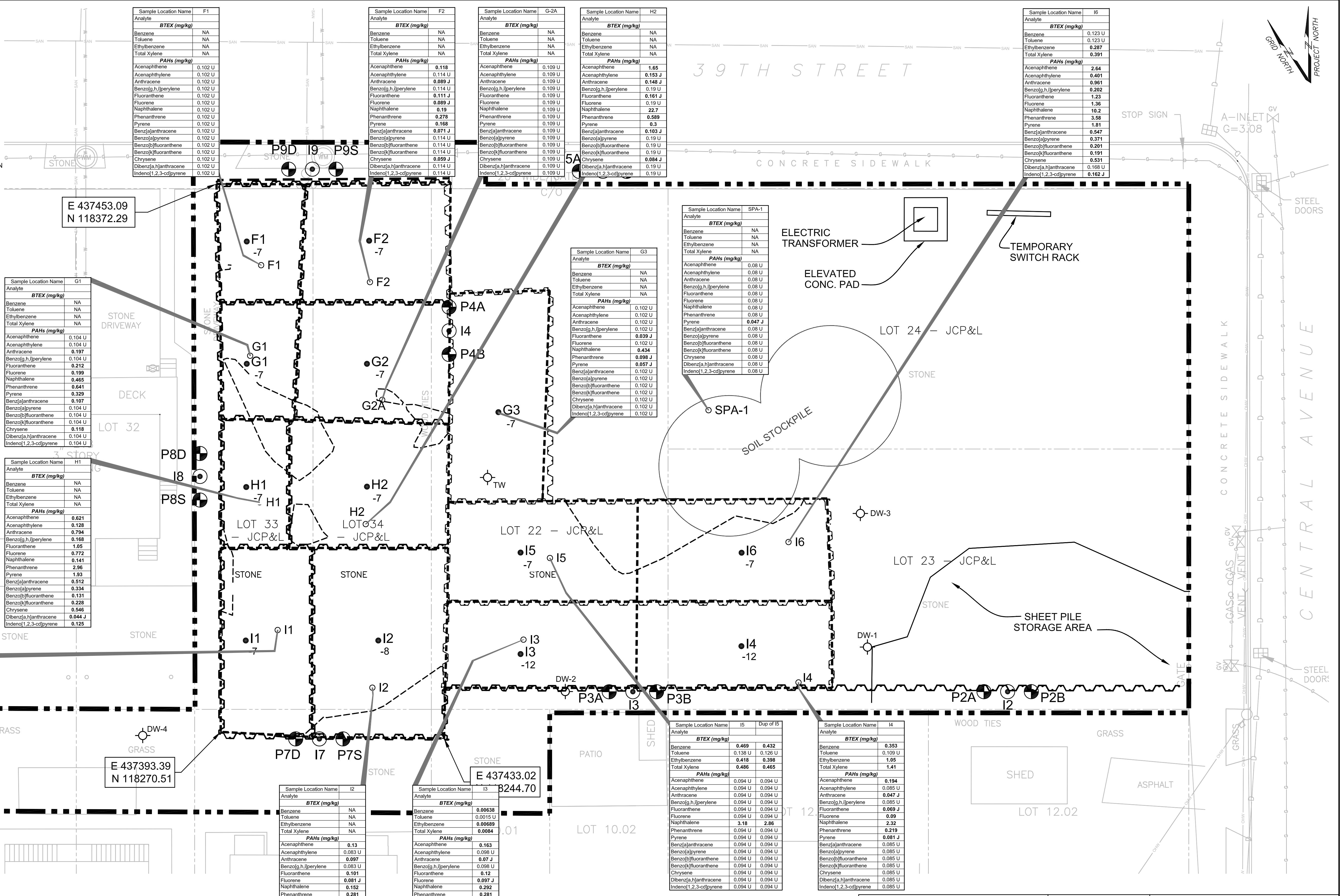
LEGEND

- SHEET PILE WALL
- ELEVATION CONTOURS
- INCLINOMETER
- PIEZOMETER
- DEPRESSURIZATION WELL
- PROJECT LIMITS
- EXCAVATION SUB-AREA LIMITS
- SAMPLE LOCATION
- CELL DESIGNATION / AVERAGE EXCAVATION BOTTOM ELEVATION

RDCSRs Residential Direct Contact Soil Cleanup Criteria As Described in Title 7 of The New Jersey Administrative Code N.J.A.C. 7:26D

Analyte	RDCSCC
BTEX (mg/kg)	
Benzene	3
Toluene	1000
Ethylbenzene	1000
Total Xylene	410
PAHs (mg/kg)	
Acenaphthene	3400
Acenaphthylene	NE
Anthracene	10000
Benzo[a,h]perylene	NE
Fluoranthene	2300
Fluorene	2300
Naphthalene	230
Phenanthrene	NE
Pyrene	1700
Benzo[a]anthracene	0.5
Benzo[a]pyrene	0.66
Benzo[b]fluoranthene	0.9
Benzo[k]fluoranthene	0.9
Chrysene	9
Dibenz[a,h]anthracene	0.66
Indeno[1,2,3-cd]pyrene	0.9

NA INDICATES NOT ANALYZED
 NE NOT ESTABLISHED
 mg/kg MILLIGRAM PER KILOGRAM
 BTEX BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES
 PAHs POLYCYCLIC AROMATIC HYDROCARBONS
 J ESTIMATED VALUE
 U INDICATES NOT DETECTED ABOVE THE REPORTED SAMPLE QUANTITATION LIMIT
Bolding INDICATES A DETECTED RESULT VALUE



Sample Location Name F1

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	0.102 U
Acenaphthylene	0.102 U
Anthracene	0.102 U
Benzo[a,h]perylene	0.102 U
Fluoranthene	0.102 U
Fluorene	0.102 U
Naphthalene	0.102 U
Phenanthrene	0.102 U
Pyrene	0.102 U
Benzo[a]anthracene	0.102 U
Benzo[a]pyrene	0.102 U
Benzo[b]fluoranthene	0.102 U
Benzo[k]fluoranthene	0.102 U
Chrysene	0.102 U
Dibenz[a,h]anthracene	0.102 U
Indeno[1,2,3-cd]pyrene	0.102 U

Sample Location Name F2

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	0.118 U
Acenaphthylene	0.114 U
Anthracene	0.089 J
Benzo[a,h]perylene	0.114 U
Fluoranthene	0.111 J
Fluorene	0.089 J
Naphthalene	0.19 U
Phenanthrene	0.278 U
Pyrene	0.168 U
Benzo[a]anthracene	0.071 J
Benzo[a]pyrene	0.114 U
Benzo[b]fluoranthene	0.114 U
Benzo[k]fluoranthene	0.114 U
Chrysene	0.059 J
Dibenz[a,h]anthracene	0.114 U
Indeno[1,2,3-cd]pyrene	0.114 U

Sample Location Name G-2A

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	0.109 U
Acenaphthylene	0.109 U
Anthracene	0.109 U
Benzo[a,h]perylene	0.109 U
Fluoranthene	0.109 U
Fluorene	0.109 U
Naphthalene	0.109 U
Phenanthrene	0.109 U
Pyrene	0.109 U
Benzo[a]anthracene	0.109 U
Benzo[a]pyrene	0.109 U
Benzo[b]fluoranthene	0.109 U
Benzo[k]fluoranthene	0.109 U
Chrysene	0.109 U
Dibenz[a,h]anthracene	0.109 U
Indeno[1,2,3-cd]pyrene	0.109 U

Sample Location Name H2

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	1.65 U
Acenaphthylene	0.153 J
Anthracene	0.148 J
Benzo[a,h]perylene	0.15 U
Fluoranthene	0.161 J
Fluorene	0.19 U
Naphthalene	22.7 U
Phenanthrene	0.589 U
Pyrene	0.3 U
Benzo[a]anthracene	0.103 J
Benzo[a]pyrene	0.19 U
Benzo[b]fluoranthene	0.19 U
Benzo[k]fluoranthene	0.19 U
Chrysene	0.084 J
Dibenz[a,h]anthracene	0.19 U
Indeno[1,2,3-cd]pyrene	0.19 U

Sample Location Name I6

Analyte	BTEX (mg/kg)
Benzene	0.123 U
Toluene	0.123 U
Ethylbenzene	0.287 U
Total Xylene	0.391 U
PAHs (mg/kg)	
Acenaphthene	2.64 U
Acenaphthylene	0.401 U
Anthracene	0.961 U
Benzo[a,h]perylene	0.202 U
Fluoranthene	1.23 U
Fluorene	1.36 U
Naphthalene	10.2 U
Phenanthrene	3.58 U
Pyrene	1.81 U
Benzo[a]anthracene	0.547 U
Benzo[a]pyrene	0.371 U
Benzo[b]fluoranthene	0.201 U
Benzo[k]fluoranthene	0.191 U
Chrysene	0.531 U
Dibenz[a,h]anthracene	0.168 U
Indeno[1,2,3-cd]pyrene	0.162 J

Sample Location Name G1

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	0.104 U
Acenaphthylene	0.104 U
Anthracene	0.197 U
Benzo[a,h]perylene	0.104 U
Fluoranthene	0.212 U
Fluorene	0.199 U
Naphthalene	0.465 U
Phenanthrene	0.641 U
Pyrene	0.329 U
Benzo[a]anthracene	0.107 U
Benzo[a]pyrene	0.104 U
Benzo[b]fluoranthene	0.104 U
Benzo[k]fluoranthene	0.104 U
Chrysene	0.118 U
Dibenz[a,h]anthracene	0.104 U
Indeno[1,2,3-cd]pyrene	0.104 U

Sample Location Name H1

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	0.621 U
Acenaphthylene	0.128 U
Anthracene	0.794 U
Benzo[a,h]perylene	0.168 U
Fluoranthene	1.05 U
Fluorene	0.772 U
Naphthalene	0.141 U
Phenanthrene	2.96 U
Pyrene	1.83 U
Benzo[a]anthracene	0.512 U
Benzo[a]pyrene	0.334 U
Benzo[b]fluoranthene	0.131 U
Benzo[k]fluoranthene	0.228 U
Chrysene	0.546 U
Dibenz[a,h]anthracene	0.044 J
Indeno[1,2,3-cd]pyrene	0.125 U

Sample Location Name G3

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	0.102 U
Acenaphthylene	0.102 U
Anthracene	0.102 U
Benzo[a,h]perylene	0.102 U
Fluoranthene	0.039 J
Fluorene	0.102 U
Naphthalene	0.434 U
Phenanthrene	0.098 J
Pyrene	0.057 J
Benzo[a]anthracene	0.102 U
Benzo[a]pyrene	0.102 U
Benzo[b]fluoranthene	0.102 U
Benzo[k]fluoranthene	0.102 U
Chrysene	0.102 U
Dibenz[a,h]anthracene	0.102 U
Indeno[1,2,3-cd]pyrene	0.102 U

Sample Location Name SPA-1

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	0.08 U
Acenaphthylene	0.08 U
Anthracene	0.08 U
Benzo[a,h]perylene	0.08 U
Fluoranthene	0.08 U
Fluorene	0.08 U
Naphthalene	0.08 U
Phenanthrene	0.047 J
Pyrene	0.047 J
Benzo[a]anthracene	0.08 U
Benzo[a]pyrene	0.08 U
Benzo[b]fluoranthene	0.08 U
Benzo[k]fluoranthene	0.08 U
Chrysene	0.08 U
Dibenz[a,h]anthracene	0.08 U
Indeno[1,2,3-cd]pyrene	0.08 U

Sample Location Name I1

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	0.089 U
Acenaphthylene	0.089 U
Anthracene	0.089 U
Benzo[a,h]perylene	0.089 U
Fluoranthene	0.089 U
Fluorene	0.089 U
Naphthalene	0.089 U
Phenanthrene	0.089 U
Pyrene	0.089 U
Benzo[a]anthracene	0.089 U
Benzo[a]pyrene	0.089 U
Benzo[b]fluoranthene	0.089 U
Benzo[k]fluoranthene	0.089 U
Chrysene	0.089 U
Dibenz[a,h]anthracene	0.089 U
Indeno[1,2,3-cd]pyrene	0.089 U

Sample Location Name I2

Analyte	BTEX (mg/kg)
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Total Xylene	NA
PAHs (mg/kg)	
Acenaphthene	0.13 U
Acenaphthylene	0.083 U
Anthracene	0.097 U
Benzo[a,h]perylene	0.083 U
Fluoranthene	0.101 U
Fluorene	0.081 J
Naphthalene	0.152 U
Phenanthrene	0.281 U
Pyrene	0.141 U
Benzo[a]anthracene	0.048 J
Benzo[a]pyrene	0.083 U
Benzo[b]fluoranthene	0.083 U
Benzo[k]fluoranthene	0.083 U
Chrysene	0.053 J
Dibenz[a,h]anthracene	0.083 U
Indeno[1,2,3-cd]pyrene	0.083 U

Sample Location Name I3

Analyte	BTEX (mg/kg)
Benzene	0.00638 U
Toluene	0.0015 U
Ethylbenzene	0.00689 U
Total Xylene	0.0064 U
PAHs (mg/kg)	
Acenaphthene	0.163 U
Acenaphthylene	0.098 U
Anthracene	0.07 J
Benzo[a,h]perylene	0.098 U
Fluoranthene	0.12 U
Fluorene	0.097 J
Naphthalene	0.292 U
Phenanthrene	0.281 U
Pyrene	0.207 U
Benzo[a]anthracene	0.065 J
Benzo[a]pyrene	0.098 U
Benzo[b]fluoranthene	0.098 U
Benzo[k]fluoranthene	0.098 U
Chrysene	0.082 J
Dibenz[a,h]anthracene	0.098 U
Indeno[1,2,3-cd]pyrene	0.098 U

Sample Location Name I5 Dup of I5

Analyte	BTEX (mg/kg)
Benzene	0.469 U
Toluene	0.138 U
Ethylbenzene	0.418 U
Total Xylene	0.486 U
PAHs (mg/kg)	
Acenaphthene	0.094 U
Acenaphthylene	0.094 U
Anthracene	0.094 U
Benzo[a,h]perylene	0.094 U
Fluoranthene	0.094 U
Fluorene	0.094 U
Naphthalene	3.16 U
Phenanthrene	0.094 U
Pyrene	0.094 U
Benzo[a]anthracene	0.094 U
Benzo[a]pyrene	0.094 U
Benzo[b]fluoranthene	0.094 U
Benzo[k]fluoranthene	0.094 U
Chrysene	0.094 U
Dibenz[a,h]anthracene	0.094 U
Indeno[1,2,3-cd]pyrene	0.094 U

Sample Location Name I4

Analyte	BTEX (mg/kg)
Benzene	0.353 U
Toluene	0.109 U
Ethylbenzene	1.05 U
Total Xylene	1.41 U
PAHs (mg/kg)	
Acenaphthene	0.194 U
Acenaphthylene	0.085 U
Anthracene	0.047 J
Benzo[a,h]perylene	0.085 U
Fluoranthene	0.069 J
Fluorene	0.09 U
Naphthalene	2.32 U
Phenanthrene	0.219 U
Pyrene	0.081 J
Benzo[a]anthracene	0.085 U
Benzo[a]pyrene	0.085 U
Benzo[b]fluoranthene	0.085 U
Benzo[k]fluoranthene	0.085 U
Chrysene	0.085 U
Dibenz[a,h]anthracene	0.085 U
Indeno[1,2,3-cd]pyrene	0.085 U

Remedial Action Report
Sea Isle City Former MGP Site
Sea Isle City, New Jersey

Jersey Central Power & Light Company
Morristown, New Jersey
Project 013660-2-2000

GEI Consultants
18000 HORIZON WAY
SUITE 200
MOUNT LAUREL, NJ 08054

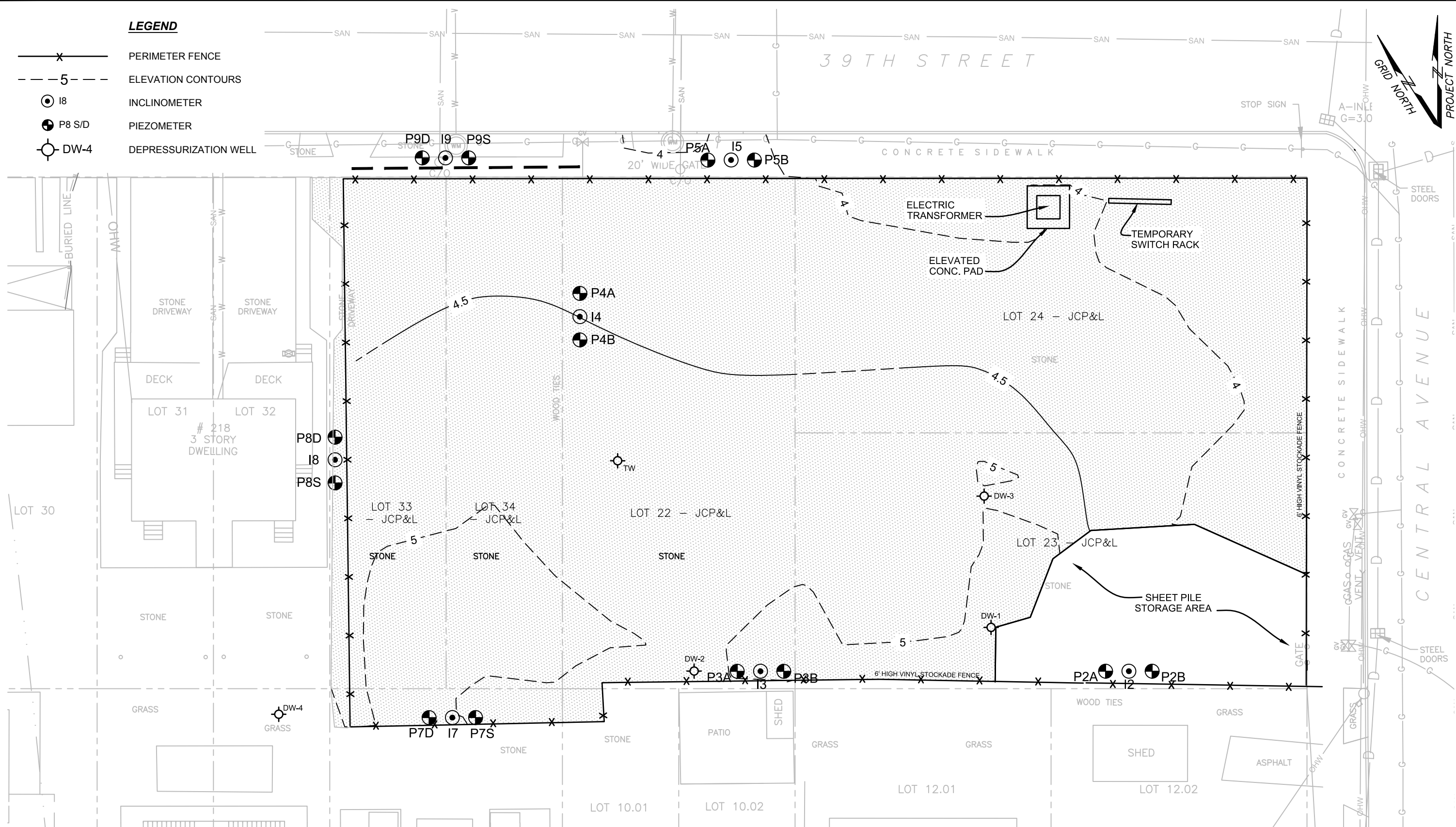
POST EXCAVATION SAMPLE LOCATIONS AND RESULTS

June 2016 Figure 5

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LEGEND

- PERIMETER FENCE
- ELEVATION CONTOURS
- INCLINOMETER
- P8 S/D PIEZOMETER
- DW-4 DEPRESSURIZATION WELL



SOURCE:
 PLAN BASED ON MAP PREPARED BY TAYLOR, WISEMAN AND TAYLOR, MT. LAUREL, NEW JERSEY.



Remedial Action Report Sea Isle City Former MGP Site Sea Isle City, New Jersey Jersey Central Power & Light Company Morristown, New Jersey		POST REMEDIATION SITE PLAN
	Project 013660	June 2016

Figure 6

Appendix A

**Cover-Certification Form/Remedial Action Report Form/Response Action
Outcome Form/Response Action Outcome Letter/Case Inventory
Document**



New Jersey Department of Environmental Protection
 Site Remediation Program

COVER/CERTIFICATION FORM

(Submit with Remedial Phase Report, Receptor Evaluation, and CEA Forms)

Date Stamp
 (For Department use only)

SECTION A. SITE INFORMATION

Site Name: Sea Isle City Former Manufactured Gas Plant Site

AKAs: JCP&L Sea Isle City Coal Gas Plant

Street Address: 210 39th Street

Municipality: Sea Isle City (Township, Borough or City)

County: Cape May Zip Code: 08243

Program Interest (PI) Number(s): G000006130

Case Tracking Number(s) for this submission: _____

Date Remediation Initiated Pursuant to N.J.A.C. 7:26C-2: 06/30/1992

State Plane Coordinates for a central location at the site: Easting: 43767 Northing: 118290

List current Municipal Block and Lot Numbers of the Site:

Block # <u>39.04</u>	Lot #(s) <u>22</u>	Block # _____	Lot #(s) _____
Block # <u>39.04</u>	Lot #(s) <u>23</u>	Block # _____	Lot #(s) _____
Block # <u>39.04</u>	Lot #(s) <u>24</u>	Block # _____	Lot #(s) _____
Block # _____	Lot #(s) _____	Block # _____	Lot #(s) _____

SECTION B. SUBMISSION STATUS

1. Indicate how the Electronic Data Deliverable (EDD) for this submission is being provided to the NJDEP:

- Via Email at srpedd@dep.state.nj.us (attach NJDEP confirmation email); or
- CD (attach to this submission)
- Not Applicable – No EDD

2. Complete the following Submission and Permit Status Table:

Remedial Phase Documents	N/A	Included in this Submission	Previously Submitted	Date of Submission	Date of Revised Submission	Date of Previous NJDEP Approval	Date of Document Withdrawal
Preliminary Assessment Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Site Investigation Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Remedial Investigation Report	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	03/10/2014			
Remedial Action Work Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	02/22/2007	06/15/2007	08/09/2007	
Remedial Action Report	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Response Action Outcome	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Other Submissions							
Alternative Soil Remediation Standard and/or Screening level Application Form	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Case Inventory Document		<input checked="" type="checkbox"/>					
Classification Exception Area / Well Restriction Area (CEA/WRA)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	04/08/2016			
Discharge to Ground Water Permit by Rule Authorization Request	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

IEC Engineered System Response Action Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Immediate Environmental Concern Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
LNAPL Interim Remedial Measure Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Public Notification	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	08/29/2015			
Receptor Evaluation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
Technical Impracticability Determination	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Vapor Concern Mitigation Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Permit Application – list:	<input checked="" type="checkbox"/>						
CAFRA		<input checked="" type="checkbox"/>	<input type="checkbox"/>	07/19/2010		08/31/2010	
Soil Erosion and Sediment Control		<input checked="" type="checkbox"/>	<input type="checkbox"/>	08/19/2008		09/05/2008	
		<input type="checkbox"/>	<input type="checkbox"/>				
		<input type="checkbox"/>	<input type="checkbox"/>				
Radionuclide Remedial Action Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Radionuclide Remedial Action Workplan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Radionuclide Remedial Investigation Report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Radionuclide Remedial Investigation Workplan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

SECTION C. SITE USE

Current Site Use: (check all that apply)

- Industrial
- Residential
- Commercial
- School or child care
- Other: _____
- Agricultural
- Park or recreational use
- Vacant
- Government

Intended Future Site Use, if known: (check all that apply)

- Industrial
- Residential
- Commercial
- School or child care
- Other: _____
- Park or recreational use
- Vacant
- Government
- Future site use unknown

SECTION D. CASE TYPE: (check all that apply)

- Administrative Consent Order (ACO)
- Brownfield Development Area (BDA)
- Child Care Facility
- Chrome Site (Chromate chemical production waste)
- Coal Gas
- Due Diligence with RAO
- Hazardous Discharge Remediation Fund (HDSRF) Grant/Loan
- ISRA
- Landfill (SRP subject only)
- Regulated Underground Storage Tank (UST)
- Remediation Agreement (RA)/Remediation Certification
- School Development Authority (SDA)
- School facility
- Spill Act Defense – Government Entity
- Spill Act Discharge
- UST Grant/Loan
- Other: _____

Federal Case (check all that apply)

- RCRA GPRA 2020
- CERCLA/NPL
- USDOD
- USDOE

1. Is the party conducting remediation a government entity? Yes No

If "Yes," check one: Federal State Municipal County

SECTION E. PUBLIC FUNDS

Did the remediation utilize public funds? Yes No

If "Yes," check applicable:

- UST Grant
- HDSRF Grant
- Spill Fund
- UST Loan
- HDSRF Loan
- Schools Development Authority
- Brownfield Reimbursement Program
- Landfill Reimbursement Program
- Environmental Infrastructure Trust

SECTION F. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation: Jersey Central Power & Light Company

Representative First Name: Frank Representative Last Name: Lawson

Title: Supervisor - Site Remediation

Phone Number: (973) 401-8309 Ext: _____ Fax: (973) 644-4165

Mailing Address: 300 Madison Avenue, PO Box 1911

City/Town: Morristown State: New Jersey Zip Code: 07962

Email Address: flawson@firstenergycorp.com

This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Signature: _____

Date: _____

Name/Title: Frank D. Lawson / Supervisor-Site Remediation

For CEA Submissions:

Check this box if the person above is also the property owner of the site or their representative. If this person is not the site property owner, please ensure the site property owner's name and address is in the first line of the table in Section E.2 of the Classification Exception Area / Well Restriction Area (CEAWRA) Fact Sheet Form.

SECTION G. LICENSED SITE REMEDIATION PROFESSIONAL INFORMATION AND STATEMENT

LSRP ID Number: 575013
First Name: Robert P. Last Name: Blauvelt
Phone Number: (973) 873-7127 Ext: _____ Fax: (973) 509-9625
Mailing Address: 1 Greenwood Avenue - Suite 210
City/Town: Montclair State: New Jersey Zip Code: 07042
Email Address: rblauvelt@geiconsultants.com

This statement shall be signed by the LSRP who is submitting this notification in accordance with section 14 of P.L.2009 c.60 (N.J.S.A. 58:10C-14), and paragraphs (1) and (2) of subsection b. of section 30 of P.L.2009 c.60 (N.J.S.A. 58:10B-1.3b(1) and (2)).

I certify that I am a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey. As the Licensed Site Remediation Professional of record for this remediation, I:

[SELECT ONE OR BOTH OF THE FOLLOWING AS APPLICABLE]:

- directly oversaw and supervised all of the referenced remediation, and/or*
- personally reviewed and accepted all of the referenced remediation presented herein.*

*I believe that the information contained herein, and including all attached documents, is true, accurate and complete.
It is my independent professional judgment and opinion that the remediation conducted at this site, as reflected in this submission to the Department, conforms to, and is consistent with, the remediation requirements in N.J.S.A. 58:10C-14.
My conduct and decisions in this matter were made upon the exercise of reasonable care and diligence, and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals practicing in good standing, in accordance with N.J.S.A. 58:10C-16, in the State of New Jersey at the time I performed these professional services.
I am aware pursuant to N.J.S.A. 58:10C-17 that for purposely, knowingly or recklessly submitting false statement, representation or certification in any document or information submitted to the board or Department, etc., that there are significant civil, administrative and criminal penalties, including license revocation or suspension, fines and being punished by imprisonment for conviction of a crime of the third degree.*

LSRP Signature: _____ Date: _____
LSRP Name/Title: Robert P. Blauvelt / Senior Consultant
Company Name: GEI Consultants, Inc.

Completed forms should be sent to:
Bureau of Case Assignment & Initial Notice
Site Remediation Program
NJ Department of Environmental Protection
401-05H
PO Box 420
Trenton, NJ 08625-0420



New Jersey Department of Environmental Protection
Site Remediation Program

REMEDIAL ACTION REPORT FORM

Date Stamp
(For Department use only)

SECTION A. SITE

Site Name: Sea Isle City Former Manufactured Gas Plant Site - Off site Residential Properties

Program Interest (PI) Number(s): G000006130

Case Tracking Number(s) for this submission: _____

This form must be attached to the Cover/Certification Form

SECTION B. SCOPE OF REMEDIAL ACTION REPORT

1. Does the RAR address:
 - Area(s) of Concern (AOCs) Only
 - Entire Site (Based on a completed and submitted Preliminary Assessment/Site Investigation)
2. Total number of contaminated AOCs associated with the case: 2
3. Total number of contaminated AOCs addressed in this submission: 1
4. Are there any outstanding contaminated AOCs associated with the case where the remedial action has NOT been performed? Yes No
5. Does this RAR address a discharge/release from a federally regulated UST? Yes No

When answering the remaining questions on this form consider only the AOCs addressed in this submission.

SECTION C. GENERAL

1. Does this submission include Remedial Action Permit Application(s) that require Site Remediation Program approval? Yes No
2. Was a remediation initiated after May 6, 2010, for new construction / change in the use of the site proposed for the purpose of residential use, use as a licensed child care center or use as a school? Yes No
If "Yes," was an unrestricted use or a presumptive remedy implemented? Yes No
3. Was an alternative remedy approved by the NJDEP? Yes No
If "Yes," provide the date of the approval: _____
4. Has the remediation varied from the Technical Rules? Yes No
If "Yes," provide the citation(s) from which the remediation has varied and the page(s) in the attached document where the rationale for the variance is provided.
N.J.A.C. 7:26E- _____ Page _____
N.J.A.C. 7:26E- _____ Page _____
N.J.A.C. 7:26E- _____ Page _____
5. Were the laboratory Reporting Limits below applicable remediation standards/screening levels criteria required for the contaminants of concern for the AOCs addressed in this submission? Yes No
6. Have past NJDEP-documented deficiencies been addressed in this submission? Yes No N/A
7. Did the remediation deviate from that proposed in the Remedial Action Workplan? Yes No
If "Yes," specify the section/page(s) in the report where the deviation(s) are discussed:
See Section 7, Page 21 of the text
8. Did the remedial action render the property unusable for future redevelopment or for recreational use (N.J.A.C. 7:26C-6.4(b))? Yes No

SECTION D. SITE CONDITIONS

- 1. At any time, was there any radiological contamination detected at the AOCs addressed in this submission? Yes No
- 2. At any time, did any of the AOCs addressed in this submission contain Ordnance and Explosives/ Unexploded Ordnance (OE/UXO)? Yes No
- 3. Did the remedial action involve containment of free product? Yes No
- 4. Has dioxin been detected at levels above NJDEP's interim direct contact soil screening level of 50 ppt dioxin TEQ (TCDD Toxicity Equivalence Quotient) in any AOCs addressed in this submission? Yes No
- 5. Have any of the following contaminants ever been detected in sediment above the ecological screening levels at the AOCs addressed in this submission? Yes No

If "Yes," check all that apply:

- Arsenic Dioxin Mercury PCBs Pesticides

- 6. Is remediation complete in all affected media at the AOCs addressed in this submission? Yes No
- 7. Did contaminants from the AOCs addressed in this submission discharge to surface water? Yes No
- 8. Did contaminants from the AOCs addressed in this submission discharge to an Environmentally Sensitive Natural Resource (ESNR)? Yes No
- 9. Are any of the following conditions currently present for the AOCs addressed in this submission? (check all that apply):

Groundwater:

- Contaminated ground water in the overburden aquifer
- Contaminated ground water in a confined aquifer
- Contaminated ground water in the bedrock aquifer
- Contaminated ground water in multiple aquifer units
- Multiple distinct ground water plumes
- Contaminated ground water migrating off-site
- Natural background ground water contamination
- Contaminated ground water discharging to surface water or Environmentally Sensitive Natural Resource (ESNR)
- Residual or free product
- Radionuclides

Soil:

- On-site discharge(s) impacting soil off-site
- Chromate Chemical Production Waste/COPR
- Munitions and explosives of concern
- Contaminated soil in the saturated zone
- Historic pesticide impacts to soil
- Residual or free product
- Radionuclides
- Historic Fill
- Natural background only above Impact to Ground Water Cleanup Criteria
- Natural background above Direct Contact Remediation Standards
- Soil contamination in an ESNR

SECTION E. APPLICABLE REMEDIATION STANDARDS

- 1. Were Default Remediation Standards used for all contaminants? Yes No

If "Yes," check all that apply:

- Direct Contact
- Impact to Ground Water Soil Screening Levels
- Ecological Screening Levels

- 2. Has compliance averaging been utilized to determine compliance with the Soil Remediation Standards? Yes No

If "Yes," check all that apply:

Compliance Averaging Method Utilized

<u>Pathway</u>	<u>Arithmetic Mean</u>	<u>95 Percent UCL</u>	<u>Spatially Weighted Average</u>	<u>75 Percent/ 10X Procedure</u>
<input type="checkbox"/> Ingestion-Dermal Pathway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Inhalation Pathway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Impact to Ground Water Pathway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Is a revised CEA required?..... Yes No
8. Do any contaminant levels in ground water currently exceed the vapor intrusion ground water trigger?..... Yes No

Ecological

9. Did the remedy include a remedial action for Environmentally Sensitive Natural Resources (ESNRs)? Yes No
 If "No," skip to **Indoor Air**
10. Was post-remedial sampling performed to determine whether contaminant levels currently meet ecological screening levels or ecological remediation goals? Yes No
11. Did the remedial action require filling of State open waters or wetlands? Yes No
12. Have ecological risk-based remediation goals been developed? Yes No
 If "Yes," have the ecological risk-based remediation goals been approved by NJDEP? Yes No
13. Have Risk Management Decision (RMD) goals been developed? Yes No
 If "Yes," have the RMD goals been approved by NJDEP? Yes No

Indoor Air

14. Have any vapor intrusion engineering controls/mitigation systems been installed in order to mitigate a vapor condition in a structure? Yes No
 If "Yes," check each type of engineering control that was implemented:
- Subsurface Depressurization System
 - Subsurface Ventilation System
 - Soil Vapor Extraction System
 - HVAC Positive Pressure
 - Other (specify): _____

SECTION H. LABORATORY DATA

1. Were all data submitted in the appropriate full and/or reduced formats according to the deliverables defined in N.J.A.C. 7:26E-2? Yes No
2. Do all data submitted meet the quality assurance/quality control (QA/QC) requirements incorporated by reference in N.J.A.C. 7:26E-2 for:
 sampling Yes No
 analysis Yes No
3. How was it determined that the data complied with the QA/QC requirements?
 Laboratory non-conformance summary/narrative
 Laboratory correspondence
 LSRP review
 Independent contractor review
 Other: Data Validation Practices Used by Consultant
4. Has any data been qualified and used? Yes No
5. Has any data been rejected and used? Yes No
6. Provide the page number for the "Reliability of Data" section of the report: 17



**New Jersey Department of Environmental Protection
Site Remediation Program**

RESPONSE ACTION OUTCOME FORM

Date Stamp
(For Department use only)

SECTION A. SITE

Site Name: Sea Isle City Former Manufactured Gas Plant Site

Program Interest (PI) Number(s): G000006130

Case Tracking Number(s) for this submission: _____

This form must be attached to the Cover/Certification Form

All Oversight Invoices and Annual Remediation Fees are Paid in Full.

SECTION B. SCOPE OF THE RESPONSE ACTION OUTCOME

1. Indicate the extent of remediation covered by the Response Action Outcome.

Check only 1 box:

Unrestricted RAO

Limited Restricted RAO

Restricted RAO

Specified for Block 39.04, Lots 22 & 23 and
the 214 39th Street property

2. Check only 1 box:

Area(s) of Concern Only

Entire Site

ISRA Subject Industrial Establishment (leasehold portion only)

3. Total number of contaminated AOCs associated with the case: 2

4. Total number of contaminated AOCs addressed in this submission: 1

5. Are there any outstanding contaminated AOCs associated with the case where an RAO has not been filed? Groundwater RAO not yet submitted Yes No

6. Does this RAO address a discharge/release from a federally regulated UST? Yes No

SECTION C. RESPONSE ACTION OUTCOME PREPARATION CHECKS

1. Was the RAO issued only to the "Person(s) that conducted the Remediation"? Yes No

2. Does the language in the issued RAO document conform to the RAO shell document? Yes No

3. Were all the applicable individuals/agencies noted in the shell document copied on the RAO? Yes No

4. Are there electronic copies of all remediation related records included with this submission? Yes No

5. Did the remedial action render the property unusable for future redevelopment or recreation use? Yes No

6. Have any NJDEP-documented deficiencies been addressed in this or prior submission? Yes No N/A

SECTION D. RESPONSE ACTION OUTCOME NOTICES (check all the apply and were used in the RAO document)

1. General Notices

Well Decommissioning

Building Interiors Not Addressed (Non-Child Care)

Building Interiors Addressed

2. Contamination Remaining Onsite

- Regional Natural Background Levels (above Direct Contact Standards) of Materials in Soil
- Existing Classification Exception Area or Deed Notice from Prior Remediations
- Soils Only RAO when Ground Water Contamination remains from that Area(s) of Concern or Site
- Ground Water Contamination Not Yet investigated
- Ground Water Contamination Due to Regional Historic Fill
- Contamination Remaining Onsite Due to Off-site Contamination
- Known Onsite Contamination Source Not Yet Remediated
- Order of Magnitude Change to a Remediation Standard after approval of a Remedial Action Workplan
- Order of Magnitude Change to a Remediation Standard after Approval of a Final Remediation Document

3. ISRA Specific Notices

- ISRA Specific – RCRA Situations - Bureau of Case Assignment and Initial Notice Referral
- ISRA Specific – Multi-Tenant Situations - Bureau of Case Assignment and Initial Notice Referral
- ISRA Specific – Landfill Situations - Bureau of Case Assignment and Initial Notice Referral

4. Additions to Model Document

- In-Service Railroad Line, Spurs and Sidings Not Remediated
- Known Onsite Contamination Source Not Remediated - Historic Fill (RAO-A)
- Soil Contamination From an Off-Site Source Not Remediated- General
- Soil Contamination From an Off-Site Source Not Remediated - Diffuse Anthropogenic Pollution
- Naturally Occurring Levels of Constituents in Ground Water
- Historically Applied Pesticides not Addressed

SECTION E. REMEDIATION FUNDING SOURCE

1. Has a Remediation Funding Source been posted for this site pursuant to N.J.A.C. 7:26C-5?.... Yes No

If "Yes, check a. or b. below as applicable:

- a. This RAO is for the entire site and serves as notice to the NJDEP to return the Remediation Funding Source posted for this site*.
- b. This RAO is for an Area of Concern only and (check one below):
 - Serves as notice to the NJDEP to decrease the Remediation Funding Source posted for this site*.
 - No adjustments to the Remediation Funding Source are requested at this time.

Note: If any box in a. or b. above identified with an asterisk (*) is checked, be sure to include the completed "Remediation Cost Review and RFS-FA Form" available at <http://nj.gov/dep/srp/srra/forms>.



Consulting
Engineers and
Scientists

Project No. 013660

June 20, 2016

Mr. Frank Lawson
Supervisor – Site Remediation
Jersey Central Power & Light Company
300 Madison Avenue, P.O. Box 1911
Morristown, NJ 07962

Re: Response Action Outcome

Remedial Action Type: *Unrestricted Use*

Scope of Remediation: *Soils Only, Area of Concern:* Block 39.04, Lots 33 and 34 (also known as 214 39th Street) with soil impacted with polycyclic aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) associated with the nearby Sea Isle City Manufactured Gas Plant, and no other areas.

Case Name: Sea Isle City Former Manufactured Gas Plant Site
Address: 210 39th Street
Municipality: City of Sea Isle City
County: Cape May

Block: 39.04 **Lots:** 22, 23 and 24

Preferred ID: G000006130

Dear Mr. Lawson:

As a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey, I hereby issue this Response Action Outcome for the remediation of the area of concern specifically referenced above. I personally reviewed and accepted all of the referenced remediation and based upon this work, it is my professional opinion that this remediation has been completed in compliance with the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C), that is protective of public health, safety and the environment. Also, full payment has been made for all Department fees and oversight costs pursuant to N.J.A.C. 7:26C-4.

This remediation includes the completion of a Remedial Investigation and Remedial Action as defined pursuant to the Technical Requirements for Site Remediation (N.J.A.C. 7:26E).

My decision in this matter is made upon the exercise of reasonable care and diligence, and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals in good standing practicing in the State at the time these professional services are performed.

As required pursuant to N.J.A.C. 7:26C-6.2(b)2ii, a copy of all records related to the remediation that occurred at this location is being simultaneously filed with the New Jersey Department of Environmental Protection (Department). These records contain all information upon which I based my decision to issue this Response Action Outcome.

By operation of law a Covenant Not to Sue pursuant to N.J.S.A. 58:10B -13.2 applies to this remediation. The Covenant Not to Sue is subject to any conditions and limitations contained herein. The Covenant Not to Sue remains effective only as long as the real property referenced above continues to meet the conditions of this Response Action Outcome.

CONDITIONS

Pursuant to N.J.S.A. 58:10B-12o, Jersey Central Power & Light Co. and any other person who is liable for the cleanup and removal costs, and remains liable pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. shall inform the Department in writing, on a form available from the Department, within 14 calendar days after its name or address changes. Any notices you submit pursuant to this paragraph shall reference the above case numbers and shall be sent to:

New Jersey Department of Environmental Protection
Bureau of Case Assignment and Initial Notice
Mail Code 401-05H
401 East State Street, 5th floor
PO Box 420
Trenton, New Jersey 08625-0420

NOTICES

Soils Only Response Action Outcome when Ground Water Contamination remains from that Area of Concern

This Response Action Outcome only applies to the soils at the referenced location. By issuing this Response Action Outcome, I have relied on both the implementation of the remedial action for soil and on the ground water data to support the determination that soil contamination is no longer affecting ground water. Please be advised that if changes in future ground water data no longer support this conclusion, additional soil remediation may be necessary. Also, any redevelopment on this site should take into consideration the potential for vapor intrusion from the ground water contamination. Please note that you may have an affirmative obligation, pursuant to the Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-1.3, to remediate the remaining contamination, within specific regulatory and mandatory timeframes and within the statutory timeframe specified at N.J.S.A. 58:10C-27.

Mr. Frank Lawson
June 20, 2016
Page 3 of 3

CONCLUSIONS

In concluding that this remediation has been completed, I am offering no opinions concerning whether either primary restoration (restoring natural resources to their pre-discharge condition) or compensatory restoration (compensating the citizens of New Jersey for the lost interim value of the natural resources) has been completed.

Pursuant to N.J.S.A. 58:10C-25, the Department may audit this Response Action Outcome and associated documentation up to three years following issuance. Based on a finding by the Department that a Response Action Outcome is not protective of public health, safety and the environment, the Department can invalidate the Response Action Outcome. Other justifications for the Department's invalidation of this Response Action Outcome are listed in the Administrative Requirements for the Remediation of Contaminated Sites at N.J.A.C. 7:26C-6, including, but not limited to, a Department audit following issuance of this document may be initiated at any time if: a) undiscovered contamination is found that was not addressed by the Response Action Outcome, b) if the Site Remediation Professional Licensing Board conducts an investigation of the Licensed Site Remediation Professional issuing the Response Action Outcome or, c) if the license of that person is suspended or revoked.

Thank you for your attention to these matters. If you have any questions, please contact me at (973) 873-7127.

Sincerely,

GEI CONSULTANTS, INC.

Robert P. Blauvelt,
Senior Consultant
Licensed Site Remediation Professional No. 575013

RPB:lsf

c: Kevin Thomas, Public Health Coordinator, Cape May County Health Department
Mayor Leonard C. Desiderio, City of Sea Isle City
Cindy Griffith, Municipal Clerk
NJDEP Bureau of Case Assignment and Initial Notice



Consulting
Engineers and
Scientists

Project No. 013660

June 20, 2016

Mr. Frank Lawson
Supervisor – Site Remediation
Jersey Central Power & Light Company
300 Madison Avenue, P.O. Box 1911
Morristown, NJ 07962

Re: Response Action Outcome

Remedial Action Type: *Unrestricted Use*

Scope of Remediation: *Soils Only, Area of Concern:* Block 39.04, Lot 22 (also known as 210 39th Street) with soil impacted with polycyclic aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) associated with the Sea Isle City Manufactured Gas Plant, and no other areas.

Case Name: Sea Isle City Former Manufactured Gas Plant Site
Address: 210 39th Street
Municipality: City of Sea Isle City
County: Cape May

Block: 39.04 **Lots:** 22, 23 and 24

Preferred ID: G000006130

Dear Mr. Lawson:

As a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey, I hereby issue this Response Action Outcome for the remediation of the area of concern specifically referenced above. I personally reviewed and accepted all of the referenced remediation and based upon this work, it is my professional opinion that this remediation has been completed in compliance with the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C), that is protective of public health, safety and the environment. Also, full payment has been made for all Department fees and oversight costs pursuant to N.J.A.C. 7:26C-4.

This remediation includes the completion of a Remedial Investigation and Remedial Action as defined pursuant to the Technical Requirements for Site Remediation (N.J.A.C. 7:26E).

Mr. Frank Lawson
June 20, 2016
Page 2 of 3

My decision in this matter is made upon the exercise of reasonable care and diligence, and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals in good standing practicing in the State at the time these professional services are performed.

As required pursuant to N.J.A.C. 7:26C-6.2(b)2ii, a copy of all records related to the remediation that occurred at this location is being simultaneously filed with the New Jersey Department of Environmental Protection (Department). These records contain all information upon which I based my decision to issue this Response Action Outcome.

By operation of law a Covenant Not to Sue pursuant to N.J.S.A. 58:10B -13.2 applies to this remediation. The Covenant Not to Sue is subject to any conditions and limitations contained herein. The Covenant Not to Sue remains effective only as long as the real property referenced above continues to meet the conditions of this Response Action Outcome.

CONDITIONS

Pursuant to N.J.S.A. 58:10B-12o, Jersey Central Power & Light Co. and any other person who is liable for the cleanup and removal costs, and remains liable pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. shall inform the Department in writing, on a form available from the Department, within 14 calendar days after its name or address changes. Any notices you submit pursuant to this paragraph shall reference the above case numbers and shall be sent to:

New Jersey Department of Environmental Protection
Bureau of Case Assignment and Initial Notice
Mail Code 401-05H
401 East State Street, 5th floor
PO Box 420
Trenton, New Jersey 08625-0420

NOTICES

Soils Only Response Action Outcome when Ground Water Contamination remains from that Area of Concern

This Response Action Outcome only applies to the soils at the referenced location. By issuing this Response Action Outcome, I have relied on both the implementation of the remedial action for soil and on the ground water data to support the determination that soil contamination is no longer affecting ground water. Please be advised that if changes in future ground water data no longer support this conclusion, additional soil remediation may be necessary. Also, any redevelopment on this site should take into consideration the potential for vapor intrusion from the ground water contamination. Please note that you may have an affirmative obligation, pursuant to the Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-1.3, to remediate the remaining contamination, within specific regulatory and mandatory timeframes and within the statutory timeframe specified at N.J.S.A. 58:10C-27.

Mr. Frank Lawson
June 20, 2016
Page 3 of 3

CONCLUSIONS

In concluding that this remediation has been completed, I am offering no opinions concerning whether either primary restoration (restoring natural resources to their pre-discharge condition) or compensatory restoration (compensating the citizens of New Jersey for the lost interim value of the natural resources) has been completed.

Pursuant to N.J.S.A. 58:10C-25, the Department may audit this Response Action Outcome and associated documentation up to three years following issuance. Based on a finding by the Department that a Response Action Outcome is not protective of public health, safety and the environment, the Department can invalidate the Response Action Outcome. Other justifications for the Department's invalidation of this Response Action Outcome are listed in the Administrative Requirements for the Remediation of Contaminated Sites at N.J.A.C. 7:26C-6, including, but not limited to, a Department audit following issuance of this document may be initiated at any time if: a) undiscovered contamination is found that was not addressed by the Response Action Outcome, b) if the Site Remediation Professional Licensing Board conducts an investigation of the Licensed Site Remediation Professional issuing the Response Action Outcome or, c) if the license of that person is suspended or revoked.

Thank you for your attention to these matters. If you have any questions, please contact me at (973) 873-7127.

Sincerely,

GEI CONSULTANTS, INC.

Robert P. Blauvelt,
Senior Consultant
Licensed Site Remediation Professional No. 575013

RPB:lsf

c: Kevin Thomas, Public Health Coordinator, Cape May County Health Department
Mayor Leonard C. Desiderio, City of Sea Isle City
Cindy Griffith, Municipal Clerk
NJDEP Bureau of Case Assignment and Initial Notice



Consulting
Engineers and
Scientists

Project No. 013660

June 20, 2016

Mr. Frank Lawson
Supervisor – Site Remediation
Jersey Central Power & Light Company
300 Madison Avenue, P.O. Box 1911
Morristown, NJ 07962

Re: Response Action Outcome

Remedial Action Type: *Unrestricted Use*

Scope of Remediation: *Soils Only, Area of Concern:* Block 39.04, Lot 24 (also known as 3900 Central Avenue) with soil impacted with polycyclic aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) associated with the nearby Sea Isle City Manufactured Gas Plant, and no other areas.

Case Name: Sea Isle City Former Manufactured Gas Plant Site
Address: 210 39th Street
Municipality: City of Sea Isle City
County: Cape May

Block: 39.04 **Lots:** 22, 23 and 24

Preferred ID: G000006130

Dear Mr. Lawson:

As a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey, I hereby issue this Response Action Outcome for the remediation of the area of concern specifically referenced above. I personally reviewed and accepted all of the referenced remediation and based upon this work, it is my professional opinion that this remediation has been completed in compliance with the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C), that is protective of public health, safety and the environment. Also, full payment has been made for all Department fees and oversight costs pursuant to N.J.A.C. 7:26C-4.

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Mr. Frank Lawson
June 20, 2016
Page 2 of 3

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CONCLUSIONS

In concluding that this remediation has been completed, I am offering no opinions concerning whether either primary restoration (restoring natural resources to their pre-discharge condition) or compensatory restoration (compensating the citizens of New Jersey for the lost interim value of the natural resources) has been completed.

Pursuant to N.J.S.A. 58:10C-25, the Department may audit this Response Action Outcome and associated documentation up to three years following issuance. Based on a finding by the Department that a Response Action Outcome is not protective of public health, safety and the environment, the Department can invalidate the Response Action Outcome. Other justifications for the Department's invalidation of this Response Action Outcome are listed in the Administrative Requirements for the Remediation of Contaminated Sites at N.J.A.C. 7:26C-6, including, but not limited to, a Department audit following issuance of this document may be initiated at any time if: a) undiscovered contamination is found that was not addressed by the Response Action Outcome, b) if the Site Remediation Professional Licensing Board conducts an investigation of the Licensed Site Remediation Professional issuing the Response Action Outcome or, c) if the license of that person is suspended or revoked.

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Sincerely,

GEI CONSULTANTS, INC.

Robert P. Blauvelt,
Senior Consultant
Licensed Site Remediation Professional No. 575013

RPB:lsf

c: Kevin Thomas, Public Health Coordinator, Cape May County Health Department
Mayor Leonard C. Desiderio, City of Sea Isle City
Cindy Griffith, Municipal Clerk
NJDEP Bureau of Case Assignment and Initial Notice



Consulting
Engineers and
Scientists

Project No. 013660

June 20, 2016

Mr. Frank Lawson
Supervisor – Site Remediation
Jersey Central Power & Light Company
300 Madison Avenue, P.O. Box 1911
Morristown, NJ 07962

Re: Response Action Outcome

Remedial Action Type: *Unrestricted Use*

Scope of Remediation: *Soils Only, Area of Concern:* Block 39.04, Lot 23 (also known as 3904 Central Avenue) with soil impacted with polycyclic aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) associated with the nearby Sea Isle City Manufactured Gas Plant, and no other areas.

Case Name: Sea Isle City Former Manufactured Gas Plant Site
Address: 210 39th Street
Municipality: City of Sea Isle City
County: Cape May

Block: 39.04 **Lots:** 22, 23 and 24

Preferred ID: G000006130

Dear Mr. Lawson:

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Mr. Frank Lawson
June 20, 2016
Page 2 of 3

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Mr. Frank Lawson
June 20, 2016
Page 3 of 3

CONCLUSIONS

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Thank you for your attention to these matters. If you have any questions, please contact me at (973) 873-7127.

Sincerely,

GEI CONSULTANTS, INC.

Robert P. Blauvelt,
Senior Consultant
Licensed Site Remediation Professional No. 575013

RPB:lsf

c: Kevin Thomas, Public Health Coordinator, Cape May County Health Department
Mayor Leonard C. Desiderio, City of Sea Isle City
Cindy Griffith, Municipal Clerk
NJDEP Bureau of Case Assignment and Initial Notice

	A	B	D	E	F	H	I	J	K
1	Case Name: Sea Isle City Coal Gas (JCP&L and NJNG)								
	PI #: G000006130								
3	IMPORTANT: Do not copy and paste into more than 1 cell at a time because it can disrupt hidden equations								
4	Case Inventory Document Version 1.3 06/25/14								
5	AOC ID	AOC Type	AOC Details	Confirmed Contamination	AOC Status	Status Date	Incident #	DEP AOC Number	Contaminated Media
6	AOC-01	Discharge and disposal area - Area of discharge pursuant to N.J.A.C. 7:1E	Contamination associated with historical Manufactured Gas Plant (MGP) that operated at the 210 39th Street parcel between the late 1800s and early 1900s.	Yes	RAR	6/20/2016			Soil
7	AOC-02	Environmental media - Media Ground water	Groundwater impacts associated with historical Manufactured Gas Plant that operated at 210 39th Street parcel between the late 1800s and the early 1900s.	Yes	RI	6/20/2016			Ground Water
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5	Contaminants of Concern	Additional Contaminants of Concern	Additional Contaminants of Concern	Applicable Remediation Standard	Exposure Route	Additional Exposure Route	RA Type	Additional RA Type	Additional RA Type	Was an Order of Magnitude Evaluation Conducted?	Activity
6	PAHs	VO	Not Applicable	Soil Cleanup Criteria (MUST have RAW approved for AOC prior to 12/2/2008)	Ingestion/Dermal	Inhalation	Excavation			Yes	Soil excavation work conducted at following parcels: Block 39.04, Lots 31 and 32, and portions of Lots 9, 16, and 33. Approximately 16,000 cubic yards of impacted soil have been excavated and transported off-site for thermal desorption. Excavation areas were backfilled with clean fill material. Determination regarding remaining soil impacts in right of way areas and private properties to be made at a later date.
7	PAHs	VO	Not Applicable	Remediation Standards	Ground Water		Excavation	Monitored Natural Attenuation		No	Groundwater delineation had been completed and documented in Supplemental Remedial Investigation Report submitted to NJDEP in April 2008. Monitored natural attenuation proposed for remaining groundwater impacts.
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Appendix B

Previous Remedial Action Reports (CDs) and Response Action Outcome Letters

(Project No. 013660)

October 28, 2015



Consulting
Engineers and
Scientists

Mr. Frank Lawson
Supervisor – Site Remediation
Jersey Central Power & Light Company
300 Madison Avenue
PO Box 1911
Morristown, New Jersey 07962

Re: This correspondence amends and supplements the Response Action Outcome dated July 16, 2015

Remedial Action Type: Unrestricted Use

Scope of Remediation: Soils Only, Area of Concern: Block 39.04, Lots 11.02 and 12.02 (also known as 205 40th Street) with soil impacted with polycyclic aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) associated with the nearby Sea Isle City Manufactured Gas Plant, and no other areas.

Case Name: Sea Isle City Former Manufactured Gas Plant Site
Address: 210 39th Street
Municipality: City of Sea Isle City
County: Cape May

Block 39.04 Lots: 22, 23, and 24

Preferred ID: G000006130

Dear Mr. Lawson:

This correspondence amends the Response Action Outcome issued on July 16, 2015, which remains in full force and effect, by correcting the following administrative errors:

- Addition of Soils Only to the Scope of the Remediation

Please be advised this correspondence, with the above amendments and supplements, corrects administrative errors identified in the original Response Action Outcome issued on July 16, 2015. This correspondence should be attached to the original Response Action Outcome and be maintained as part of your environmental records for the above referenced site.

Mr. Frank Lawson
October 28, 2015
Page 2 of 2

Thank you for your attention to these matters. If you have any questions please contact me at (973) 873-7127 or rblauvelt@geiconsultants.com.

Sincerely,
GEI CONSULTANTS



Robert P. Blauvelt
Senior Consultant
Licensed Site Remediation Professional No. 575013

Attachment: Response Action Outcome dated July 16, 2015

c: Kevin Thomas, Public Health Coordinator, Cape May County Health Department
Mayor Leonard C. Desiderio, City of Sea Isle City
Cindy Griffith, Municipal Clerk, City of Sea Isle City
NJDEP Bureau of Case Assignment and Initial Notice



Consulting
Engineers and
Scientists

GEI Project No. 013660
July 16, 2015

Mr. Frank Lawson
Supervisor – Site Remediation
Jersey Central Power & Light Company
300 Madison Avenue, P.O. Box 1911
Morristown, NJ 07962

Re: Response Action Outcome

Remedial Action Type: *Unrestricted Use*

Scope of Remediation: *Area of Concern:* Block 39.04, Lots 11.02 and 12.02 (also known as 205 40th Street) with soil impacted with polycyclic aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) associated with the nearby Sea Isle City Manufactured Gas Plant, and no other areas.

Case Name: Sea Isle City Former Manufactured Gas Plant Site
Address: 210 39th Street
Municipality: City of Sea Isle City
County: Cape May
Block: 39.04 **Lots:** 22, 23 and 24
Preferred ID: G000006130

Dear Mr. Lawson:

As a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey, I hereby issue this Response Action Outcome for the remediation of the area of concern specifically referenced above. I personally reviewed and accepted all of the referenced remediation and based upon this work, it is my professional opinion that this remediation has been completed in compliance with the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C), that is protective of public health, safety and the environment. Also, full payment has been made for all Department fees and oversight costs pursuant to N.J.A.C. 7:26C-4.

This remediation includes the completion of a Remedial Investigation and Remedial Action as defined pursuant to the Technical Requirements for Site Remediation (N.J.A.C. 7:26E).

Mr. Frank Lawson
July 16, 2015
Page 2 of 3

My decision in this matter is made upon the exercise of reasonable care and diligence, and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals in good standing practicing in the State at the time these professional services are performed.

As required pursuant to N.J.A.C. 7:26C-6.2(b)2ii, a copy of all records related to the remediation that occurred at this location is being simultaneously filed with the New Jersey Department of Environmental Protection (Department). These records contain all information upon which I based my decision to issue this Response Action Outcome.

By operation of law a Covenant Not to Sue pursuant to N.J.S.A. 58:10B -13.2 applies to this remediation. The Covenant Not to Sue is subject to any conditions and limitations contained herein. The Covenant Not to Sue remains effective only as long as the real property referenced above continues to meet the conditions of this Response Action Outcome.

CONDITIONS

Pursuant to N.J.S.A. 58:10B-12o, Jersey Central Power & Light Co. and any other person who is liable for the cleanup and removal costs, and remains liable pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. shall inform the Department in writing, on a form available from the Department, within 14 calendar days after its name or address changes. Any notices you submit pursuant to this paragraph shall reference the above case numbers and shall be sent to:

New Jersey Department of Environmental Protection
Bureau of Case Assignment and Initial Notice
Mail Code 401-05H
401 East State Street, 5th floor
PO Box 420
Trenton, New Jersey 08625-0420

NOTICES

Soils Only Response Action Outcome when Ground Water Contamination remains from that Area of Concern

This Response Action Outcome only applies to the soils at the referenced location. By issuing this Response Action Outcome, I have relied on both the implementation of the remedial action for soil and on the ground water data to support the determination that soil contamination is no longer affecting ground water. Please be advised that if changes in future ground water data no longer support this conclusion, additional soil remediation may be necessary. Also, any redevelopment on this site should take into consideration the potential for vapor intrusion from the ground water contamination. Please note that you may have an affirmative obligation, pursuant to the Brownfield and Contaminated

Mr. Frank Lawson
July 16, 2015
Page 3 of 3

Site Remediation Act, N.J.S.A. 58:10B-1.3, to remediate the remaining contamination, within specific regulatory and mandatory timeframes and within the statutory timeframe specified at N.J.S.A. 58:10C-27.

CONCLUSIONS

In concluding that this remediation has been completed, I am offering no opinions concerning whether either primary restoration (restoring natural resources to their pre-discharge condition) or compensatory restoration (compensating the citizens of New Jersey for the lost interim value of the natural resources) has been completed.

Pursuant to N.J.S.A. 58:10C-25, the Department may audit this Response Action Outcome and associated documentation up to three years following issuance. Based on a finding by the Department that a Response Action Outcome is not protective of public health, safety and the environment, the Department can invalidate the Response Action Outcome. Other justifications for the Department's invalidation of this Response Action Outcome are listed in the Administrative Requirements for the Remediation of Contaminated Sites at N.J.A.C. 7:26C-6, including, but not limited to, a Department audit following issuance of this document may be initiated at any time if: a) undiscovered contamination is found that was not addressed by the Response Action Outcome, b) if the Site Remediation Professional Licensing Board conducts an investigation of the Licensed Site Remediation Professional issuing the Response Action Outcome or, c) if the license of that person is suspended or revoked.

Thank you for your attention to these matters. If you have any questions, please contact me at (973) 873-7127.

Sincerely,

GEI CONSULTANTS, INC.



Robert P. Blauvelt,
Senior Consultant
Licensed Site Remediation Professional No. 575013

RPB:lsf:jg

c: Kevin Thomas, Public Health Coordinator, Cape May County Health Department
Mayor Leonard C. Desiderio, City of Sea Isle City
Cindy Griffith, Municipal Clerk
NJDEP Bureau of Case Assignment and Initial Notice

(Project No. 013660)

October 28, 2015



Consulting
Engineers and
Scientists

Mr. Frank Lawson
Supervisor – Site Remediation
Jersey Central Power & Light Company
300 Madison Avenue
PO Box 1911
Morristown, New Jersey 07962

Re: This correspondence amends and supplements the Response Action Outcome dated July 9, 2015

Remedial Action Type: Unrestricted Use

Scope of Remediation: Soils Only, Area of Concern: Block 39.04, Lots 11.01 and 12.01 (also known as 207 40th Street) with soil impacted with polycyclic aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) associated with the nearby Sea Isle City Manufactured Gas Plant, and no other areas.

Case Name: Sea Isle City Former Manufactured Gas Plant Site
Address: 210 39th Street
Municipality: City of Sea Isle City
County: Cape May

Block 39.04 Lots: 22, 23, and 24

Preferred ID: G000006130

Dear Mr. Lawson:

This correspondence amends the Response Action Outcome issued on July 9, 2015, which remains in full force and effect, by correcting the following administrative errors:

- Addition of Soils Only to the Scope of the Remediation

Please be advised this correspondence, with the above amendments and supplements, corrects administrative errors identified in the original Response Action Outcome issued on July 9, 2015. This correspondence should be attached to the original Response Action Outcome and be maintained as part of your environmental records for the above referenced site.

Mr. Frank Lawson
October 28, 2015
Page 2 of 2

Thank you for your attention to these matters. If you have any questions please contact me at (973) 873-7127 or rblauvelt@geiconsultants.com.

Sincerely,

GEI CONSULTANTS



Robert P. Blauvelt
Senior Consultant
Licensed Site Remediation Professional No. 575013

Attachment: Response Action Outcome dated July 16, 2015

c: Kevin Thomas, Public Health Coordinator, Cape May County Health Department
Mayor Leonard C. Desiderio, City of Sea Isle City
Cindy Griffith, Municipal Clerk, City of Sea Isle City
NJDEP Bureau of Case Assignment and Initial Notice

Project No. 013660

July 9, 2015



Consulting
Engineers and
Scientists

Mr. Frank Lawson
Supervisor – Site Remediation
Jersey Central Power & Light Company
300 Madison Avenue, P.O. Box 1911
Morristown, NJ 07962

Re: Response Action Outcome

Remedial Action Type: Unrestricted Use

Scope of Remediation: *Area of Concern:* Block 39.04, Lots 11.01 and 12.01 (also known as 207 40th Street) for soil impacted with polycyclic aromatic hydrocarbons (PAHs), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) associated with the nearby Sea Isle City Manufactured Gas Plant, and no other areas.

Case Name: Sea Isle City Former Manufactured Gas Plant Site

Address: 210 39th Street

Municipality: City of Sea Isle City

County: Cape May

Block: 39.04 **Lots:** 22, 23 and 24

Preferred ID: G000006130

Dear Mr. Lawson:

As a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C to conduct business in New Jersey, I hereby issue this Response Action Outcome for the remediation of the area of concern specifically referenced above. I personally reviewed and accepted all of the referenced remediation and based upon this work, it is my professional opinion that this remediation has been completed in compliance with the Administrative Requirements for the Remediation of Contaminated Sites (N.J.A.C. 7:26C), and that it is protective of public health, safety and the environment. Also, full payment has been made for all Department fees and oversight costs pursuant to N.J.A.C. 7:26C-4.

This remediation includes the completion of a Remedial Investigation and Remedial Action as defined pursuant to the Technical Requirements for Site Remediation (N.J.A.C. 7:26E).

My decision in this matter is made upon the exercise of reasonable care and diligence, and by applying the knowledge and skill ordinarily exercised by licensed site remediation professionals in good standing practicing in the State at the time these professional services are performed.

As required pursuant to N.J.A.C. 7:26C-6.2(b)2ii, a copy of all records related to the remediation that occurred at this location is being simultaneously filed with the New Jersey Department of Environmental Protection (Department). These records contain all information upon which I

based my decision to issue this Response Action Outcome.

By operation of law a Covenant Not to Sue pursuant to N.J.S.A. 58:10B -13.2 applies to this remediation. The Covenant Not to Sue is subject to any conditions and limitations contained herein. The Covenant Not to Sue remains effective only as long as the real property referenced above continues to meet the conditions of this Response Action Outcome.

CONDITIONS

Pursuant to N.J.S.A. 58:10B-12o, Jersey Central Power & Light Co. and any other person who is liable for the cleanup and removal costs, and remains liable pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq. shall inform the Department in writing, on a form available from the Department, within 14 calendar days after its name or address changes. Any notices you submit pursuant to this paragraph shall reference the above case numbers and shall be sent to:

New Jersey Department of Environmental Protection
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Mail Code 401-05H
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This Response Action Outcome only applies to the soils at the referenced location. By issuing this Response Action Outcome, I have relied on both the implementation of the remedial action for soil and on the ground water data to support the determination that soil contamination is no longer affecting ground water. Please be advised that if changes in future ground water data no longer support this conclusion, additional soil remediation may be necessary. Also, any redevelopment on this site should take into consideration the potential for vapor intrusion from the ground water contamination. Please note that you may have an affirmative obligation, pursuant to the Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-1.3, to remediate the remaining contamination, within specific regulatory and mandatory timeframes and within the statutory timeframe specified at N.J.S.A. 58:10C-27.

CONCLUSIONS

In concluding that this remediation has been completed, I am offering no opinions concerning whether either primary restoration (restoring natural resources to their pre-discharge condition) or compensatory restoration (compensating the citizens of New Jersey for the lost interim value of the natural resources) has been completed.

Pursuant to N.J.S.A. 58:10C-25, the Department may audit this Response Action Outcome and associated documentation up to three years following issuance. Based on a finding by the Department that a Response Action Outcome is not protective of public health, safety and the

Mr. Frank Lawson
July 9, 2015
Page 3 of 3

environment, the Department can invalidate the Response Action Outcome. Other justifications for the Department's invalidation of this Response Action Outcome are listed in the Administrative Requirements for the Remediation of Contaminated Sites at N.J.A.C. 7:26C-6, including, but not limited to, a Department audit following issuance of this document may be initiated at any time if: a) undiscovered contamination is found that was not addressed by the Response Action Outcome, b) if the Site Remediation Professional Licensing Board conducts an investigation of the Licensed Site Remediation Professional issuing the Response Action Outcome or, c) if the license of that person is suspended or revoked.

Thank you for your attention to these matters. If you have any questions, please contact me at (973) 873-7127.

Sincerely,
GEI CONSULTANTS, INC.



Robert P. Blauvelt
Senior Consultant
Licensed Site Remediation Professional No. 575013

c: Kevin Thomas, Public Health Coordinator, Cape May County Health Department
Mayor Leonard C. Desiderio, City of Sea Isle City
Cindy Griffith, Municipal Clerk, City of Sea Isle City
NJDEP Bureau of Case Assignment and Initial Notice

Appendix C

Receptor Evaluation



New Jersey Department of Environmental Protection
Site Remediation Program

RECEPTOR EVALUATION (RE) FORM

Date Stamp
 (For Department use only)

SECTION A. SITE

Site Name: Sea Isle City Former Manufactured Gas Plant Site
 Program Interest (PI) Number(s): G000006130
 Case Tracking Number(s) for this submission: _____

**This form must be attached to the Cover/Certification Form
 if not submitted through the RIR Online Service**

Indicate the type of submission:

Initial RE Submission

Updated RE Submission

Indicate the reason for submission of an updated RE form

Submission of an Immediate Environmental Concern (IEC) source control report;

Submission of a Remedial Investigation Report;

Submission of a Remedial Action Report;

Check if included in updated RE

The known concentration or extent of contamination in any medium has increased;

A new AOC has been identified;

A new receptor is identified;

A new exposure pathway has been identified.

SECTION B. ON SITE AND SURROUNDING PROPERTY USE

1. Identify any sensitive populations/uses that are currently on-site or surrounding property usage within 200 feet of the site boundary (check all that apply): Please see Attachment A for a list of properties located within 200 feet of the site.

	On-site	Off-site
None of the following	<input type="checkbox"/>	<input type="checkbox"/>
Residences or residential property	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Public or Private Schools grades K-12	<input type="checkbox"/>	<input type="checkbox"/>
Child care centers	<input type="checkbox"/>	<input type="checkbox"/>
Public parks, playgrounds or other recreation areas	<input type="checkbox"/>	<input type="checkbox"/>
Other sensitive population use(s) Explain _____	<input type="checkbox"/>	<input type="checkbox"/>

If any of the above applies, attach a list of addresses, facility names, type of use, and a map depicting each location relative to the site. Please see Attachment B for a figure identifying sensitive receptors within 200 feet of the site.

2. Current site uses (check all that apply):

- Industrial Residential Commercial Agricultural
 School or child care Government Park or recreational use
 Vacant Other: _____

3. Planned future site uses and off-site use within 200 ft of site boundary (check all that apply):

- Industrial Residential Commercial Agricultural
 School or child care Government Park or recreational use
 Vacant Other: Sea Isle City Dept. of Public Works building

Provide a map depicting the location of the proposed changes in land use. Not available at this time.

SECTION C. DESCRIPTION OF CONTAMINATION Please see Attachment C for a summary of contamination associated with the site and Remedial actions completed to date.

1. Identify if any of the following exist at the site (check all that apply):
- Free product [N.J.A.C. 7:26E-1.8] identified is LNAPL* or DNAPL**. Date identified: _____
 - Residual product [N.J.A.C. 7:26E-1.8]
 - Other high concentration source materials not identified above (e.g., buried drums, containers, unsecured friable asbestos)
- Explain: _____
- * LNAPL – measured thickness of .01 feet or more
 **DNAPL – See US EPA DNAPL Overview
2. Soil Migration Pathway
- Has soil contamination been delineated to the applicable Direct Contact Soil Remediation Standard? see attached RAR Yes No
- Are all soils either below the applicable Direct Contact Criteria or under an institutional control (i.e. deed notice)? Yes No
3. If this evaluation is submitted with a technical document that includes contaminant summary information, proceed to Section D. Otherwise attach a brief summary of all currently available data and information to be included in the site investigation or remedial investigation report.

SECTION D. GROUND WATER USE Please see Attachment D for summary groundwater usage and the results of the well search performed by GEI.

1. Has the requirement for ground water sampling been triggered? Yes No Unknown
 If "No," proceed to Section F. If "Unknown," explain: _____
2. Is Ground water contaminated above the Ground Water Remediation Standards [N.J.A.C.7:9C]? Yes No Unknown
- Or Awaiting laboratory data with the expected due date: _____
- If "Yes," provide the date that the laboratory data was available and confirmed contamination above the Ground Water Remediation Standards. Date: Sampling performed in 1989 as part of the RI reported benzene and toluene concentrations above the applicable action levels.
- If "Unknown," explain: _____
- If "No," or awaiting laboratory data proceed to Section F.
3. Has ground water contamination been delineated to the applicable Remediation Standard? Yes No
4. Has a well search been completed? Yes No
- Date of most recent or updated well search: 08/24/2015
- Identify if any of the following conditions exist based on the well search [N.J.A.C.7:26E-1.14(a)] (check all that apply):
- Potable wells located within 500 feet from the downgradient edge of the currently known extent of contamination.
 - Potable well located 250 feet upgradient or 500 feet side gradient of the currently known extent of contamination.
 - Ground water contamination is located within a Tier 1 wellhead protection area (WHPA).
5. Is a completed Well Search Spreadsheet or historical well search table attached and has an electronic copy of the spreadsheet been submitted to srpgis_wrs@dep.state.nj.us. Yes No
- If "No," explain: Spreadsheet and historical well search table attached, electronic copy submitted 08/2015
6. Are any private potable or irrigation wells located within 1/2 mile of the currently known extent of contamination? Yes No
- If "Yes," was a door to door survey completed? Yes No
- If survey was not completed explain: _____
7. Has sampling been conducted of potable well(s) and /or non-potable use well(s)? Yes No
- If "No," provide justification then proceed to Section E.
- Public Water Supply Well operated by Sea Isle City. Sampled regularly. No MGP related impacts.

8 Has contamination been identified in potable well(s) above Ground Water Remediation Standards that is not suspected to be from the site? (If "Yes," provide justification) N/A Yes No

9 Has contamination been identified in potable well(s) that is above the Ground Water Remediation Standards or Federal Drinking Water Standards? N/A Yes No

Provide date laboratory data was received: _____

Or awaiting laboratory data with the expected due date: _____

If "Yes" for potable well contamination **not attributable to background**, follow the IEC Guidance Document at <http://www.nj.gov/dep/srp/guidance/index.html#iec> for required actions and answer the following:

Has an engineered system response action been completed on all receptors? Yes No

Provide a brief narrative description:

Date completed: _____ NJDEP Case Manager: _____

10. Were Non-potable use well(s) sampled and results were above Class II Ground Water Remediation Standards? Yes No

Provide date laboratory data was received: _____ Address listed for irrigation well (8005 Central Avenue) located over 1 mile from the site.

Or awaiting laboratory data with the expected due date: _____

11. Has the ground water use evaluation been completed? Yes No

SECTION E. VAPOR INTRUSION (VI) Please see Attachment E for summary of VI investigation work performed in association with project.

1. Contaminants present in ground water exceed the Vapor Intrusion Ground Water Screening Levels that trigger a VI evaluation. (see NJDEP Vapor Intrusion Technical Guidance). ... Yes No Unknown

Or Awaiting laboratory data and the expected due date: _____

Provide the date that the laboratory data was available and confirmed contamination above the Vapor Intrusion Trigger Levels. Date: 09/27/2007

2. Other existing conditions that trigger a VI evaluation. (see NJDEP Vapor Intrusion Technical Guidance)

- Wet basement or sump containing free product or ground water containing volatile organics
- Methane generating conditions causing oxygen deficient or explosion concern
- Other human or safety concern from the VI pathway (i.e. elemental mercury, unsaturated contamination, elevated soil gas or indoor vapor (explain):

If you answered "No," or awaiting laboratory data to Question 1., and did not check any boxes in Question 2, proceed to Section F, "Ecological Receptors", otherwise complete the rest of this section.

3. Has ground water contamination been delineated to the applicable Ground Water Vapor Screening Level? Yes No

4. Was a site specific screening level, modeling or other alternative approach employed for the VI pathway? Yes No

5. Identify and locate on a scaled map any buildings/sensitive populations that exist within the following distances from ground water contamination with concentrations above the Vapor Intrusion Ground Water Screening Levels or specific threats (check all that apply):

- 30 feet of petroleum free product or dissolved petroleum hydrocarbon contamination in ground water
 - 100 feet of any non-petroleum free product or any non-petroleum dissolved volatile organic ground water contamination
 - No buildings exist within the specified distances
- Vapor intrusion investigation performed by Haley and Aldrich in 2007 at selected properties. No exceedances of RIASL identified. NJDEP approved VI complete.

6. The vapor intrusion pathway is a concern at or adjacent to the site (if "No," attach justification) Yes No

7. Has soil gas sampling of the building(s) been conducted? Yes No N/A
 If "No," or "N/A," proceed to #12

8. Has indoor air sampling been conducted at the identified building(s)? Yes No
 If "No," proceed to #12

9. Has indoor air contamination been identified but not suspected to be from the site?
 (if "Yes," attach justification) Yes No

10. Indoor air results were above the NJDEP's Rapid Action Levels. Yes No
 Provide the date that the laboratory data was available. Date: _____
 Or Awaiting laboratory data with the expected due date: _____

**If "Yes" to #10 above, follow the IEC Guidance Document at
<http://www.nj.gov/dep/srp/guidance/index.html#iec> for required actions.**

The IEC engineering system response for control was implemented for all
 identified structures Yes No
 Date: _____ NJDEP Case Manager: _____

11. Indoor air sampling was conducted and results were above the NJDEP's Indoor Air Screening
 Levels but at or below the Rapid Action Levels. Yes No

Provide the date that the laboratory data was available. Date: _____
 Or Awaiting laboratory data with the expected due date: _____

If "Yes" to #11 above, answer the following:

Has the Vapor Concern (VC) Response Action Form notifying the NJDEP of the exceedances
 been submitted? Yes No
 Date: _____

Has a plan to mitigate and monitor the exposure been submitted? Yes No
 Date: _____

Has the Mitigation Response Action Report been submitted? Yes No
 Date: _____

12. Has the vapor intrusion investigation been completed? Yes No
 If "No", is the vapor intrusion investigation stepping out as part of the site
 investigation or remedial investigation. (If "No," attach justification) Yes No

SECTION F. ECOLOGICAL RECEPTORS Please see Attachment F for a summary of ecological evaluation investigation work performed in association with the site.

1. Has an Ecological Evaluation (EE) has been conducted? [N.J.A.C. 7:26E-1.16] Yes No
 Date conducted: _____ BEE submitted by GEO to NJDEP in 2004. In letter dated 5/24/04 NJDEP concurred with GEI conclusion that no further ecological evaluation was needed for the site.

2. Do the results of an EE trigger a remedial investigation of ecological receptors? [N.J.A.C. 7:26E-4.8] Yes No

3. Has a remedial investigation of ecological receptors been conducted? Yes No
 Date conducted: _____

4. Provide the following information for any surface water body on or within 200 feet of the site:

Surface Water Body Name	Stream Classification	Antidegradation Designation	Trout Production	Trout Maintenance
None			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>

5. Does the site contain any features regulated by the Land Use Regulation Program (LURP)?
(e.g. wetlands, flood hazard area, tidelands, etc.) Yes No
If "Yes," identify the type(s) of features: _____

6. Have any formal LURP jurisdiction letters or approvals been issued for the site? Yes No
If "Yes," what is the LURP Program Interest (PI) number(s) for the site? _____

7. Have any applications for formal LURP jurisdiction letters or approvals been submitted the NJDEP? Yes No
If "Yes," what is the LURP Program Interest (PI) number(s) for the site? _____

8. Is free product or residual product located within 100 feet from an ecological receptor? Yes No

9. Does available data indicate an impact on Ecological receptor(s), Surface water, or Sediment? Yes No
If "Yes,"

a) Check all that apply:
 Ecological receptor(s) Surface water Sediment

b) Submit with this evaluation either a technical document that includes contaminant summary information, or a description of the type of contamination, a schedule, and a description of all actions to be taken to mitigate exposure.

Completed forms should be sent to the municipal clerk, designate health department, and:

Bureau of Case Assignment & Initial Notice
Site Remediation Program
NJ Department of Environmental Protection
401-05H
PO Box 420
Trenton, NJ 08625-0420

Sea Isle City Former MGP Site

List of Properties within 200' of Site

Type	Block	Lot	Street	Municipality	County	Owner	Owner Street	Owner City	Owner State	Owner Zip Code
Residential	38.03	1, 2.01 & 3.01	3817 Central Avenue (1st floor)	Sea Isle City	Cape May	McCleary, Shirley Carr, John J. & Madeline T.	15 Indian Spring Road	Clementon	NJ	08021
Residential	38.03	1, 2.01 & 3.01	3817 Central Avenue (2nd floor)	Sea Isle City	Cape May	Madeline T.	408 Scholler Lane	Springfield	PA	19064
Residential	38.03	2.02 & 3.02	135 39th Street East	Sea Isle City	Cape May	DeMaris, Brian	72 Shawnee Drive	North East	MD	21901
Residential	38.03	2.02 & 3.02	135 39th Street West	Sea Isle City	Cape May	Vennitti, Chris & McNicholas, Thos.	42717 Twin Leaf Drive	Brambleton	VA	20148
Residential	38.03	6.01 & 7.01	3811 Central Avenue	Sea Isle City	Cape May	Glemser, John & Patrick	1043 Red Barn Road	Warminster	PA	18974
Residential	38.03	4 & 5	3815 Central Avenue (1st Floor)	Sea Isle City	Cape May	Kerker, Doris J.	7103 Oxford Avenue	Philadelphia	PA	19111
Residential	38.03	4 & 5	3815 Central Avenue (2nd Floor)	Sea Isle City	Cape May	Walls, George J & Margaret M.	45 Ralston Avenue	Havertown	PA	19083
Residential	38.04	11 & 12	225 39th Street East	Sea Isle City	Cape May	McWilliams, Peter J. Jr. & Sally A.	40 Nature Lane	Sewell	NJ	08080
Residential	38.04	11 & 12	225 39th Street West	Sea Isle City	Cape May	Pellerito, Vito & Antonia	2 West Avenue	Bridgeton	NJ	08302
Residential	38.04	13 & 14	221 39th Street East	Sea Isle City	Cape May	DelViscio, Ronald C. Jr. & Butterly, N.	612 Roxborough Avenue	Philadelphia	PA	19128
Residential	38.04	13 & 14	221 39th Street West	Sea Isle City	Cape May	McLaren, Veronica	1104 Yeadon Avenue	Yeadon	PA	19050
Residential	38.04	15 & 16	217 39th Street East	Sea Isle City	Cape May	McLaren, Gregory E. & Carol E.	1066 Wellington Road	Jenkintown	PA	19046
Residential	38.04	15 & 16	217 39th Street West	Sea Isle City	Cape May	Boone, William F. Sr. & Dawn E.	521 Fountain Street	Philadelphia	PA	19128
Residential	38.04	17 & 18	213 39th Street (1st Floor)	Sea Isle City	Cape May	Hallinan, Robery J & Anne D.	639 Country Club Lane	Havertown	PA	19083

**Attachment A:
Sea Isle City Former MGP Site
List of Properties within 200' of Site**

Type	Block	Lot	Street	Municipality	County	Owner	Owner Street	Owner City	Owner State	Owner Zip Code
Residential	38.04	17 & 18	213 39th Street (2nd Floor)	Sea Isle City	Cape May	Connor, Edmons S. & Jennifer L.	524 Queen Anne Drive	Fairless Hills	PA	19032
Residential	38.04	19 & 20	209 39th Street	Sea Isle City	Cape May	Organ, Daniel & Annie M.	209 39th Street	Sea Isle City	NJ	08243
Residential	38.04	33 & 34	224 E. 38th Street	Sea Isle City	Cape May	Christie, Robert & Kristine	9 Bittersweet Drive	Doylestown	PA	18901
Residential	38.04	33 & 34	224 W. 38th Street	Sea Isle City	Cape May	Maier, William, et al	224 W. 38th Street	Sea Isle City	NJ	08243
Residential	38.04	35 & 36	220 38th Street East	Sea Isle City	Cape May	Ermold, Eric E. & E C Marina	8 Joseph's Way	Shillington	PA	19607
Residential	38.04	35 & 36	220 38th Street West	Sea Isle City	Cape May	Orr, John D. & Kathleen J.	197 Locust Drive	New London Township	PA	19154
Residential	38.04	37 & 38	214 38th Street	Sea Isle City	Cape May	Lutz, Rosemary E.	3116 Waterford Ct.	Cinnaminson	NJ	08077
Residential	38.04	39 & 40	210 38th Street East	Sea Isle City	Cape May	Donovan, William F. III & Barbara A.	3638 Salina Road	Philadelphia	PA	19154
Residential	38.04	39 & 40	210 38th Street West	Sea Isle City	Cape May	Reuben, Joseph W. & Kathleen L.	112 Grasmere Road	Bala Cynwyd	PA	19004
Residential	38.04	41, 42, & 43	3820 Central Avenue	Sea Isle City	Cape May	Hatton, Donald R.	1032 Loney Street	Philadelphia	PA	19111
Residential	38.04	44 & 45	3816 Central Avenue North	Sea Isle City	Cape May	Lord, Robert A. & Sallee	4340 Michener Drive	Doylestown	PA	18902
Residential	38.04	44 & 45	3816 Central Avenue South	Sea Isle City	Cape May	Killhour, Elizabeth K.	2076 Wharton Road	Glenside	PA	19038
Residential	38.04	47 & 48	3808 Central Avenue North	Sea Isle City	Cape May	Catalano, Michael J. & Denise J. et al	11 Big Dam Road	Dillsburg	PA	17019
Residential	38.04	47 & 48	3808 Central Avenue South	Sea Isle City	Cape May	Giampietro, Diana	10829 Heflin Road	Philadelphia	PA	19154
Municipal	39.03	1 & 2	147 40th Street	Sea Isle City	Cape May	City of Sea Isle City	4416 Landis Avenue	Sea Isle City	NJ	08243

**Attachment A:
Sea Isle City Former MGP Site
List of Properties within 200' of Site**

Type	Block	Lot	Street	Municipality	County	Owner	Owner Street	Owner City	Owner State	Owner Zip Code
Residential	39.03	3.01 & 3.02	137 40th Street	Sea Isle City	Cape May	Houseworth, Richard E. Jr.	137 40th Street	Sea Isle City	NJ	08243
Municipal	39.03	13 & 14	142 39th Street	Sea Isle City	Cape May	City of Sea Isle City	4416 Landis Avenue	Sea Isle City	NJ	08243
Residential	39.03	15	138 39th Street Unit A	Sea Isle City	Cape May	Donahue, Jeffery H.	124 West Jersey Avenue	Sea Isle City	NJ	08243
Residential	39.03	15	138 39th Street Unit B	Sea Isle City	Cape May	Gillan, Michael A.	243 Fawnhill Road	Broomall	PA	19008
Vacant	39.04	9 & 10.1	211 40th Street East	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Vacant	39.04	9 & 10.1	211 40th Street West	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Vacant	39.04	10.02	209 40th Street	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Vacant	39.04	11.01 & 12.01	207 40th Street West	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Vacant	39.04	11.01 & 12.01	207 40th Street East	Sea Isle City	Cape May	Watts, Glenn R. & Nancy T.	186 Park Avenue	Ambler	PA	19002
Vacant	39.04	11.02 & 12.02	205 40th Street	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Vacant	39.04	13 & 14	223 40th Street	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Vacant	39.04	15 & 16	219 40th Street East	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Vacant	39.04	15 & 16	219 40th Street West	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Vacant	39.04	22	210 39th Street	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Vacant	39.04	23	3904 Central Avenue	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601

**Attachment A:
Sea Isle City Former MGP Site
List of Properties within 200' of Site**

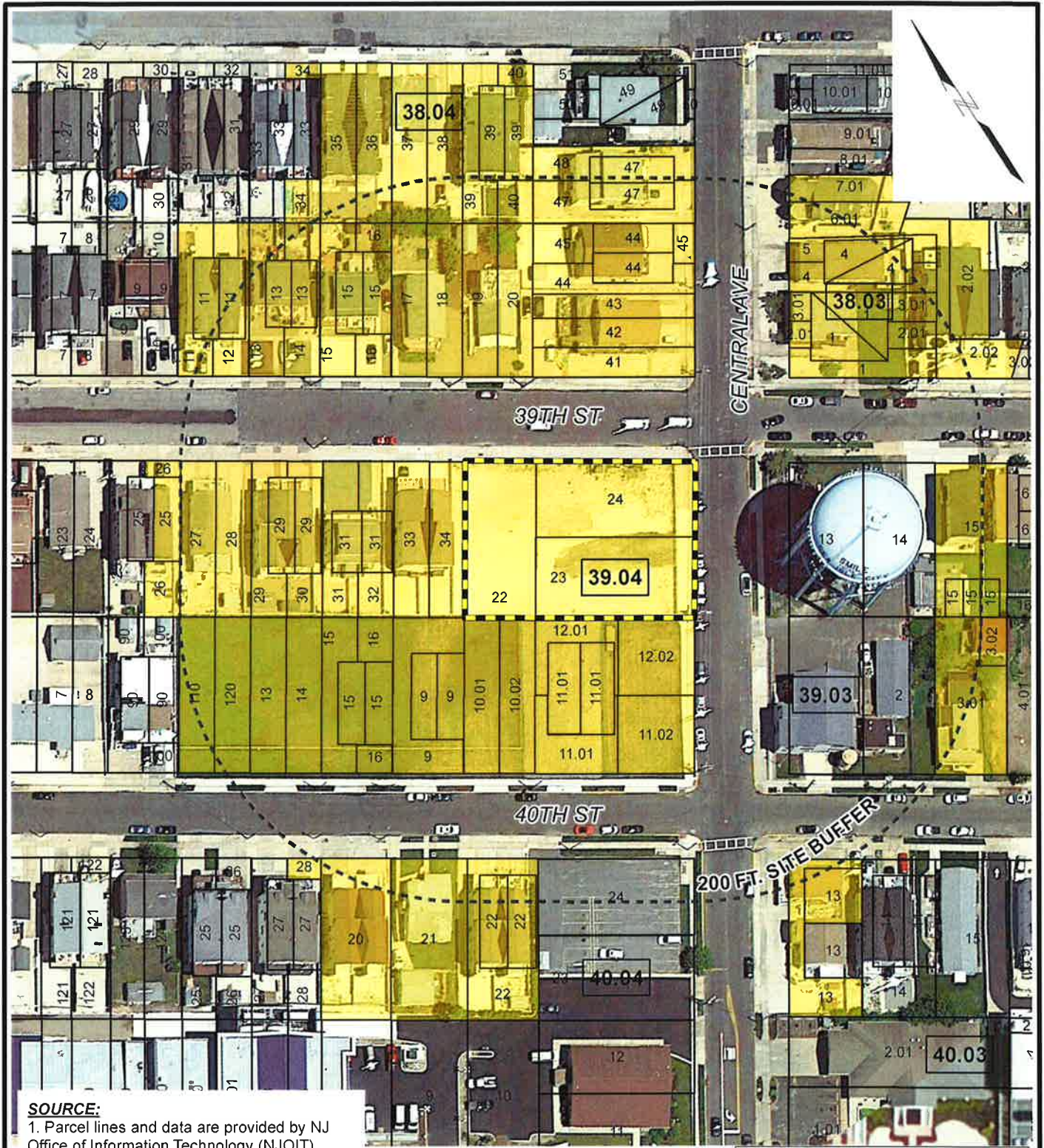
Type	Block	Lot	Street	Municipality	County	Owner	Owner Street	Owner City	Owner State	Owner Zip Code
Vacant	39.04	24	3900 Central Avenue	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Residential	39.04	25 & 26	230 39th Street East	Sea Isle City	Cape May	Burick, Marc & Jamie B.	51 Savage Drive	Langhorne	PA	19053
Residential	39.04	25 & 26	230 39th Street West	Sea Isle City	Cape May	Wack, Rocco & Linda	1024 Walnut Lane	Lansdale	PA	19446
Residential	39.04	27 & 28	226 39th Street	Sea Isle City	Cape May	Lentz, David L. & et al	2 Pleasant Mill Court	Medford	NJ	08055
Residential	39.04	29 & 30	222 39th Street East	Sea Isle City	Cape May	Marinari, Salvatore J. & Colleen	908 Baker Drive	Norristown	PA	19403
Residential	39.04	29 & 30	222 39th Street West	Sea Isle City	Cape May	Hysore, Milton T. & Donna Lee	736 Borough Line Road	Collegeville	PA	19426
Residential	39.04	31 & 32	218 39th Street East	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Residential	39.04	33 & 34	214 39th Street	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Residential	39.04	110 & 120	227 40th Street	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Residential	40.03	13 & 14	146 40th Street North	Sea Isle City	Cape May	Eden, Joseph & Carol	3806 Ronald Drive	Philadelphia	PA	19154
Residential	40.03	13 & 14	146 40th Street South	Sea Isle City	Cape May	Kee, Dennis R. & Mary J.	146 40th Street South	Sea Isle City	NJ	08243
Residential	40.04	20	220 40th Street	Sea Isle City	Cape May	Jersey Central Power & Light Co.	800 Cabin Hill Drive	Greensburg	PA	15601
Residential	40.04	21	218 40th Street	Sea Isle City	Cape May	Muhlbaier, Gary M.	5 Hollybrook Drive	Sewell	NJ	08080
Residential	40.04	21	218 40th Street	Sea Isle City	Cape May	Muhlbaier, Katherine	115 Edgewater Ave	Westville	NJ	08093
Residential	40.04	22	210 40th Street East	Sea Isle City	Cape May	Carr, Michael A. & Lisa A.	5281 Rogers Circle	Plymouth Meeting	PA	19462

Attachment A:

Sea Isle City Former MGP Site

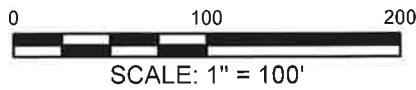
List of Properties within 200' of Site

Type	Block	Lot	Street	Municipality	County	Owner	Owner Street	Owner City	Owner State	Owner Zip Code
Residential	40.04	22	210 40th Street West	Sea Isle City	Cape May	Zellman, Frances P.	794 McCardle Drive	West Chester	PA	19380
Parking Lot	40.04	23 & 24	40th Street and Central Avenue	Sea Isle City	Cape May	City of Sea Isle City	4416 Landis Avenue	Sea Isle City	NJ	08243
Residential	40.04	27 & 28	222 40th Street East	Sea Isle City	Cape May	Larkin, Kevin J. & Loretta A.	222 40th Street East	Sea Isle City	NJ	08243
Residential	40.04	27 & 28	222 40th Street West	Sea Isle City	Cape May	Zakorchemny, Walter T.	222 40th Street West	Sea Isle City	NJ	08243





SOURCE:

1. Parcel lines and data are provided by NJ Office of Information Technology (NJGIT), Office of Geographic Information Systems (OGIS), and are shown for graphical purposes only. This map is not to be considered a legal tax map
 2. 2014 Google Earth Pro Image accessed 8/20/2015.



LEGEND

-  Approximate Site Boundary
-  Residential Properties

Remedial Investigation Report
 Sea Isle City Former MGP Site
 Sea Isle City, New Jersey

Jersey Central Power & Light Company
 Morristown, New Jersey



Project 013660

**SENSITIVE RECEPTORS
 FIGURE**

April 2016

Fig. 1

Attachment C
Summary of Contamination

Remedial Investigations at the site identified the presence of free product and subsurface soil impacts associated with the former manufactured gas plant (MGP) operations. Starting in 2009, remedial action (RA) work was performed to address the soil impacts. The site was divided into cells for the purposes of excavation work. Soil impacts to a minimum of 12 feet below ground surface were removed as part of the RA. No free product, residual product, or MGP-related process vessels remained at the site after completion of the on-site RA. The excavated soil was transported off-site for thermal treatment, and the excavation backfilled using certified clean fill. Piping, wood, and concrete encountered during the RA was removed and disposed in accordance with applicable regulations. Subsurface barriers (plywood with 20 mil plastic sheeting on both sides) were installed on the north and east sides of the excavation area at 210 39th Street after the on-site excavation work had been completed. Impacts to the east and south of the 214 39th Street property have been remediated, along with impacts identified on the property. Remaining soil impacts associated with the Sea Isle City Former MGP site are located in the 39th Street, 40th Street, and Central Avenue right of ways, along with small areas of impacts on three residential properties. GEI proposes to establish deed restrictions to address remaining soil impacts. A groundwater monitoring plan will be developed to evaluate groundwater quality.

Attachment D

Groundwater Use

GEI obtained a radius well search from the NJDEP for wells located within a ½ mile radius of the site. The only potable water well identified within the ½ mile search radius is the Sea Isle City municipal well located to the east of the site across Central Avenue. This well is screened in the Atlantic City Formation, which is significantly below (minimum of 700 feet) and separated by two regional aquicludes, from the shallow groundwater zone where MGP-related impacts have been identified. The well is screened between 724 to 884 feet below ground surface. GEI has not sampled water from this well; however, Sea Isle City performs regular sampling of the water as required by the Safe Drinking Water Act and the water meets the standards for use as a potable water supply. A second public community supply well, also owned and operated by Sea Isle City, is located approximately 3,200 feet to the south of the site. This well has a depth of 845 feet. A copy of the well search spreadsheet is included with this submittal. Based on the depth of the well and its distance from the project area the well is not expected to have been impacted by MGP-related operations. Sea Isle City performs regular sampling of water from the well as required by the Safe Drinking Water Act and has not reported concerns suspected of being associated with the MGP operations.

Attachment E

Vapor Intrusion

In 2007 prior to the implementation of the soil remedial action a Vapor Intrusion (VI) investigation was conducted at 214 39th Street, 205 40th Street, and 209 40th Street. These dwellings were adjacent to the site and could potentially be impacted by vapors associated with MGP contamination. The VI investigation was conducted by Haley & Aldrich, of Parsippany, New Jersey. The initial investigation involved the installation of temporary well points at each parcel and the collection of groundwater samples, to identify whether an exceedance of the VI Groundwater Screening Level was present. Review of the groundwater analytical results reported exceedances of the 15 µg/L benzene screening level in samples collected at 214 39th Street and 209 40th Street. No exceedances were reported in the groundwater sample collected from 205 40th Street.

Based on the results of the groundwater screening, air samples were collected from the crawl spaces of the 214 39th Street and 209 40th Street dwellings, with an ambient air sample collected from the MGP site. The samples were collected using 6-liter stainless steel Summa canisters with 8-hour flow regulators. No exceedances of the Indoor Air Screening Levels were reported. Based on the results of the VI investigation, Haley & Aldrich concluded that vapor intrusion was not an environmental concern. The NJDEP responded by sending letters to the occupants of the properties tested stating that vapors from the former MGP site were not a concern inside their dwellings.

Attachment F

Ecological Receptors

GEI conducted a Baseline Ecological Evaluation (BEE) of the site in 2004. The BEE noted that while contaminants of ecological concern were present on the site, the soil and groundwater contamination was limited to residential lots and city streets, with no environmentally sensitive natural resources at or adjacent to the site. Based on this information, no further ecological evaluation was recommended. In a letter dated May 24, 2004, the NJDEP concurred with GEI's recommendation that no further ecological evaluation is needed.

SITE NAME	Sea Isle City Former Manufactured	Enter no information beyond column B
SITE STREET ADDRESS	Gas Plant Site	
SITE COUNTY (select)	210 39th Street Cape May	
SITE MUNICIPALITY (select)	Sea Isle City	
PROGRAM INTEREST (PI) ID # :	G000006130	
SOURCE COORDINATE X		437484
SOURCE COORDINATE Y		118282
GROUNDWATER FLOW DIRECTION USED (if any)	ESE	
WERE APPLICABLE WELL TYPES FOUND? (Yes/No)	Yes	
IS THIS SUBMISSION AN UPDATE? (Yes/No)	Yes	
AUTHOR (name of company)	GEI Consultants, Inc.	
AUTHOR STREET ADDRESS (include town and zip code)	18000 Horizon Way, Suite 200, Mount Laurel, NJ 08054	
LSRP LICENSE NUMBER OVERSEEING WORK	575013	
LSRP NAME OVERSEEING WORK	Robert P. Blauvelt	
PROFESSIONAL WHO PREPARED SUBMISSION	Brian Mannino	
EMAIL CONTACT	bmannino@geiconsultants.com	
PHONE CONTACT	856-291-5654	

**VAPOR INTRUSION INVESTIGATION REPORT
SEA ISLE CITY FORMER MANUFACTURED GAS PLANT SITE
SEA ISLE CITY, NEW JERSEY**

by

**Haley & Aldrich, Inc.
Parsippany, New Jersey**

for

**Jersey Central Power & Light Company
Morristown, New Jersey**

**File No. 34237-006
21 December 2007**

TABLE OF CONTENTS

	Page
LIST OF TABLES	ii
LIST OF FIGURES	ii
LIST OF APPENDICES	ii
1. INTRODUCTION	1
1.1 Site History and Setting	1
2. SITE GEOLOGY AND HYDROGEOLOGY	2
2.1 Overburden Soils	2
2.2 Site Hydrogeology	2
3. VAPOR INTRUSION INVESTIGATION	3
3.1 Approach	3
3.2 Groundwater Investigation	4
3.2.1 Groundwater Sampling	4
3.2.2 Groundwater Analytical Testing	4
3.2.3 Groundwater Results	4
3.3 Crawl Space and Ambient Air Investigation	4
3.3.1 Crawl Space and Ambient Air Sampling	5
3.3.2 Crawl Space and Ambient Air Sampling Analytical Testing	5
3.3.3 Crawl Space and Ambient Air Sampling Results	6
3.3.4 Field Evaluation of Crawl Space Air Quality	6
3.4 Data Validation	7
4. VAPOR INTRUSION EVALUATION	8
4.1 Summary of Potential Impacts to Soil and Groundwater	8
4.2 Vapor Intrusion Conceptual Site Model Summary	8
4.3 Evaluation of VI Investigation Results	8
4.4 Summary and Conclusions	9
5. REFERENCES	10

LIST OF TABLES

Table No.	Title
I	Sample Summary
II	Groundwater Analytical Results
III	Crawl Space Air/Ambient Air Analytical Results

LIST OF FIGURES

Figure No.	Title
1	Project Locus
2	Site and Site Vicinity Plan
3	Summary of Groundwater Analytical Results
4	Summary of Crawl Space Air/Ambient Air Analytical Results

LIST OF APPENDICES

A	Photographic Log
B	Temporary Well Point Installation Logs
C	TestAmerica Field Sampling Report
D	Indoor Air Building Survey and Sampling Forms
E	Record of Field Monitoring
F	Laboratory Data Summary Sheets, EDD, and EDSA check printout (EDD diskette and bound laboratory report – NJDEP copy only)
G	Data Usability Summary Report

1. INTRODUCTION

This Vapor Intrusion (VI) Investigation Report provides the results of the VI pathway evaluation conducted at the Sea Isle City Former Manufactured Gas Plant (MGP) site located at 39th Street and Central Avenue (the Site) in Sea Isle City, Cape May County, New Jersey (Figure 1). This VI Investigation was conducted in accordance with the New Jersey Department of Environmental Protection (NJDEP) approved Vapor Intrusion Workplan, dated 22 February 2007, and an amendment approved by the NJDEP Case Manager on 6 September 2007. This VI Investigation Report was prepared in accordance with the New Jersey Technical Requirements for Site Remediation (N.J.A.C.7:26E) and the NJDEP Vapor Intrusion Guidance (October 2005, revised through March 2007).

1.1 Site History and Setting

In the late 1800s, the Sea Isle City former MGP was owned and operated by the Sea Shore Gas Company. In 1920, the Sea Shore Gas Company sold the plant to the American Gas Generator Company. In 1921, the MGP was sold to Friars Gas Company, and then to the City of Sea Isle. JCP&L purchased the MGP in 1926 and except for the holder and oil tank, the MGP was demolished in 1942.

JCP&L sold the property to the New Jersey Natural Gas (NJNG) Company in 1946, which retained ownership until 1978 when the Site was sold and subdivided for residential redevelopment into the present three lot configuration (Figure 2). The former Site occupied an area of approximately 0.41 acres and is located on three parcels of property now owned by JCP&L, Block 39.04, Lots 22, 23, and 24. Residences were constructed on Lots 22 and 23 shortly thereafter. Lot 24 reportedly has been vacant since the dismantling of the MGP. The structure on Lot 23 was demolished in 1988. Two properties (Lots 23 and 24) are asphalt paved. Lot 22 contains a 2-story residential duplex, which is unoccupied. The 2-story structure on Lot 22 is elevated above grade by concrete columns.

The Site and surrounding area is generally flat with no significant surface features. Surrounding properties are primarily residential, with most occupied only on a seasonal basis. Based on observations made during a 16 November 2006 site visit, the residential buildings are typically constructed with perimeter foundation walls with a ventilated crawl space or elevated on concrete columns or wood piles. This is due to the shallow groundwater table and barrier island location of the Site. In addition to residential properties, the Site is bounded by two public roads, Central Avenue and 39th Street. The former gas holder location and locations of current residential lots and structures are depicted on Figure 2.

2. SITE GEOLOGY AND HYDROGEOLOGY

The geology and hydrogeology of the Site vicinity are briefly summarized in the following text for the purpose of supporting the conceptual site model for the VI pathway evaluation.

2.1 Overburden Soils

Relevant to influence on the potential for vapor intrusion, the geology beneath the Site and immediate area is composed of the following subsurface materials:

Upper Sand (US): An upper sand unit consisting of fine to coarse-grained sand with some silt and gravel was observed at all boring locations on Site. The water table is encountered in the upper sand unit throughout the Site area, which is generally tan above the water table and gray below the water table. The thickness of the US unit ranges from approximately 8 feet in the northern Site area to approximately 4 feet in the southern Site area.

A thin layer of fill materials is encountered throughout most of the Site area. The fill is approximately 0.5 feet thick although isolated thicker fill deposits were encountered. The fill is considered as part of the US unit, due to similar granular characteristics.

Organic Silt (OS): An organic silt unit consisting of varying amounts of moderately cohesive/moderately plastic clay, silt, and fibrous peat underlies the US unit. The upper 3 to 6 inches of the OS unit is comprised primarily of peat. The thickness of the organic silt unit varies from approximately 1 to 8 feet, with one boring located on Lot 22 where the OS unit was measured to be approximately 19 feet thick.

Silty Sand (SS): A middle sand unit consisting of gray fine to very fine sand with trace shell fragments and root fibers underlies the OS unit in the southern and eastern portions of the Site area. The thickness of the middle sand ranges from approximately 2 feet in the southern Site area to approximately 16 feet in central areas of the Site. The silty sand unit pinches out to the north and is generally absent on-Site and north of the Site.

Organic Silt with Sand (OSS): A clay/silt unit consisting of gray clay and silt with very fine sand and occasional lenses of gray fine to very fine sand underlies the organic clay/silt in the northern and western Site area, and the middle sand in the southern and eastern Site area. The thickness of the OSS unit undulates, with areas ranging in thickness from less than 1 foot to approximately 8 feet, with a maximum of 13 feet measured several hundred feet west of the Site.

Lower Sand (LS): A sand unit consisting of gray very fine to fine sand with trace shell fragments underlies the OSS unit. The top of the lower sand unit was encountered at depths ranging from approximately 30 to 40 feet below ground surface. The thickness of the LS unit was not measured in previous reports.

2.2 Site Hydrogeology

Groundwater at the Site occurs in unconsolidated Coastal Plain sediments. The water table is situated in the Upper Sand unit, which generally consists of fine to coarse sand with silt and gravel. Previous investigations concluded that there are no tidal effects on the shallow groundwater system underlying the Site and vicinity. Groundwater ranges from approximately 1 to 2 feet below ground surface (bgs). The measured flow gradient at the Site is to the east and becomes southerly along Central Avenue.

3. VAPOR INTRUSION INVESTIGATION

The results of previous investigations indicated subsurface contamination consistent with former MGP processes in soil and groundwater at the Site and proximate to residential structures. A review of the previous soil data indicates that the NJDEP Impact to Groundwater Soil Cleanup Criteria (IGWSCC) were exceeded for benzene on Block 39.04, Lots 22, 23, 24, 10.01, 10.02, and 12.01. The soil data also indicate that the NJDEP IGWSCC is exceeded for xylene on Block 39.04, Lots 11.01 and 12.01. A review of the previous groundwater data indicates groundwater concentrations in excess of NJDEP VI Groundwater Screening Levels (GWSL) for benzene has been identified at three locations which include a monitoring well located on the western corner of the Site (MW-9, on Lot 23), a monitoring well located on the eastern corner of the Site (MW-10, on Lot 24), and a piezometer located north of the Site (PZ-1, in the center of 39th Street).

The unoccupied structure on the Site property (Block 39.04; Lot 22) and the seasonal use structure on Block 39.04; Lot 11.01/12.01) are elevated approximately one story above ground and seated on concrete columns or wood piles. Diffusion of vapors is not expected to be a significant mechanism regarding VI at these locations. Accordingly, a VI investigation was planned and implemented that focused on properties with structures that are constructed with perimeter foundation walls and ventilated crawl spaces as detailed in the VI Workplan and described below.

3.1 Approach

The VI Remedial Investigation was conducted in accordance with the NJDEP-approved VI Work Plan, which was developed based upon a review of Site conditions and data. This investigation focused on obtaining data relative to potential VI at three properties adjacent to the Site. These include:

- Block 39.04, Lot 10.02 (209 40th Street)
- Block 39.04, Lot 12.02 (205 40th Street)
- Block 39.04, Lot 34 (214 39th Street)

The VI investigation approach was developed based on consideration of foundation type (i.e., focused on structures with small crawl spaces) and proximity of the buildings to the Site and areas with the known contaminant concentrations in soil and/or groundwater.

The presence of crawl spaces in the study area and the very shallow groundwater depths did not permit the collection of near-slab or sub-slab soil gas samples that would be considered representative in order to demonstrate whether the VI pathway is or is not complete (i.e., due to depth limitations, proximity to the capillary fringe, and the potential for ambient air exchange with the shallow soil). Recognizing these conditions, the study design included a phased vapor intrusion assessment at the three locations identified above, commencing with the collection of groundwater samples, and if necessary, crawl space air samples, and iteratively, indoor air samples.

Given that the three areas selected for this VI investigation were conservatively selected based on biased-high conditions, if the results indicate that a complete pathway does not exist at these locations, it is reasonable to conclude that further VI investigations are not warranted at other surrounding properties.

3.2 Groundwater Investigation

A groundwater investigation (Stage 4A) was conducted on 20 September 2007 at Block 39.04 Lot 10.02, Lot 12.02, and Lot 34 to initially investigate the VI pathway. A summary of the samples and property locations are provided in Table I.

3.2.1 Groundwater Sampling

Three temporary well points (TPZ-1 through TPZ-3) were installed near residential structures at three off-site properties adjacent to the Site (Figure 3). GeoProbe borings were advanced by Environmental Probing Investigations, Inc (EPI) Cream Ridge, New Jersey to a depth of 8 feet bgs and ¾-inch diameter temporary well screens were installed in the boreholes. The screen lengths were 8 feet with no solid riser. Groundwater samples were collected by TestAmerica (formerly Severn Trent Laboratories) of Edison, New Jersey in accordance with the NJDEP Field Sampling Procedures Manual (August 2005). Refer to Appendix A for photographs of sample locations. The temporary well point installation logs are provided in Appendix B and TestAmerica field sampling reports are provided in Appendix C.

3.2.2 Groundwater Analytical Testing

The groundwater samples collected from TPZ-1 through TPZ-3 were submitted to TestAmerica (NJDEP Laboratory Certification No. 12028) for volatile organic compound (VOC) testing via EPA Method 624. Benzene, toluene, ethylbenzene, and total xylenes (BTEX) compounds were reported in the analysis of the groundwater samples. TestAmerica laboratory summary sheets, the Electronic Data Deliverables (EDD) diskette in NJDEP-required format (NJDEP copy only), and a printout indicating that the data passed the Electronic Data Submittal Application (EDSA) check are included in Appendix F. The complete copy of the laboratory reports including the quality assurance/quality control data are provided as a separately bound document (NJDEP copy only).

3.2.3 Groundwater Results

Temporary well points TPZ-1 (Block 39.04, Lot 34 (214 39th Street)) and TPZ-3 (Block 39.04, Lot 10.02 (209 40th Street)) exceeded the 15 micrograms per liter (µg/l) NJDEP GWSL for benzene, with concentrations of 44 µg/l and 180 µg/l, respectively. Detected concentrations of toluene, ethylbenzene, and xylenes in temporary well points TPZ-1 and TPZ-3 were several orders of magnitude lower than their NJDEP GWSLs. BTEX compounds detected in TPZ-2 (Block 39.04, Lot 12.02 (205 40th Street)) were all several orders of magnitude below their NJDEP GWSLs.

Analytical results are summarized on Table II and Figure 3. NJDEP considers groundwater in excess of the VI GWSLs to be a potential source of VI.

3.3 Crawl Space and Ambient Air Investigation

Since benzene concentrations were identified in groundwater in excess of NJDEP VI GWSLs at two residential properties (Block 39.04 Lot 10.02 and Lot 34), the potential for diffusion of vapors into the crawl spaces was investigated to further evaluate the potential VI pathway, in accordance with the VI Workplan. The crawl space air/ambient air investigation was conducted on 15 November 2007. A summary of the samples and property locations are provided in Table I.

3.3.1 Crawl Space and Ambient Air Sampling

Since groundwater was identified in excess of NJDEP VI GWSLs near two of the residential structures (Block 39.04 Lot 10.02 and Lot 34) sampled on 20 September 2007, a crawl space air investigation was implemented at these properties on 15 November 2007. In addition, an ambient air sample was collected at Block 39.04 Lot 22 (the Site) in conjunction with the crawl space air samples.

Temperatures on 14 November 2007 (one day prior to sampling) ranged from 39° F to 63° F, with barometric pressure ranging from approximately 29.73 inches Hg to 30.03 inches Hg. A period of rain was observed after sampling began on 15 November 2007, with temperatures dropping from 63° F to 45° F, barometric pressure ranging from approximately 29.51 inches Hg to 29.62 inches Hg, and winds from the northwest at approximately 9 to 18 mph. These conditions are considered appropriate and conservative for crawl space and indoor air sampling^{8,9}.

A length of 0.25-inch outer diameter tubing (perfluoroalkoxy or PFA) was placed approximately 3 feet into each crawl space, allowed to equilibrate, and then connected to a 6-liter Summa canister to collect crawl space air samples CS-10.02 and CS-34. Ambient air sample AA-22 was collected to obtain ambient air background concentrations in the vicinity of the residential structures being investigated by the crawl space air sampling event. The ambient air sample was collected approximately at 5 feet above the ground, at breathing zone height.

The use of 8-hour flow controllers was selected for the 6-liter Summa canisters, such that the resulting approximately 50 milliliters per minute (mL/minute) sampling rate did not exceed the 200 ml/minute flow rate maximum recommended by NJDEP. During collection of crawl space sample CS-34, vacuum readings were decreasing at a higher rate than the other field samples, as measured on the field vacuum gauge attached to the flow controller assembly. This was suggestive of an incorrectly calibrated flow controller or other sampling equipment error, and a field decision was made to terminate the collection of crawl space sample CS-34 as canister vacuum neared zero on the field vacuum gauge after an approximately five hour sample interval. However, a review of the Air Canister Post-Sampling Pressure Check Record in the final laboratory report specifies that all samples had acceptable final vacuum (ranging from -4.1 in Hg to -4.2 in Hg). This confirms that the crawl space sample CS-34 field vacuum gauge was inaccurate, and that crawl space sample CS-34 was collected appropriately. In conversations on 19 November 2007, NJDEP VI leadership also agreed that the sampling parameters are acceptable.

Refer to Appendix A for photographs of sample locations. Exterior field sketches are provided with the NJDEP Indoor Air Building Survey and Sampling Forms for the crawl space sampling event as included in Appendix D.

3.3.2 Crawl Space and Ambient Air Sampling Analytical Testing

The crawl space and ambient air samples were submitted to TestAmerica of Burlington, Vermont (Laboratory Certification No. VT972) for VOC testing via EPA Method TO-15. The full TO-15 target analyte list was reported in the analysis of the indoor air samples. TestAmerica laboratory summary sheets, the EDD diskette in NJDEP-required format (NJDEP copy only), and a printout indicating that the data passed the EDSA check are included in Appendix F. The complete copy of the laboratory reports including the quality assurance/quality control data are provided as a separately bound document (NJDEP copy only).

3.3.3 Crawl Space and Ambient Air Sampling Results

All crawl space and ambient air analytical results are several orders of magnitude below NJDEP Residential Indoor Air Screening Levels (RIASLs). The Freon compounds dichlorodifluoromethane and trichlorofluoromethane were detected in crawl space air samples as well as in ambient air. Chloromethane was also reported in the ambient air sample. Toluene, the only potentially MGP-related compound detected, was reported in the crawl space samples at three orders of magnitude below NJDEP RIASLs:

- Block 39.04, Lot 10.02 (209 40th Street)

Crawl space sample CS-10.02 results indicate the presence of dichlorodifluoromethane, toluene, and trichlorofluoromethane. Toluene was reported at 4.1 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in crawl space air, a factor greater than 1000 times lower than the NJDEP RIASL of 5,100 $\mu\text{g}/\text{m}^3$. Detections of dichlorodifluoromethane (2.7 $\mu\text{g}/\text{m}^3$) and trichlorofluoromethane (1.3 $\mu\text{g}/\text{m}^3$) were also well below their NJDEP RIASLs (180 $\mu\text{g}/\text{m}^3$ and 730 $\mu\text{g}/\text{m}^3$, respectively). No other TO-15 target VOCs were detected at concentrations greater than the method reporting limit.

- Block 39.04, Lot 34 (214 39th Street)

Crawl space sample CS-34 results indicate the presence of dichlorodifluoromethane, toluene, and trichlorofluoromethane. Toluene was reported at 2.4 $\mu\text{g}/\text{m}^3$ in crawl space air, a factor greater than 2000 times lower than the NJDEP RIASL of 5,100 $\mu\text{g}/\text{m}^3$. Detections of dichlorodifluoromethane (2.8 $\mu\text{g}/\text{m}^3$) and trichlorofluoromethane (1.2 $\mu\text{g}/\text{m}^3$) were also well below their NJDEP RIASLs (180 $\mu\text{g}/\text{m}^3$ and 730 $\mu\text{g}/\text{m}^3$, respectively). No other TO-15 target VOCs were detected at concentrations greater than the method reporting limit.

- Site Ambient Air Sample (Block 39.04, Lot 22 (210 39th Street)

Ambient air sample CS-34 results indicate the presence of chloromethane (1.4 $\mu\text{g}/\text{m}^3$), dichlorodifluoromethane (2.9 $\mu\text{g}/\text{m}^3$), and trichlorofluoromethane (1.2 $\mu\text{g}/\text{m}^3$). Although NJDEP indoor air criteria are not applicable to ambient air, detections of chloromethane, dichlorodifluoromethane, and trichlorofluoromethane were well below NJDEP RIASLs (95 $\mu\text{g}/\text{m}^3$, 180 $\mu\text{g}/\text{m}^3$, and 730 $\mu\text{g}/\text{m}^3$, respectively). No other TO-15 target VOCs were detected at concentrations greater than the method reporting limit.

3.3.4 Field Evaluation of Crawl Space Air Quality

Measurements of oxygen levels, lower explosive limits (LEL), and total VOCs were collected during the groundwater sampling event to evaluate the quality of the vented crawl space air, as specified in the Vapor Intrusion Workplan Letter of Addendum dated 11 July 2007. Monitoring was conducted at Block 39.04 Lot 10.02, Lot 12.02, and Lot 34 on 20 September 2007 during the groundwater sampling event. Readings indicated that oxygen levels within the crawl spaces were at normal levels with readings of 20.9%. In addition, field measurements indicate that LEL (0%) and total VOCs (0.0 parts per million, ppm) were not detected during the monitoring event.

Measurements of oxygen levels, LEL and total VOCs were also collected at Block 39.04 Lot 10.02 and Lot 34 on 15 November 2007 during the crawl space air sampling event. Readings indicated that oxygen levels within the crawl spaces were at normal levels with readings ranging from 20.4% to 20.5%. In addition, field measurements indicate that LEL (0%) and total VOCs (0.0 ppm) were not detected during the monitoring event.

The Record of Field Monitoring forms are provided in Appendix E.

3.4 Data Validation

Haley & Aldrich performed a data quality assessment of the laboratory report of analysis and field Quality Assurance/Quality Control (QA/QC) program to assess the overall quality of the data obtained for its usability in reporting the results of a VI investigation. Haley & Aldrich's assessment included a preliminary review of GC/MS instrument performance checks, initial and continuing calibrations, method blanks, laboratory control samples, internal standard recoveries, and sample data formatting. The results of Haley & Aldrich's data validation review are summarized in Data Usability Summary Reports and are provided in Appendix G.

Groundwater data also included the collection of field and trip blanks (both non-detect for VOCs) to monitor for potential field or travel positive bias contamination of the samples. The laboratory report indicates that groundwater sample receipt conformed with requirements. The groundwater report also indicates that the matrix spike recovery of toluene and ethylbenzene were outside of QC limits, since the sample amount was too high for the spike level. A review of the data indicates that this QC non-conformance refers to a batch matrix spike sample that is not associated with these project samples. No qualification is needed for the batch matrix spike sample.

The field QA/QC program also included the collection of field duplicate samples at temporary well point TPZ-1 (Block 39.04, Lot 34; 214 39th Street). A review of the data indicated that relative percent differences (RPDs) of field duplicate pair results exceeded the 35% criterion proposed in the VI Workplan. Haley & Aldrich requested that TestAmerica retrieve the samples from storage and screen remaining unused sample aliquots. The screening indicated similar RPD results, although the retesting was conducted outside of analytical holding times. Duplicate sample non-homogeneity was suspected, since the samples were collected sequentially from a temporary well point. However, the benzene concentration of both the field sample (44 µg/l) and the field duplicate (16 µg/l) exceeded the NJDEP GWSL, and the VI investigation proceeded to the collection of crawl space samples as described in the VI Workplan. Accordingly, no additional qualification is needed for the field duplicate QC samples.

Based on a review of criteria of the laboratory data for precision, accuracy, representativeness, and comparability and the field QC sample data, the data are of sufficient and defensible quality to be used for the data quality objectives (DQOs) established for the investigation of potential VI at the Site. No data were rejected from consideration and the data are usable without qualification.

4. VAPOR INTRUSION EVALUATION

The 22 February 2007 Vapor Intrusion Workplan included an examination of previous Site soil and groundwater data as well as geological, hydrogeological, and other information. This comprehensive review was conducted in order to develop a VI Conceptual Site Model (CSM).

4.1 Summary of Potential Impacts to Soil and Groundwater

A detailed review of subsurface test boring and soil and groundwater data was presented in the VI Workplan. In summary, the depth to top of visual impacts on the Site and vicinity is approximately 4 to 6 feet. Depth to bottom of visual impacts in soil ranges from 5 to 8 feet at most of the Site and 10 to 19 feet at isolated off-Site locations. The thickness of visible impacts ranges approximately 1 to 4 feet at most of the Site, to a maximum of approximately 15 feet in the localized area south of the former gas holder. Impacted layers pinch out in southern and western areas of the Site. Free product has not been identified during investigations at the Site and vicinity.

The MGP impacts in soil are generally located beneath the very shallow groundwater table at the Site, with a measured flow gradient at the Site to the east and which becomes southerly along Central Avenue.

4.2 Vapor Intrusion Conceptual Site Model Summary

Substantial investigation activities have been completed at the Site. Contamination identified in these studies is consistent with the MGP processes that began in the late 1800s and continued until the 1940's, being discontinued over 60 years ago. For the VI pathway to be complete at the Site and vicinity, it would likely be caused via diffusion of vapors from sources of residual contamination in shallow groundwater, which typically ranges from approximately 1 to 2 ft bgs.

4.3 Evaluation of VI Investigation Results

The groundwater contamination identified is consistent with Site conditions and subsurface information and the VI CSM. For this VI investigation which focused on areas closest to the Site and where the highest concentrations are detected, only one compound (benzene) was detected above GWSLs. Crawl space samples indicate the presence of only three compounds: dichlorodifluoromethane, toluene, and trichlorofluoromethane. These compounds are reported at concentrations that are significantly below NJDEP RIASLs. No other TO-15 target VOCs were detected at concentrations greater than the method reporting limit.

Based on the results of this VI Investigation, the VI pathway is not complete:

- Toluene, the only potential MGP related compound detected, was reported at less than 1/1000 of the NJDEP RIASL.
- The finding of toluene and the absence of benzene in the crawl space samples is inconsistent with the groundwater data collected at those locations, wherein higher concentrations of benzene were found as compared to toluene. This is suggestive of contributions from a source other than the subsurface materials.
- Detections of dichlorodifluoromethane and trichlorofluoromethane, two compounds unrelated to the MGP Site, were also well below their NJDEP RIASLs.
- Comparing the crawl space sampling results to the NJDEP RIASLs is considered conservative, since NJDEP screening levels were developed to be protective of

residential indoor air exposures and these worst case samples were collected in unoccupied crawl spaces.

- Ambient air at the Site is generally consistent with crawl space air, with concentrations of chloromethane, dichlorodifluoromethane, and trichlorofluoromethane, confirming effective communication between ambient air and crawl space air.

4.4 Summary and Conclusions

The sampling locations were conservatively selected to represent the conditions with the greatest relative potential to result in a complete VI pathway. None of the crawl space samples detected constituents in excess of the NJDEP RIASLs and only one potential MGP constituent (toluene) was detected, albeit at concentrations orders of magnitude below the RIASL. Further, the study results suggest that the trace levels of toluene may not be from an MGP source. Additionally, BTEX compounds are highly degradable in the subsurface environment present at the Site, which includes sandy soil materials and conditions conducive to aerobic biodegradation. The elevated nature and the well ventilated crawl spaces and garages present in the Site area allow for constant and rapid atmospheric air exchanges that will equilibrate potential pressure gradients and preclude the potential for VI

Based on the results of this vapor intrusion investigation, and the site-specific features described above, it is concluded that the vapor intrusion pathway is not complete and vapor intrusion is not an environmental concern for the Site. No additional investigation of the vapor intrusion pathway is warranted.

5. REFERENCES

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TABLE I
SAMPLE SUMMARY

Sea Isle City Former Manufactured Gas Plant Site
Sea Isle City, New Jersey

Block	Lot	Address	Property Usage	Sample ID	Sample Date	Sample Matrix	Sample Type	VOC Analysis	
								BTEX	TO-15
39.04	11.02/12.02	205 40th Street	Residence	TPZ-2	9/20/2007	Groundwater	Normal	X	
39.04	10.02	209 40th Street	Residence	TPZ-3	9/20/2007	Groundwater	Normal	X	
				CS-10.02	11/15/2007	Crawl Space Air	Normal		X
39.04	22	210 39th Street	Vacant Building	AA-22	11/15/2007	Ambient Air	Normal		X
39.04	33/34	214 39th Street	Residence	TPZ-1	9/20/2007	Groundwater	Normal	X	
				FD-1	9/20/2007	Groundwater	Field Duplicate	X	
				CS-34	11/15/2007	Crawl Space Air	Normal		X

Notes:

VOC Volatile Organic Compound
BTEX Benzene, Toluene, Ethylbenzene, and Xylene (Total)

TABLE II
GROUNDWATER ANALYTICAL RESULTS
 Sea Isle City Former Manufactured Gas Plant Site
 Sea Isle City, New Jersey

Sample ID Sample Location Sample Date Lab ID Sample Matrix Dilution Factor Units	Groundwater Screening Levels Levels (ug/L)	TPZ-1	FD-1*	TPZ-2	TPZ-3	Trip_Blank	Field_Blank
		214 39th Street 09/20/07 862546 Groundwater 1 ug/L Result RDL Q	214 39th Street 09/20/07 862550 Groundwater 1 ug/L Result RDL Q	205 40th Street 09/20/07 862549 Groundwater 1 ug/L Result RDL Q	209 40th Street 09/20/07 862547 Groundwater 1 ug/L Result RDL Q	-- 09/20/07 862545 Groundwater QA/QC 1 ug/L Result RDL Q	-- 09/20/07 862548 Groundwater QA/QC 1 ug/L Result RDL Q
Volatile Organic Compounds (VOCs)							
Benzene	15	44	16	1.6	180	0.2 U	0.2 U
Toluene	310,000	21	8.2	3.1	2.4	0.3 U	0.3 U
Ethylbenzene	61,000	4.3	1.5	8.6	45	0.4 U	0.4 U
Xylene (Total)	7,000	31	11	12	60	0.4 U	0.4 U

Notes:

Results compared to New Jersey Department of Environmental Protection (NJDEP) Groundwater Screening Levels (March 2007)

ug/L Micrograms per liter

* Duplicate of previous sample

RDL Reporting detection limit

Q Concentration qualifier

U Not detected at a concentration above the RDL

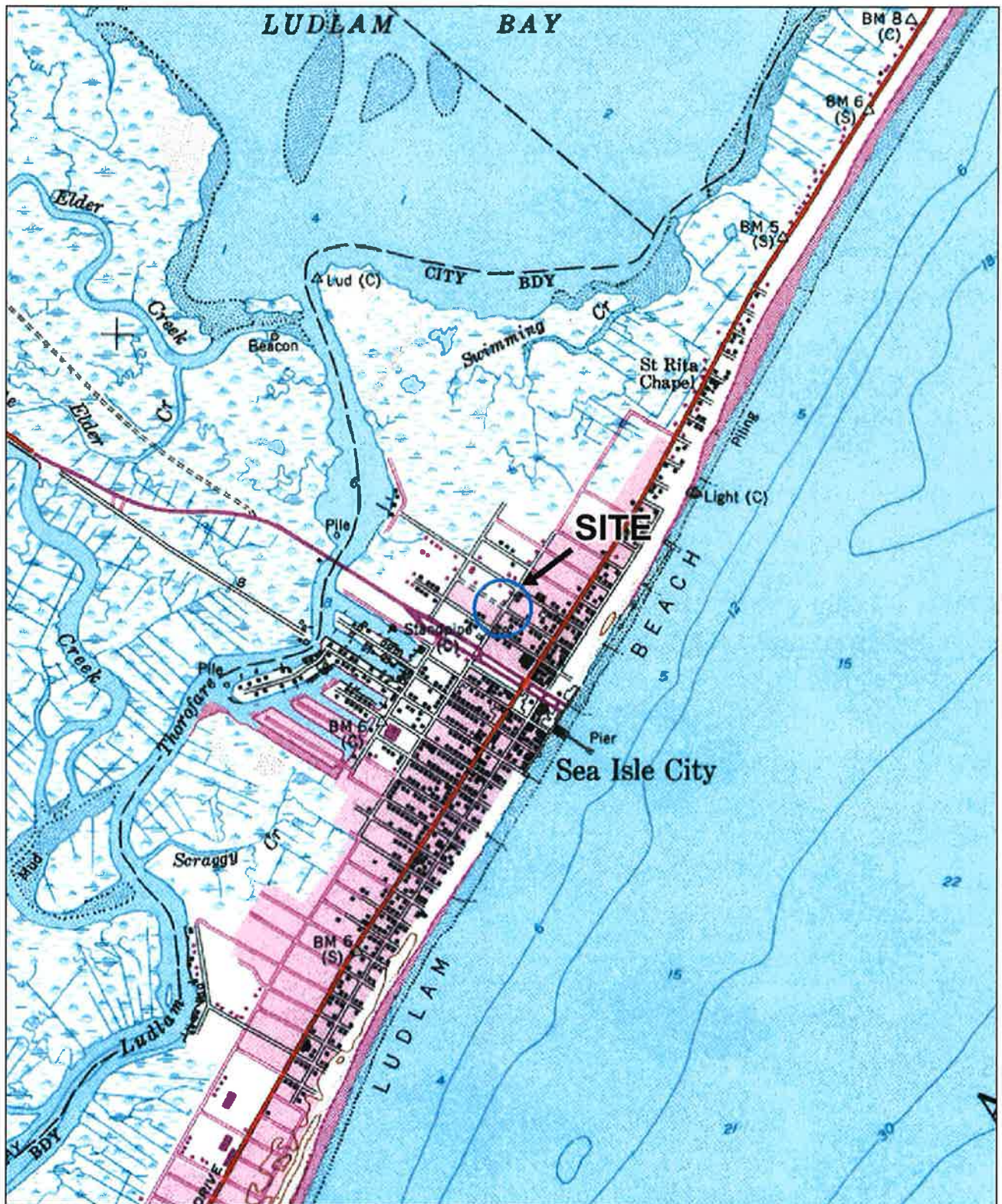
16 Highlighted concentration indicates exceedance of NJDEP Groundwater Screening Level

TABLE III
CRAWL SPACE AIR/AMBIENT AIR ANALYTICAL RESULTS
 Sea Isle City Former Manufactured Gas Plant Site
 Sea Isle City, New Jersey

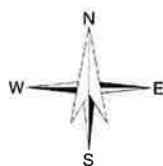
Sample ID Sample Location Sample Date Lab ID Units	Residential Indoor Air Screening Levels ug/m3	CS-10.02 209 40th Street 11/15/2007 732608 ug/m3			CS-34 214 39th Street 11/15/2007 732609 ug/m3			AA-22 210 39th Street 11/15/2007 732610 ug/m3			MBLK112107BA -- -- MBLK112107BA ug/m3		
		Result	RDL	Q	Result	RDL	Q	Result	RDL	Q	Result	RDL	Q
Acetone (2-propanone)	3,300	12	U	12	U	12	U	12	U	12	U		
Benzene	2	0.64	U	0.64	U	0.64	U	0.64	U	0.64	U		
Bromodichloromethane	3	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U		
Bromoethene	2	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U		
Bromoform	5	2.1	U	2.1	U	2.1	U	2.1	U	2.1	U		
Bromomethane (Methyl bromide)	5	0.78	U	0.78	U	0.78	U	0.78	U	0.78	U		
1,3-Butadiene	1	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U		
2-Butanone (Methyl ethyl ketone)	5,100	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U		
Carbon disulfide	730	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U		
Carbon tetrachloride	3	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U		
Chlorobenzene	51	0.92	U	0.92	U	0.92	U	0.92	U	0.92	U		
Chloroethane	2	1.3	U	1.3	U	1.3	U	1.3	U	1.3	U		
Chloroform	2	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U		
Chloromethane (Methyl chloride)	95	1	U	1	U	1.4	U	1	U	1	U		
3-Chloropropene (allyl chloride)	2	1.6	U	1.6	U	1.6	U	1.6	U	1.6	U		
2-Chlorotoluene (o-Chlorotoluene)	73	1	U	1	U	1	U	1	U	1	U		
Cyclohexane	6,200	0.69	U	0.69	U	0.69	U	0.69	U	0.69	U		
Dibromochloromethane	4	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U		
1,2-Dibromoethane	4	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U		
1,2-Dichlorobenzene	150	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U		
1,3-Dichlorobenzene	11	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U		
1,4-Dichlorobenzene	3	1.2	U	1.2	U	1.2	U	1.2	U	1.2	U		
Dichlorodifluoromethane	180	2.7	U	2.8	U	2.9	U	2.5	U	2.5	U		
1,1-Dichloroethane	510	0.81	U	0.81	U	0.81	U	0.81	U	0.81	U		
1,2-Dichloroethane	2	0.81	U	0.81	U	0.81	U	0.81	U	0.81	U		
1,1-Dichloroethene	220	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U		
1,2-Dichloroethene (cis)	36	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U		
1,2-Dichloroethene (trans)	73	0.79	U	0.79	U	0.79	U	0.79	U	0.79	U		
1,2-Dichloropropane	2	0.92	U	0.92	U	0.92	U	0.92	U	0.92	U		
1,3-Dichloropropene (cis)	2	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U		
1,3-Dichloropropene (trans)	2	0.91	U	0.91	U	0.91	U	0.91	U	0.91	U		
1,2-Dichlorotetrafluoroethane (Freon 114)	NC	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U		
Ethylbenzene	1,100	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U		
4-Ethyltoluene (p-Ethyltoluene)	NC	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U		
n-Heptane	NC	0.82	U	0.82	U	0.82	U	0.82	U	0.82	U		
Hexachlorobutadiene	5	2.1	U	2.1	U	2.1	U	2.1	U	2.1	U		
n-Hexane	730	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U		
Methylene Chloride	4	1.7	U	1.7	U	1.7	U	1.7	U	1.7	U		
4-Methyl-2-pentanone (MIBK)	3,100	2	U	2	U	2	U	2	U	2	U		
MTBE (Methyl tert-butyl ether)	2	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U		
Styrene	1,000	0.85	U	0.85	U	0.85	U	0.85	U	0.85	U		
Tertiary butyl alcohol (TBA)	66	15	U	15	U	15	U	15	U	15	U		
1,1,2,2-Tetrachloroethane	3	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U		
Tetrachloroethene (PCE)	3	1.4	U	1.4	U	1.4	U	1.4	U	1.4	U		
Toluene	5,100	4.1	U	2.4	U	0.75	U	0.75	U	0.75	U		
1,2,4-Trichlorobenzene	36	3.7	U	3.7	U	3.7	U	3.7	U	3.7	U		
1,1,1-Trichloroethane	1,000	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U		
1,1,2-Trichloroethane	3	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	31,000	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U		
Trichloroethene (TCE)	3	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U		
Trichlorofluoromethane (Freon 11)	730	1.3	U	1.2	U	1.2	U	1.2	U	1.2	U		
1,2,4-Trimethylbenzene	NC	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U		
1,3,5-Trimethylbenzene	NC	0.98	U	0.98	U	0.98	U	0.98	U	0.98	U		
2,2,4-Trimethylpentane	NC	0.93	U	0.93	U	0.93	U	0.93	U	0.93	U		
Vinyl Chloride	1	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U		
Xylene (m&p)	110	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U		
Xylene (o)	110	0.87	U	0.87	U	0.87	U	0.87	U	0.87	U		

Notes:
 Results compared to New Jersey Department of Environmental Protection (NJDEP) Residential Indoor Air Screening Levels (March 2007)
 NC No criteria
 ug/m3 Micrograms per cubic meter
 RDL Reporting detection limit
 Q Concentration qualifier
 U Not detected at a concentration above the RDL

 Highlighted concentration indicates exceedance of NJDEP Residential Indoor Air Screening Level



SITE COORDINATES: 39°9'28"N 74°41'31"W



U.S.G.S. QUADRANGLE: SEA ISLE CITY, NJ

HALEY & ALDRICH

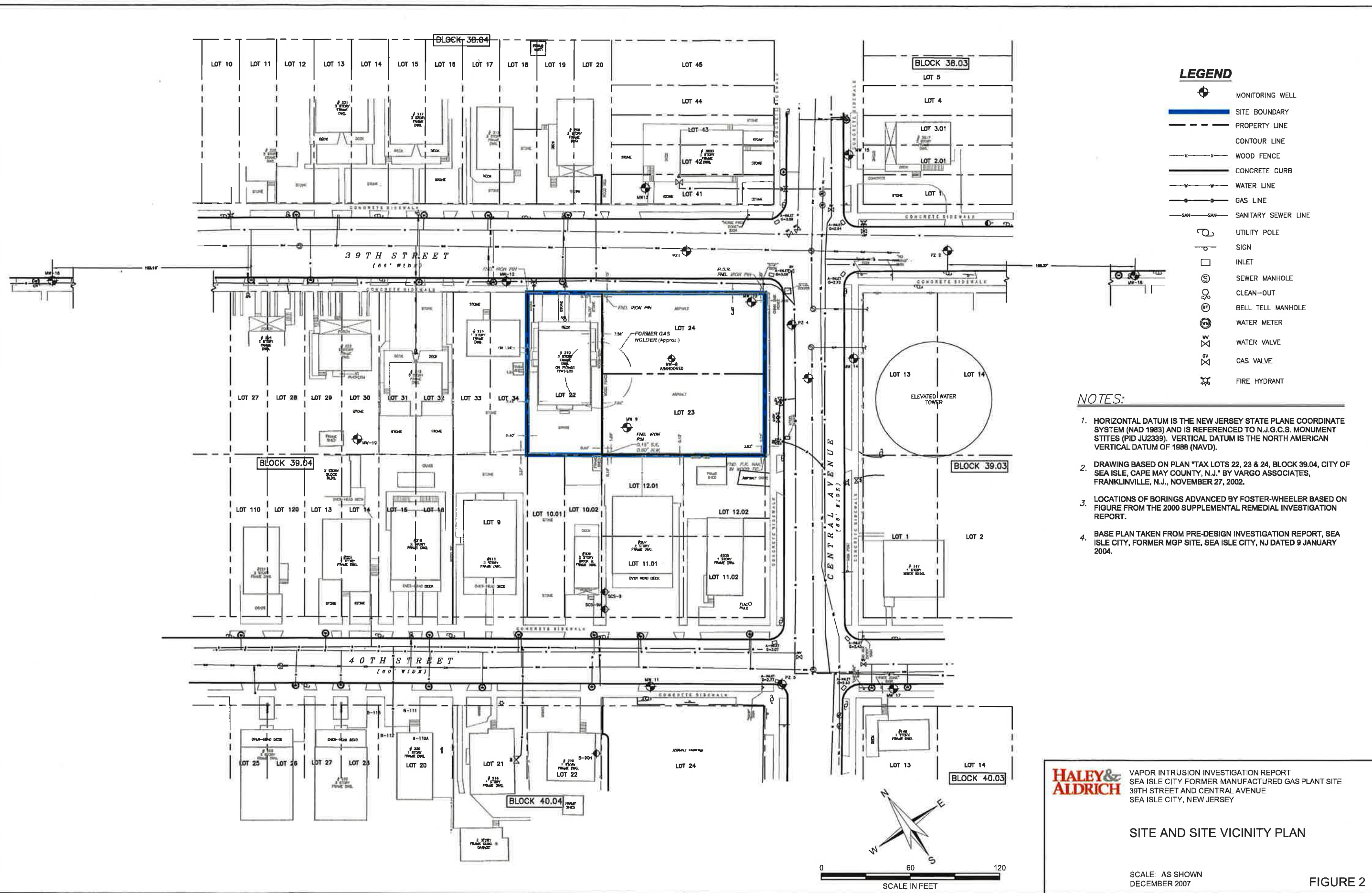
VAPOR INTRUSION INVESTIGATION REPORT
 SEA ISLE CITY FORMER MANUFACTURED GAS PLANT SITE
 39TH STREET AND CENTRAL AVENUE
 SEA ISLE CITY, NEW JERSEY

PROJECT LOCUS

SCALE: 1:24,000
 DECEMBER 2007

FIGURE 1

G:\34237_SEA_ISLE\006\CAD\34237-006-0B01-SITE PLAN.DWG



LEGEND

- MONITORING WELL
- SITE BOUNDARY
- PROPERTY LINE
- CONTOUR LINE
- WOOD FENCE
- CONCRETE CURB
- WATER LINE
- GAS LINE
- SANITARY SEWER LINE
- UTILITY POLE
- SIGN
- INLET
- SEWER MANHOLE
- CLEAN-OUT
- BELL TELL MANHOLE
- WATER METER
- WATER VALVE
- GAS VALVE
- FIRE HYDRANT

NOTES:

1. HORIZONTAL DATUM IS THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD 1983) AND IS REFERENCED TO N.J.G.C.S. MONUMENT STITES (PID JU2339). VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD).
2. DRAWING BASED ON PLAN "TAX LOTS 22, 23 & 24, BLOCK 39.04, CITY OF SEA ISLE, CAPE MAY COUNTY, N.J." BY VARGO ASSOCIATES, FRANKLINVILLE, N.J., NOVEMBER 27, 2002.
3. LOCATIONS OF BORINGS ADVANCED BY FOSTER-WHEELER BASED ON FIGURE FROM THE 2000 SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT.
4. BASE PLAN TAKEN FROM PRE-DESIGN INVESTIGATION REPORT, SEA ISLE CITY, FORMER MGP SITE, SEA ISLE CITY, NJ DATED 9 JANUARY 2004.

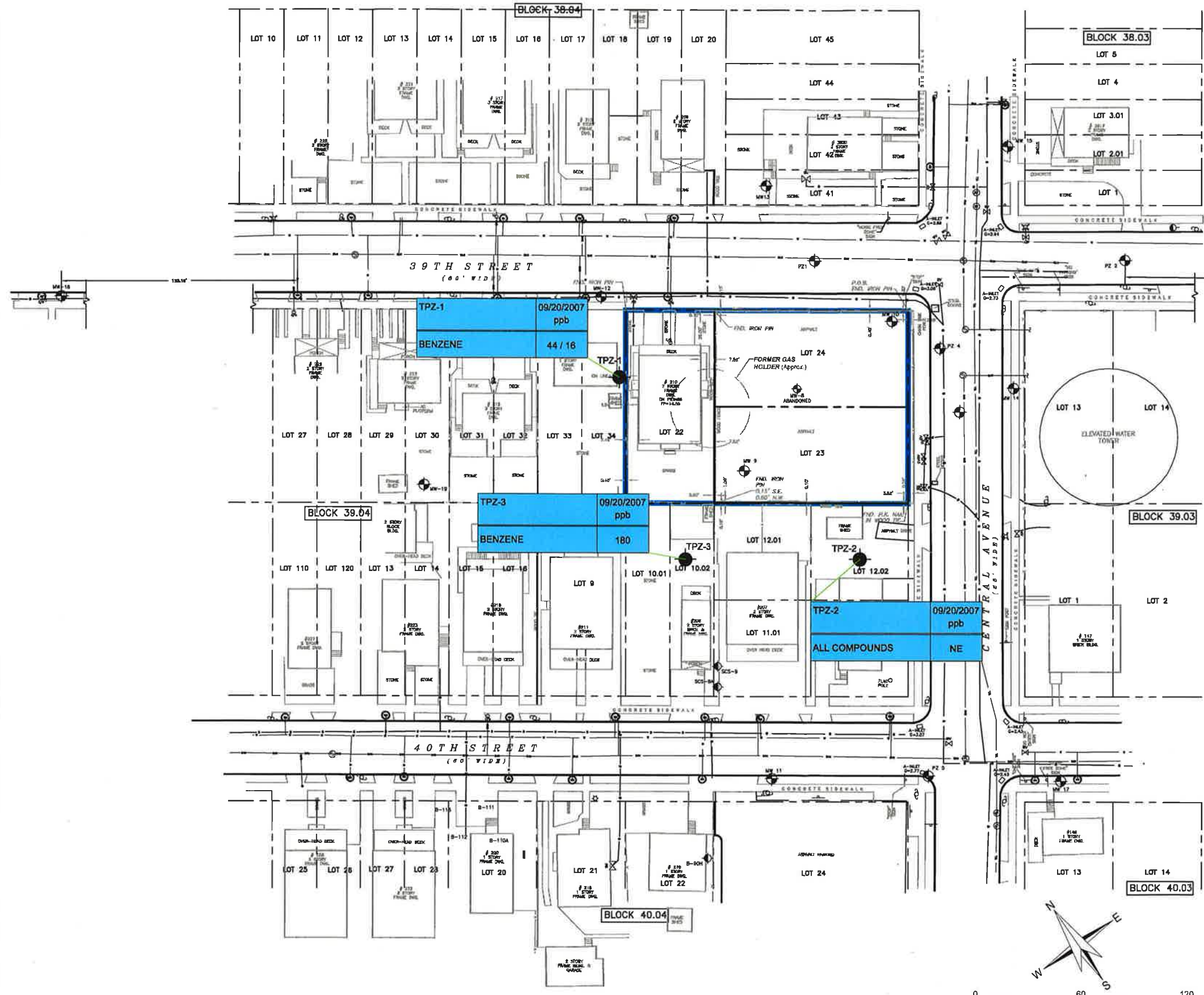
HALEY & ALDRICH VAPOR INTRUSION INVESTIGATION REPORT
 SEA ISLE CITY FORMER MANUFACTURED GAS PLANT SITE
 39TH STREET AND CENTRAL AVENUE
 SEA ISLE CITY, NEW JERSEY

SITE AND SITE VICINITY PLAN

SCALE: AS SHOWN
 DECEMBER 2007

FIGURE 2

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LEGEND

- MONITORING WELL
- TEMPORARY WELL
- SITE BOUNDARY
- PROPERTY LINE
- CONTOUR LINE
- WOOD FENCE
- CONCRETE CURB
- WATER LINE
- GAS LINE
- SANITARY SEWER LINE
- UTILITY POLE
- SIGN
- INLET
- SEWER MANHOLE
- CLEAN-OUT
- BELL TELL MANHOLE
- WATER METER
- WATER VALVE
- GAS VALVE
- FIRE HYDRANT

- NOTES:**
- HORIZONTAL DATUM IS THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD 1983) AND IS REFERENCED TO N.J.G.C.S. MONUMENT STITES (PID JU2339). VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD).
 - DRAWING BASED ON PLAN "TAX LOTS 22, 23 & 24, BLOCK 39.04, CITY OF SEA ISLE, CAPE MAY COUNTY, N.J." BY VARGO ASSOCIATES, FRANKLINVILLE, N.J., NOVEMBER 27, 2002.
 - LOCATIONS OF BORINGS ADVANCED BY FOSTER-WHEELER BASED ON FIGURE FROM THE 2000 SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT.
 - BASE PLAN TAKEN FROM PRE-DESIGN INVESTIGATION REPORT, SEA ISLE CITY, FORMER MGP SITE, SEA ISLE CITY, NJ DATED 9 JANUARY 2004.
 - RESULTS COMPARED TO THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP) GROUNDWATER SCREENING LEVELS (MARCH 2007)
 - NE - NO EXCEEDANCES OF NJDEP GROUNDWATER SCREENING LEVELS.

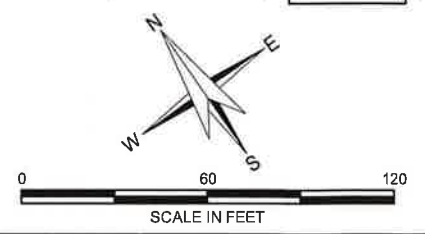
TPZ-3	09/20/2007	SAMPLE LOCATION
	ppb	SAMPLE DATE
		UNITS
BENZENE	180	RESULT
		COMPOUND

HALEY & ALDRICH VAPOR INTRUSION INVESTIGATION REPORT
 SEA ISLE CITY FORMER MANUFACTURED GAS PLANT SITE
 39TH STREET AND CENTRAL AVENUE
 SEA ISLE CITY, NEW JERSEY

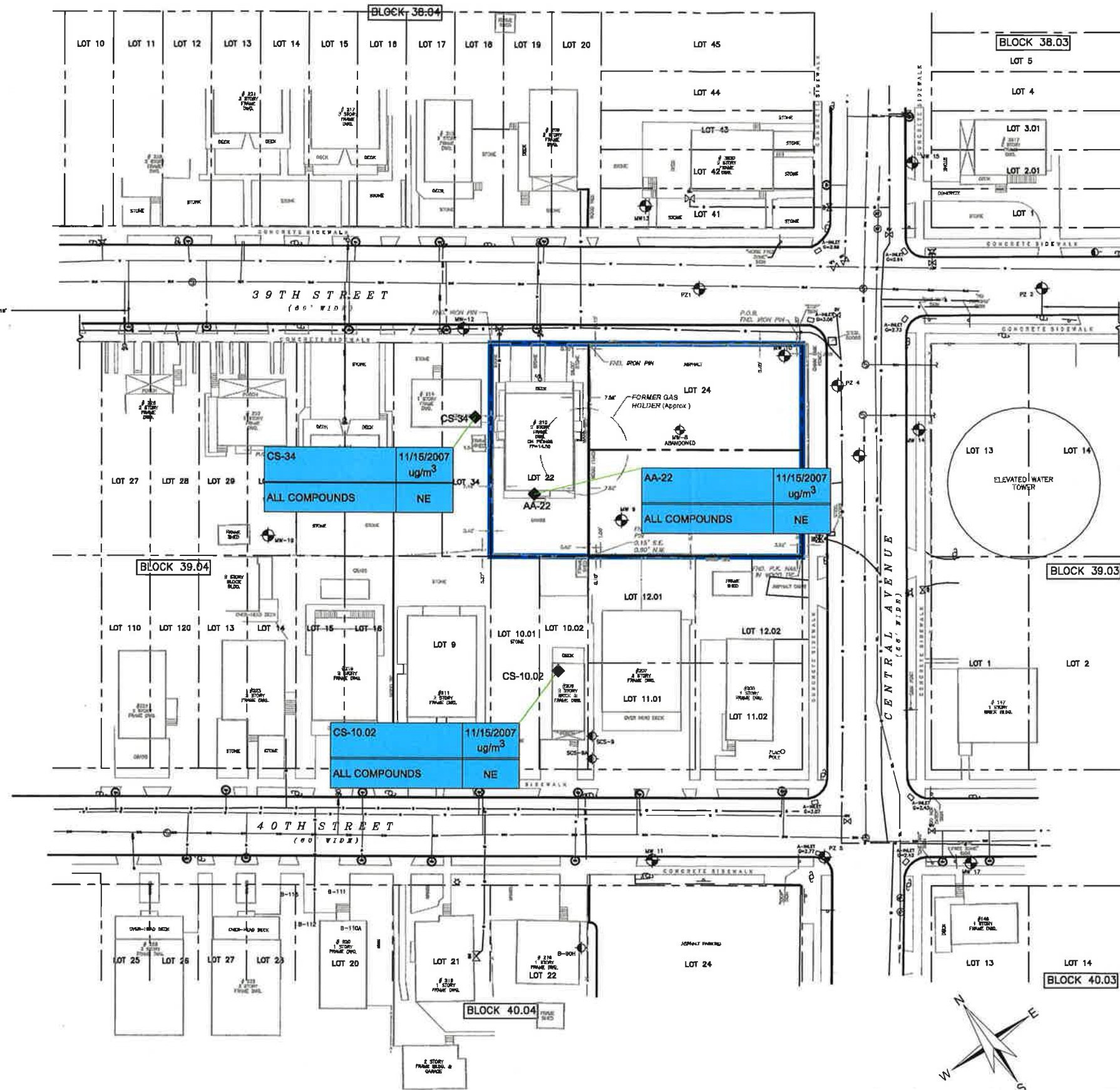
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

SCALE: AS SHOWN
 DECEMBER 2007

FIGURE 3



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LEGEND

- ◆ AIR SAMPLE LOCATION
- ⊕ MONITORING WELL
- SITE BOUNDARY
- - - PROPERTY LINE
- CONTOUR LINE
- x-x- WOOD FENCE
- CONCRETE CURB
- w-w- WATER LINE
- g-g- GAS LINE
- s-s- SANITARY SEWER LINE
- UTILITY POLE
- SIGN
- INLET
- ⊙ SEWER MANHOLE
- ⊙ CLEAN-OUT
- ⊙ BELL TELL MANHOLE
- ⊙ WATER METER
- ⊙ WATER VALVE
- ⊙ GAS VALVE
- ⊙ FIRE HYDRANT

- NOTES:**
- HORIZONTAL DATUM IS THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD 1983) AND IS REFERENCED TO N.J.G.C.S. MONUMENT STITES (PID JU2339). VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD).
 - DRAWING BASED ON PLAN "TAX LOTS 22, 23 & 24, BLOCK 39.04, CITY OF SEA ISLE, CAPE MAY COUNTY, N.J." BY VARGO ASSOCIATES, FRANKLINVILLE, N.J., NOVEMBER 27, 2002.
 - LOCATIONS OF BORINGS ADVANCED BY FOSTER-WHEELER BASED ON FIGURE FROM THE 2000 SUPPLEMENTAL REMEDIAL INVESTIGATION REPORT.
 - BASE PLAN TAKEN FROM PRE-DESIGN INVESTIGATION REPORT, SEA ISLE CITY, FORMER MGP SITE, SEA ISLE CITY, NJ DATED 9 JANUARY 2004.
 - RESULTS COMPARED TO THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP) RESIDENTIAL INDOOR AIR SCREENING LEVELS (MARCH 2007)
 - NE - NO EXCEEDANCES OF NJDEP RESIDENTIAL INDOOR AIR SCREENING LEVELS.

AA-22	11/15/2007	SAMPLE LOCATION
	ug/m ³	SAMPLE DATE
		UNITS
ALL COMPOUNDS	NE	RESULT
		COMPOUND

HALEY & ALDRICH VAPOR INTRUSION INVESTIGATION REPORT
 SEA ISLE CITY FORMER MANUFACTURED GAS PLANT SITE
 39TH STREET AND CENTRAL AVENUE
 SEA ISLE CITY, NEW JERSEY

**SUMMARY OF CRAWL SPACE AIR/
 AMBIENT AIR ANALYTICAL RESULTS**

SCALE: AS SHOWN
 DECEMBER 2007

FIGURE 4

APPENDIX A
Photographic Log

Appendix A
Photographic Log
Sea Isle City Former Manufactured Gas Plant Site
Sea Isle City, New Jersey



Photograph 1. 214 39th Street: Temporary well point installation (TPZ-1).



Photograph 2. 214 39th Street: Vicinity of temporary well point TPZ-1 installed approximately 2.5 feet away from crawl space vent on the southeastern side of the residential structure.

Appendix A
Photographic Log
Sea Isle City Former Manufactured Gas Plant Site
Sea Isle City, New Jersey



Photograph 3. 205 40th Street: Crawl space vent on the northeastern side of the residential structure.



Photograph 4. 205 40th Street: Installed temporary well point TPZ-2 in relation to the crawl space vent on the northeastern side of the residential structure.

Appendix A
Photographic Log
Sea Isle City Former Manufactured Gas Plant Site
Sea Isle City, New Jersey

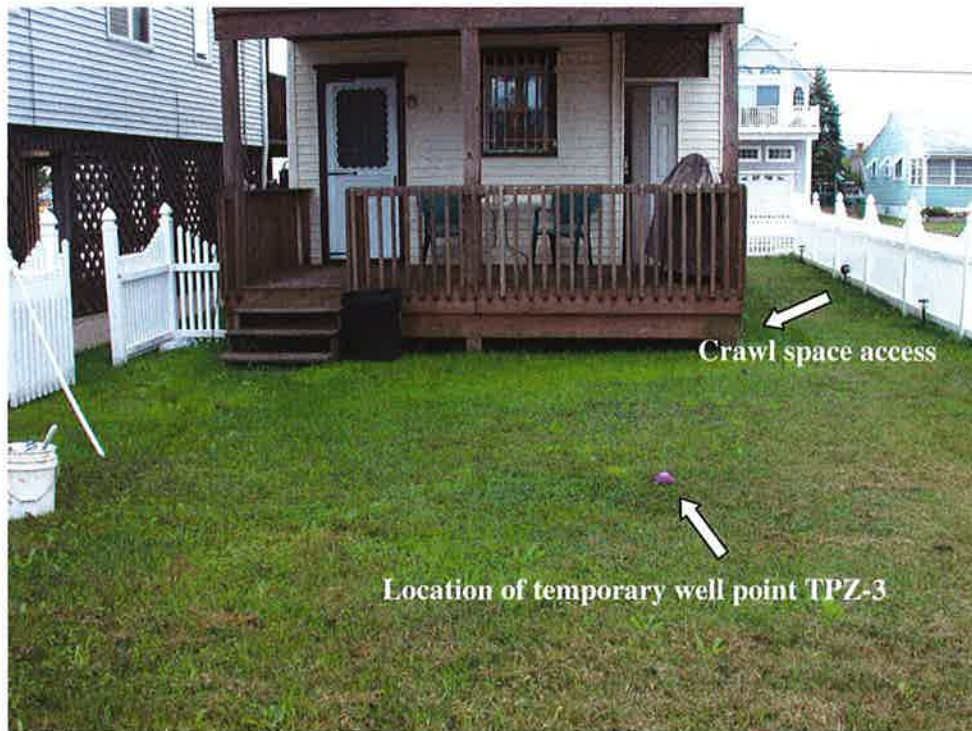


Photo 5: 209 40th Street: Wooden lattice covering area leading to crawl space access



Photograph 8. 209 40th Street: Location of crawl space air sample CS-10.02

Appendix A
Photographic Log
Sea Isle City Former Manufactured Gas Plant Site
Sea Isle City, New Jersey



Photograph 10. 214 39th Street: Crawl space air sample CS-34 collected through vent on the southeastern side of the residential structure.



Photograph 11. 210 39th Street: Location of ambient air sample AA-22 on the southwestern side of the vacant residential structure. The summa canister was placed on the platform approximately 5 feet off the ground.

APPENDIX B

Temporary Well Point Installation Logs



TEMPORARY WELL POINT INSTALLATION REPORT

BORING NO.
TPZ-1

Page 1 of 1

PROJECT	Sea Isle City Former Manufactured Gas Plant Site	H&A FILE NO.	34237
LOCATION	214 39th Street, Sea Isle City, New Jersey	PROJECT MGR.	Rich Rago
CLIENT	Jersey Central Power & Light	FIELD REP.	Sean Clifford
CONTRACTOR	Environmental Probing Investigations, Inc	DATE STARTED	9/20/2007
DRILLER	Ron	DATE FINISHED	9/20/2007

Elevation	NS	ft	Datum	--	Boring Location	Front Yard		
Item	Casing	Sampler	Core Barrel	Rig Make & Model	Dingo	Hammer Type	Drilling Mud	Casing Advance
Type	--	MC	--	<input type="checkbox"/> Truck <input type="checkbox"/> Tripod	<input type="checkbox"/> Cat-Head	<input type="checkbox"/> Safety	<input type="checkbox"/> Bentonite	Type Method Depth
Inside Diameter (in.)	--	1 3/4	--	<input checked="" type="checkbox"/> ATV <input checked="" type="checkbox"/> Geoprobe	<input type="checkbox"/> Winch	<input type="checkbox"/> Doughnut	<input type="checkbox"/> Polymer	
Hammer Weight (lb.)	--	--	--	<input type="checkbox"/> Track <input type="checkbox"/> Air Track	<input type="checkbox"/> Roller Bit	<input type="checkbox"/> Automatic	<input checked="" type="checkbox"/> None	NA
Hammer Fall (in.)	--	--	--	<input type="checkbox"/> Skid <input type="checkbox"/>	<input type="checkbox"/> Cutting Head	Drilling Notes:		

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel		Sand		Field Test						
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength	
0							No soil samples collected; direct push											
5																		
10							-END OF BORING AT 8'- Set 3/4" PVC temporary well point to 8'											
15																		
20																		
25																		

Water Level Data			Sample ID			Well Diagram		Summary						
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O Open End Rod	T Thin Wall Tube	U Undisturbed Sample	S Split Spoon Sample	G Geoprobe		Overburden (Linear ft.)	Rock Cored (Linear ft.)	Number of Samples
			Bottom of Casing	Bottom of Hole	Water									
Field Tests Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High											BORING NO. TPZ-1			
*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.														
NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.														

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TEMPORARY WELL POINT INSTALLATION REPORT

BORING NO.

TPZ-2

Page 1 of 1

PROJECT	Sea Isle City Former Manufactured Gas Plant Site	H&A FILE NO.	34237
LOCATION	205 40th Street, Sea Isle City, New Jersey	PROJECT MGR.	Rich Rago
CLIENT	Jersey Central Power & Light	FIELD REP.	Sean Clifford
CONTRACTOR	Environmental Probing Investigations, Inc	DATE STARTED	9/20/2007
DRILLER	Ron	DATE FINISHED	9/20/2007

Elevation	NS	ft.	Datum	--	Boring Location	Front Yard		
Item	Casing	Sampler	Core Barrel	Rig Make & Model	Dingo	Hammer Type	Drilling Mud	Casing Advance
Type	--	MC	--	<input type="checkbox"/> Truck <input type="checkbox"/> Tripod	<input type="checkbox"/> Cat-Head	<input type="checkbox"/> Safety	<input type="checkbox"/> Bentonite	Type Method Depth
Inside Diameter (in.)	--	1 3/4	--	<input checked="" type="checkbox"/> ATV <input checked="" type="checkbox"/> Geoprobe	<input type="checkbox"/> Winch	<input type="checkbox"/> Doughnut	<input type="checkbox"/> Polymer	
Hammer Weight (lb.)	--	--	--	<input type="checkbox"/> Track <input type="checkbox"/> Air Track	<input type="checkbox"/> Roller Bit	<input type="checkbox"/> Automatic	<input checked="" type="checkbox"/> None	NA
Hammer Fall (in.)	--	--	--	<input type="checkbox"/> Skid <input type="checkbox"/>	<input type="checkbox"/> Cutting Head	Drilling Notes:		

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel		Sand		Field Test						
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength	
0							No soil samples collected; direct push.											
5																		
10							-END OF BORING AT 8'- Set 3/4" PVC temporary well point to 8'											
15																		
20																		
25																		

Water Level Data						Sample ID	Well Diagram	Summary
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon Sample G Geoprobe	<input type="checkbox"/> Riser Pipe <input type="checkbox"/> Screen <input type="checkbox"/> Filter Sand <input type="checkbox"/> Cuttings <input type="checkbox"/> Grout <input checked="" type="checkbox"/> Concrete <input checked="" type="checkbox"/> Bentonite Seal	Overburden (Linear ft.) _____ 8' Rock Cored (Linear ft.) _____ -- Number of Samples _____ -- BORING NO. TPZ-2
			Bottom of Casing	Bottom of Hole	Water			

Field Tests	Dilatancy: R - Rapid S - Slow N - None	Plasticity: N - Nonplastic L - Low M - Medium H - High
	Toughness: L - Low M - Medium H - High	Dry Strength: N - None L - Low M - Medium H - High V - Very High
*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.		
NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.		

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TEMPORARY WELL POINT INSTALLATION REPORT

BORING NO.

TPZ-3

Page 1 of 1

PROJECT	Sea Isle City Former Manufactured Gas Plant Site	H&A FILE NO.	34237
LOCATION	209 40th Street, Sea Isle City, New Jersey	PROJECT MGR.	Rich Rago
CLIENT	Jersey Central Power & Light	FIELD REP.	Sean Clifford
CONTRACTOR	Environmental Probing Investigations, Inc	DATE STARTED	9/20/2007
DRILLER	Ron	DATE FINISHED	9/20/2007

Elevation	NS	ft.	Datum	--	Boring Location	Front Yard		
Item	Casing	Sampler	Core Barrel	Rig Make & Model	Dingo	Hammer Type	Drilling Mud	Casing Advance
Type	--	MC	--	<input type="checkbox"/> Truck <input type="checkbox"/> Tripod <input type="checkbox"/> Cat-Head	<input type="checkbox"/> Safety <input type="checkbox"/> Bentonite	Type Method Depth		
Inside Diameter (in.)	--	1 3/4	--	<input checked="" type="checkbox"/> ATV <input checked="" type="checkbox"/> Geoprobe <input type="checkbox"/> Winch	<input type="checkbox"/> Doughnut <input type="checkbox"/> Polymer			
Hammer Weight (lb.)	--	--	--	<input type="checkbox"/> Track <input checked="" type="checkbox"/> Air Track <input type="checkbox"/> Roller Bit	<input type="checkbox"/> Automatic <input checked="" type="checkbox"/> None	NA		
Hammer Fall (in.)	--	--	--	<input type="checkbox"/> Skid <input type="checkbox"/> Cutting Head	Drilling Notes:			

Depth (ft.)	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Stratum Change (ft.)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)	Gravel		Sand		Field Test						
								% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength	
0							No soil samples collected; direct push.											
5																		
10							Set 3/4" PVC temporary well point to 8'											
15																		
20																		
25																		

Water Level Data			Sample ID			Well Diagram			Summary			
Date	Time	Elapsed Time (hr.)	Depth in feet to:			O	Open End Rod		Riser Pipe	Overburden (Linear ft.)		
			Bottom of Casing	Bottom of Hole	Water	T	Thin Wall Tube		Screen	Rock Cored (Linear ft.)		
						U	Undisturbed Sample		Filter Sand	Number of Samples		
						S	Split Spoon Sample		Cullings			
						G	Geoprobe		Grout			
									Concrete			
									Bentonite Seal			
									BORING NO. TPZ-3			

Field Tests Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High
 Toughness: L - Low M - Medium H - High Dry Strength: N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

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APPENDIX C

TestAmerica Field Sampling Report

Client: Haley & Aldrich, Inc. Project: Sea Isle City Analyst / Field Sampler: K. Harrelson

Job No: L358 Date Sampled: 9/20/2007 Weather: Sunny, 80° F Field Sampler: J. Peters

Well / Purge Information			
Well ID	TPZ-1	TPZ-3	TPZ-2
PID Reading from Well Casing (ppm)	0.0	0.0	0.0
Depth to Water from TOC (ft.) (before purging)	1.63	2.08	1.90
Depth to Bottom from TOC (ft.)	8.01	8.12	7.87
Water Volume in Well (liters)	0.56	0.56	0.52
Purge Method	Peristaltic pump	Peristaltic pump	Peristaltic pump
Purge Start Time	0948	1038	1120
Purge End Time	1005	1100	1134
Purge Rate (liters per minute)	0.13	0.10	0.15
Volume Purged (liters)	2.23	2.25	2.08
Depth to Water from TOC (ft.) (after purging)	1.65	2.15	2.10
Depth to Water from TOC (ft.) (before sampling)	1.63	2.11	1.98
Sampling Method	Teflon bailer	Teflon bailer	Teflon bailer
Time of Sampling	1020	1105	1146

Field Parameters			
pH before Purge	7.18	6.68	6.97
Temp. before Purge (°C)	19.9	23.7	23.4
Diss. Oxygen before Purge (ppm)	1.48	0.52	5.66
Cond. before Purge (umhos/cm)	1045	486	907
Redox Potential before Purge (mV)	-60.8	-62.4	-60.7
pH after First Volume	6.94	6.69	6.74
Temp. after First Volume (°C)	19.8	22.7	22.4
Diss. Oxygen after First Volume (ppm)	1.01	0.80	0.98
Cond. after First Volume (umhos/cm)	540	475	679
Redox Potential after First Volume (mV)	-66.9	-80.0	-76.1
pH after Second Volume	6.92	6.75	6.69
Temp. after Second Volume (°C)	19.7	22.8	22.0
Diss. Oxygen after Second Volume (ppm)	0.85	0.70	0.92
Cond. after Second Volume (umhos/cm)	409	492	648
Redox Potential after Second Volume (mV)	-72.4	-85.2	-73.3
pH after Third Volume	7.10	6.76	6.65
Temp. after Third Volume (°C)	19.8	23.1	21.9
Diss. Oxygen after Third Volume (ppm)	0.97	0.85	1.03
Cond. after Third Volume (umhos/cm)	295	495	618
Redox Potential after Third Volume (mV)	-60.5	-84.1	-72.6

pH after Fourth Volume	6.93	6.78	6.64
Temp. after Fourth Volume (°C)	19.8	23.4	22.0
Diss. Oxygen after Fourth Volume (ppm)	0.88	0.84	1.08
Cond. after Fourth Volume (umhos/cm)	260	494	630
Redox Potential after Fourth Volume (mV)	-70.0	-85.0	-75.1
pH at Sample	6.83	6.71	6.60
Temp. at Sample (°C)	19.9	23.2	21.5
Diss. Oxygen at Sample (ppm)	0.35	0.96	0.46
Cond. at Sample (umhos/cm)	279	627	864
Redox Potential at Sample (mV)	-84.2	-79.8	-80.8

Comments: NB: Well volumes and purge rates measured in liters, not gallons

APPENDIX D

Indoor Air Building Survey and Sampling Forms



New Jersey Department of Environmental Protection

INDOOR AIR BUILDING SURVEY and SAMPLING FORM

Preparer's name: Amy K Murphy Date: 11/15/07
Preparer's affiliation: Haley & Aldrich Phone #: 973.658.3938
Site Name: Sea Isle City Former MGP Case #:

Part I - Occupants

Building Address: 214 39th Street, Sea Isle City, NJ
Property Contact: Msgr. Benestad (Owner) Renter / other:
Contact's Phone: home () work () cell (609) 554-9576
of Building occupants: Children under age 13 () Children age 13-18 () Adults 2

Part II - Building Characteristics

Building type: residential / multi-family residential / office / strip mall / commercial / industrial
Describe building: one story, wood frame ranch Year constructed: 1973
Sensitive population: day care / nursing home / hospital / school / other (specify):
Number of floors below grade: () (full basement / crawl space) slab on grade)
Number of floors at or above grade: 1
Depth of basement below grade surface: () ft. Basement size: ft^2
Basement floor construction: concrete / dirt / floating / stone / other (specify): no basement
Foundation walls: poured concrete / cinder blocks / stone / other (specify)
Basement sump present? Yes / (No) Sump pump? Yes / No Water in sump? Yes / No
Type of heating system (circle all that apply):
hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify):
Type of ventilation system (circle all that apply):
central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify):
Type of fuel utilized (circle all that apply):
Natural gas (electric) fuel oil / wood / coal / solar / kerosene
Are the basement walls or floor sealed with waterproof paint or epoxy coatings? Yes / No

Is there a whole house fan? Yes / No

Septic system? Yes / Yes (but not used) No

Irrigation/private well? Yes / Yes (but not used) No

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) stone / gravel

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes No
 Type of barrier: _____

Part III - Outside Contaminant Sources

NJDEP contaminated site (1000-ft. radius): Sea Isle City Former MGP Site

Other stationary sources nearby (gas stations, emission stacks, etc.): NA

Heavy vehicular traffic nearby (or other mobile sources): NA

Part IV - Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes / No How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? Yes / No

If so, is a car usually parked in the garage? Yes / No

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No

Do the occupants of the building have their clothes dry cleaned? Yes / No

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes / No

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes / No

If so, when and which chemicals? _____

Has there ever been a fire in the building? Yes / No If yes, when? _____

Has painting or staining been done in the building in the last 6 months? Yes / No

If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: Amy Murphy Phone number: (973) 658 - 3938

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas Crawl Space

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: VT 972

Sample locations (floor, room): Crawl Space

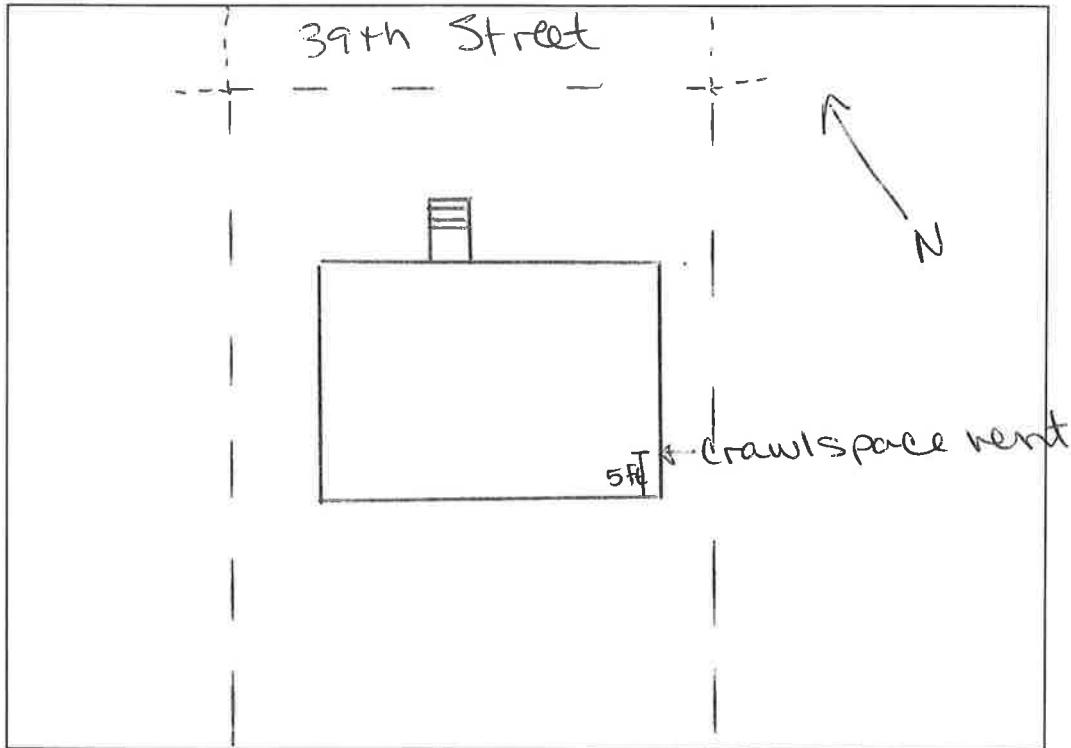
Field ID # _____ - CS-34 Field ID # _____ - _____

Field ID # _____ - _____ Field ID # _____ - _____

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes No

Describe the general weather conditions: overcast, raining, gusting
wind

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Owners were not home during sample collection.



New Jersey Department of Environmental Protection

INDOOR AIR BUILDING SURVEY and SAMPLING FORM

Preparer's name: Amy K Murphy Date: 11/15/07
Preparer's affiliation: Harley S. Aldrich Phone #: 973.658.3938
Site Name: Sea Isle City Former MGP Case #:

Part I - Occupants

Building Address: 209 40th Street, Sea Isle City, NJ
Property Contact: Joseph Pannulla (Owner) Renter / other:
Contact's Phone: home (215) 830.7358 work () cell ()
of Building occupants: Children under age 13 0 Children age 13-18 0 Adults 2

Part II - Building Characteristics

Building type: residential multi-family residential / office / strip mall / commercial / industrial
Describe building: two story, wood frame, single family Year constructed: 1945
Sensitive population: day care / nursing home / hospital / school / other (specify):
Number of floors below grade: 0 (full basement) crawl space / slab on grade
Number of floors at or above grade: 2
Depth of basement below grade surface: 0 ft. Basement size: ft^2
Basement floor construction: concrete / dirt floating / stone / other (specify):
Foundation walls: poured concrete / cinder blocks / stone / other (specify):
Basement sump present? Yes No Sump pump? Yes / No Water in sump? Yes / No
Type of heating system (circle all that apply): hot air circulation hot air radiation wood steam radiation
heat pump hot water radiation kerosene heater electric baseboard
other (specify): not heated
Type of ventilation system (circle all that apply): central air conditioning mechanical fans bathroom ventilation fans
individual air conditioning units kitchen range hood fan outside air intake
other (specify):
Type of fuel utilized (circle all that apply): Natural gas / electric / fuel oil / wood / coal / solar / kerosene - no heating system
Are the basement walls or floor sealed with waterproof paint or epoxy coatings? Yes No

Is there a whole house fan? Yes / No

Septic system? Yes / Yes (but not used) / No

Irrigation/private well? Yes / Yes (but not used) / No

Type of ground cover outside of building: grass / concrete / asphalt / other (specify) _____

Existing subsurface depressurization (radon) system in place? Yes / No active / passive

Sub-slab vapor/moisture barrier in place? Yes / No
 Type of barrier: _____

Part III - Outside Contaminant Sources

NJDEP contaminated site (1000-ft. radius): Sea Isle City Former MGP

Other stationary sources nearby (gas stations, emission stacks, etc.): NA

Heavy vehicular traffic nearby (or other mobile sources): NA

Part IV – Indoor Contaminant Sources

Identify all potential indoor sources found in the building (including attached garages), the location of the source (floor and room), and whether the item was removed from the building 48 hours prior to indoor air sampling event. Any ventilation implemented after removal of the items should be completed at least 24 hours prior to the commencement of the indoor air sampling event.

Potential Sources	Location(s)	Removed (Yes / No / NA)
Gasoline storage cans		
Gas-powered equipment		
Kerosene storage cans		
Paints / thinners / strippers		
Cleaning solvents		
Oven cleaners		
Carpet / upholstery cleaners		
Other house cleaning products		
Moth balls		
Polishes / waxes		
Insecticides		
Furniture / floor polish		
Nail polish / polish remover		
Hairspray		
Cologne / perfume		
Air fresheners		
Fuel tank (inside building)		NA
Wood stove or fireplace		NA
New furniture / upholstery		
New carpeting / flooring		NA
Hobbies - glues, paints, etc.		

Part V – Miscellaneous Items

Do any occupants of the building smoke? Yes / No How often? _____

Last time someone smoked in the building? _____ hours / days ago

Does the building have an attached garage directly connected to living space? Yes / No

If so, is a car usually parked in the garage? Yes / No

Are gas-powered equipment or cans of gasoline/fuels stored in the garage? Yes / No

Do the occupants of the building have their clothes dry cleaned? Yes / No

If yes, how often? weekly / monthly / 3-4 times a year

Do any of the occupants use solvents in work? Yes / No

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Yes / No

Have any pesticides/herbicides been applied around the building or in the yard? Yes / No

If so, when and which chemicals? _____

Has there ever been a fire in the building? Yes / No If yes, when? _____

Has painting or staining been done in the building in the last 6 months? Yes / No

If yes, when _____ and where? _____

Part VI – Sampling Information

Sample Technician: Amy Murphy Phone number: 973 658 - 3938

Sample Source: Indoor Air / Sub-Slab / Near Slab Soil Gas / Exterior Soil Gas Crawl Space

Sampler Type: Tedlar bag / Sorbent / Stainless Steel Canister / Other (specify): _____

Analytical Method: TO-15 / TO-17 / other: _____ Cert. Laboratory: VT 972

Sample locations (floor, room): (S) Crawl Space

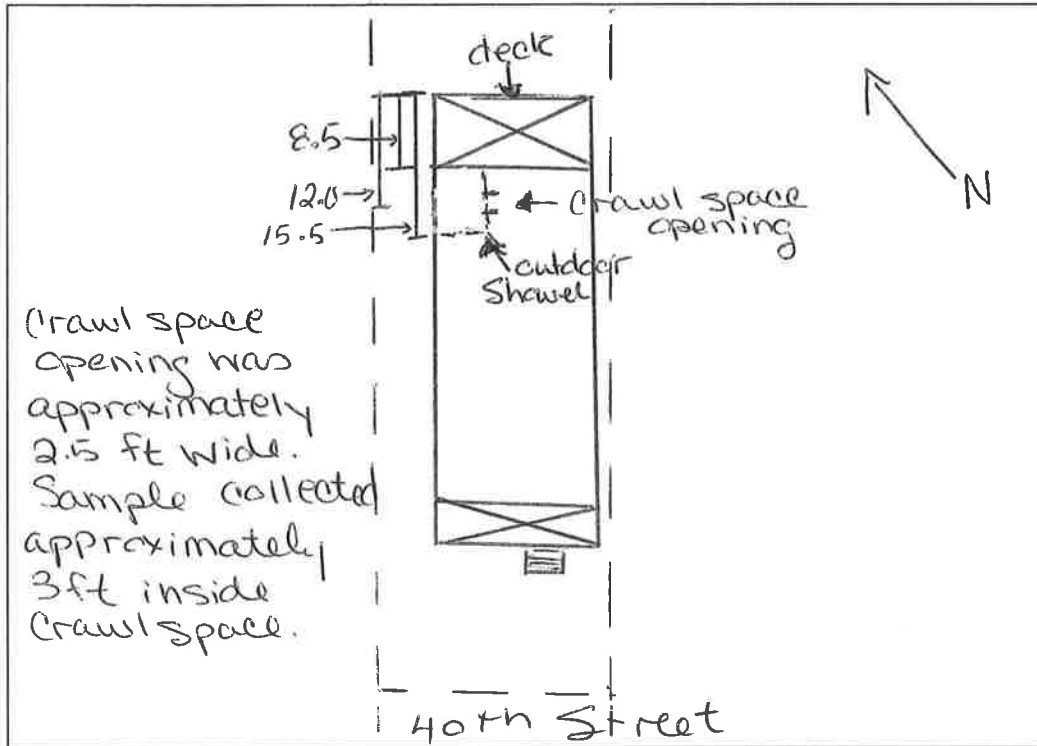
Field ID # _____ - CS-10.02 Field ID # _____ - _____

Field ID # _____ - _____ Field ID # _____ - _____

Were "Instructions for Occupants" followed? Yes / No

If not, describe modifications: _____

Provide Drawing of Sample Location(s) in Building



Part VII - Meteorological Conditions

Was there significant precipitation within 12 hours prior to (or during) the sampling event? Yes / No

Describe the general weather conditions: overcast, raining, gusting wind

Part VIII - General Observations

Provide any information that may be pertinent to the sampling event and may assist in the data interpretation process.

Owners were not home during sample collection.

(NJDEP 1997; NHDES 1998; VDOH 1993; MassDEP 2002; NYSDOH 2005; CalEPA 2005)

APPENDIX E

Record of Field Monitoring

RECORD OF FIELD MONITORING

PROJECT	Sea Isle City Former Manufactured Gas Plant Site	H&A FILE NO.	34237
LOCATION	39th Street and Central Avenue, Sea Isle City, New Jersey	PROJECT MGR.	Rich Rago
CLIENT	Jersey Central Power & Light	FIELD REP	Sean Clifford
CONTRACTOR	--	DATE	9/20/2007

Project Description: Vapor Intrusion Investigation

Task Description: Crawl Space Monitoring

Instrument Type: 1) Multi-RAE Serial Number: 01390
(OVA, LEL, PID, etc) 2) Serial Number: _____

Calibration and/or operational check completed as per manufacturers instructions: Yes No

Time completed: 10:00 Cal Gas Lot #'s
Multi - 006187 LEL = 49 % H2S4 = 25 ppm
Isobut - 720001D CO = 55 ppm O2 = 20.4 %

Weather conditions: 80 degree F, Clear

Reading Type: ⁽¹⁾	Level: (ppm or indicate units)	Time:	PPE Level: ⁽²⁾
214 39th Street Crawl Space			
Background	O2 = 20.9 %, LEL = 0 %, VOC = 0.0 ppm	10:20	
Vent southeast corner	O2 = 20.9 %, LEL = 0 %, VOC = 0.0 ppm		
205 40th Street Crawl Space			
Background	O2 = 20.9 %, LEL = 0 %, VOC = 0.0 ppm	10:30	
Vent north side	O2 = 20.9 %, LEL = 0 %, VOC = 0.0 ppm		
209 40th Street			
Background	O2 = 20.9 %, LEL = 0 %, VOC = 0.0 ppm	10:50	
Unable to locate vent	NA		

1. Key to Reading Types:
Breathing Zone-BZ
Perimeter-P
Surface-S
2. EPA Levels B, C or D

Comments: _____

The following information should be maintained for all projects requiring air monitoring.

166 Riverview Ave
 Waltham, MA 02453
 Ph: (781) 899-1560
 Fax: (781) 899-1561

US Environmental Rental Corporation

Packing List *Multi-Rae plus*

Enclosed is a comprehensive packing list that you can use to document the receipt and return of your rental equipment.

	Out	Received	Returned
1. Multi RAE + W/ protective case SN# <u>503533</u> /			
2. Charger	/		
3. Hydrophobic filters	/		
4. Inlet sample tubing	/		
5. Quick reference guide	/		
6. Manual	/		
7. Software			
8. Comm. Cable			
9. Alkaline Battery Pack	/		

Notes: _____

Calibrated with 100 ppm Isobutylene, 25 ppm H2S, 50 ppm CO, 50 % LEL (methane), 20.9% O2.
 (R.F. = 1.0)

Be sure to verify receipt, and return all units and accessories. Missing components will be billed at the manufacturers list price plus freight.

Please call us if there are any missing parts or accessories at (781) 899-1560.

Thank you,

US Environmental Rental Corporation

US Environmental Rental Corporation
Worldwide Rentals, Sales, and Service

Date: 11/13 Rep: EDM

APPENDIX F

**Laboratory Data Summary Sheets, EDD, and EDSA check printout
(EDD diskette and bound laboratory report – NJDEP copy only)**

Sea Isle City Former Manufactured Gas Plant Site

SRP ID # G000006130

Electronic Deliverables Submission Checked with EDSA Version 5.00.0001
6 December 2007 Submission
Groundwater samples collected on 20 September 2007

The screenshot displays the EDSA software interface. At the top, a table lists project details:

directory	desc	srpid	consultant	phase	status	transmit	submitdate	packnum
L358	Sea Isle City Former MGP	G000006130	G000006130	Hailey & Aldrich, Inc.	10/31/2007			

Below the table, a status message reads: "HAZSITE files have passed evaluation".

The interface includes a section for "Evaluate Result File Only" with two counters: "Sample Errors" (0) and "Result Errors" (0). A "Display" button is located to the right.

Under "View Data Check Reports", there are three radio buttons: "Sample Errors" (selected), "Result Errors", and "Analyte Warnings".

Two report windows are open. The first window, titled "ersample - Notepad", shows the following text:

```
NDDEP HZSAMPLE Error Report  
File: G:\34237_Sea_Isle\006\Deliverables\December 2007 VI Report\Report Appendices\Hazsite\L358\HZSAMPLE  
Date: 12/06/2007 15:29  
Errors#: (0)  
  
NO HZSAMPLE errors have been identified!
```

The second window, also titled "ersample - Notepad", shows the following text:

```
NDDEP HZRESULT Error Report  
File: G:\34237_Sea_Isle\006\Deliverables\December 2007 VI Report\Report Appendices\Hazsite\L358\HZRESULT  
Date: 12/06/2007 15:29  
Errors#: (0)  
  
NO HZRESULT errors have been identified!
```

Sea Isle City Former Manufactured Gas Plant Site
 SRP ID # G000006130
 Electronic Deliverables Submission Checked with EDSA Version 5.00.0001
 6 December 2007 Submission
 Indoor/ambient air samples collected on 15 November 2007

Directory 123066	desc Sea Isle City Former MGP	srpid G000006130	consultant G000006130	phase G000006130	status Halley & Aldrich, Inc.	transmitt 1.0/31/2007	submitdate 1.0/31/2007	packnum
---------------------	----------------------------------	---------------------	--------------------------	---------------------	----------------------------------	--------------------------	---------------------------	---------

HAZSITE files have passed evaluation

Evaluate Result File Only

Sample Errors
 Result Errors

View Data Check Reports

Sample Errors
 Result Errors
 Analyte Warnings

errresult - Notepad

File Edit Format View Help

```

NDDEP HZSAMPLE Error Report
File: G:\34237-Sea Isle\006\Deliverables\December 2007 VI Report\Report Appendices\Hazsite\123066\HZSAMPLE
Date: 12/06/2007 15:43
Errors#: (0)

NO HZSAMPLE errors have been identified!
    
```


errresult - Notepad

File Edit Format View Help

```

NDDEP HZRESULT Error Report
File: G:\34237-Sea Isle\006\Deliverables\December 2007 VI Report\Report Appendices\Hazsite\123066\HZRESULT
Date: 12/06/2007 15:43
Errors#: (0)

NO HZRESULT errors have been identified!
    
```

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)
Mr. Sean Clifford
Company
Haley & Aldrich, Inc.

Samplers Name (Printed)
K. Harrelson, J. Peters
P.O. #

Site/Project Identification
Sea Isle City
State (Location of site): NJ NY: Other:
Regulatory Program:

Sample Identification	Date	Time	Matrix	No. of Cont.	Analysis Turnaround Time		ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST)	LAB USE ONLY Project No: Job No: Sample Numbers
					Standard <input checked="" type="checkbox"/>	Rush Charges Authorized For: 2 Week <input type="checkbox"/> 1 Week <input type="checkbox"/> Other <input type="checkbox"/>		
Trip Blank	9-20-07	0730	Aq	2				932616 L358
TP2-1		1000		3				862545 546
TP2-3		1105		3				547
FB		1142		2				548
TP2-a		1146		3				549
FD-1	9-26-07		Aq	3				550

Preservation Used: 1 = ICE, 2 = HCl, 3 = H₂SO₄, 4 = HNO₃, 5 = NaOH
Soil: _____
Water: 1,2
6 = Other _____ 7 = Other _____

Special Instructions

Relinquished by	Company	Date / Time	Received by	Water Metals Filtered (Yes/No)?
<i>John [Signature]</i>	Test America	9/20/07 / 1700	1) <i>[Signature]</i>	Company Test America
2) <i>[Signature]</i>	Company	9/27/11 / 1100	2) <i>[Signature]</i>	Company Test America Inc.
Relinquished by	Company	Date / Time	Received by	Company
3) _____	Company	_____	3) _____	Company
Relinquished by	Company	Date / Time	Received by	Company
4) _____	Company	_____	4) _____	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

Client ID: Trip Blank
Site: Sea Isle City

Lab Sample No: 862545
Lab Job No: L358

Date Sampled: 09/20/07
Date Received: 09/20/07
Date Analyzed: 09/27/07
GC Column: Rtx-VMS
Instrument ID: VOAMS3.i
Lab File ID: ca21170.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.2
Toluene	ND	0.3
Ethylbenzene	ND	0.4
Xylene (Total)	ND	0.4

Client ID: TPZ-1
Site: Sea Isle City

Lab Sample No: 862546
Lab Job No: L358

Date Sampled: 09/20/07
Date Received: 09/20/07
Date Analyzed: 09/27/07
GC Column: Rtx-VMS
Instrument ID: VOAMS3.i
Lab File ID: ca21171.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

**VOLATILE ORGANICS - GC/MS
METHOD 624**

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	44	0.2
Toluene	21	0.3
Ethylbenzene	4.3	0.4
Xylene (Total)	31	0.4

Client ID: TPZ-3
Site: Sea Isle City

Lab Sample No: 862547
Lab Job No: L358

Date Sampled: 09/20/07
Date Received: 09/20/07
Date Analyzed: 09/27/07
GC Column: Rtx-VMS
Instrument ID: VOAMS3.i
Lab File ID: ca21172.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	180	0.2
Toluene	2.4	0.3
Ethylbenzene	45	0.4
Xylene (Total)	60	0.4

Client ID: FB
Site: Sea Isle City

Lab Sample No: 862548
Lab Job No: L358

Date Sampled: 09/20/07
Date Received: 09/20/07
Date Analyzed: 09/28/07
GC Column: Rtx-VMS
Instrument ID: VOAMS3.i
Lab File ID: ca21222.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	ND	0.2
Toluene	ND	0.3
Ethylbenzene	ND	0.4
Xylene (Total)	ND	0.4

Client ID: TPZ-2
Site: Sea Isle City

Lab Sample No: 862549
Lab Job No: L358

Date Sampled: 09/20/07
Date Received: 09/20/07
Date Analyzed: 09/27/07
GC Column: Rtx-VMS
Instrument ID: VOAMS3.i
Lab File ID: ca21174.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	1.6	0.2
Toluene	3.1	0.3
Ethylbenzene	8.6	0.4
Xylene (Total)	12	0.4

Client ID: FD-1
Site: Sea Isle City

Lab Sample No: 862550
Lab Job No: L358

Date Sampled: 09/20/07
Date Received: 09/20/07
Date Analyzed: 09/27/07
GC Column: Rtx-VMS
Instrument ID: VOAMS3.i
Lab File ID: ca21175.d

Matrix: WATER
Level: LOW
Purge Volume: 5.0 ml
Dilution Factor: 1.0

VOLATILE ORGANICS - GC/MS
METHOD 624

<u>Parameter</u>	<u>Analytical Result</u> <u>Units: ug/l</u>	<u>Method Detection</u> <u>Limit</u> <u>Units: ug/l</u>
Benzene	16	0.2
Toluene	8.2	0.3
Ethylbenzene	1.5	0.4
Xylene (Total)	11	0.4

Project: 27000
 Field ID Number: CS-10.02
 Laboratory ID Number: 732608

TARGET ANALYTES -
 AIR RESULTS

Sampling Date: 11/15/2007
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results in ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
Acetone (2-propanone)	67-64-1	58.078	5.0	U	12		
Benzene	71-43-2	78.108	0.20	U	0.64		
Bromodichloromethane	75-27-4	163.83	0.20	U	1.3		
Bromoethene	593-60-2	106.96	0.20	U	0.87		
Bromoform	75-25-2	252.75	0.20	U	2.1		
Bromomethane (Methyl bromide)	74-83-9	94.94	0.20	U	0.78		
1,3-Butadiene	106-99-0	54.09	0.50	U	1.1		
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	0.50	U	1.5		
Carbon disulfide	75-15-0	76.14	0.50	U	1.6		
Carbon tetrachloride	56-23-5	153.81	0.20	U	1.3		
Chlorobenzene	108-90-7	112.55	0.20	U	0.92		
Chloroethane	75-00-3	64.52	0.50	U	1.3		
Chloroform	67-66-3	119.38	0.20	U	0.98		
Chloromethane (Methyl chloride)	74-87-3	50.49	0.50	U	1.0		
3-Chloropropene (allyl chloride)	107-05-1	76.53	0.50	U	1.6		
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.59	0.20	U	1.0		
Cyclohexane	110-82-7	84.16	0.20	U	0.69		
Dibromochloromethane	124-48-1	208.29	0.20	U	1.7		
1,2-Dibromoethane	106-93-4	187.87	0.20	U	1.5		
1,2-Dichlorobenzene	95-50-1	147.00	0.20	U	1.2		
1,3-Dichlorobenzene	541-73-1	147.00	0.20	U	1.2		
1,4-Dichlorobenzene	106-46-7	147.00	0.20	U	1.2		
Dichlorodifluoromethane	75-71-8	120.91	0.54		2.7		
1,1-Dichloroethane	75-34-3	98.96	0.20	U	0.81		
1,2-Dichloroethane	107-06-2	98.96	0.20	U	0.81		
1,1-Dichloroethene	75-35-4	96.94	0.20	U	0.79		
1,2-Dichloroethene (cis)	156-59-2	96.94	0.20	U	0.79		
1,2-Dichloroethene (trans)	156-60-5	96.94	0.20	U	0.79		
1,2-Dichloropropane	78-87-5	112.99	0.20	U	0.92		
1,3-Dichloropropene (cis)	10061-01-5	110.97	0.20	U	0.91		
1,3-Dichloropropene (trans)	10061-02-6	110.97	0.20	U	0.91		
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.92	0.20	U	1.4		
Ethylbenzene	100-41-4	106.17	0.20	U	0.87		
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.20	0.20	U	0.98		
n-Heptane	142-82-5	100.21	0.20	U	0.82		
Hexachlorobutadiene	87-68-3	260.76	0.20	U	2.1		
n-Hexane	110-54-3	86.172	0.50	U	1.8		
Methylene Chloride	75-09-2	84.93	0.50	U	1.7		

Project: 27000
 Field ID Number: CS-10.02
 Laboratory ID Number: 732608

TARGET ANALYTES -
 AIR RESULTS

Sampling Date: 11/15/2007
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results In ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
4-Methyl-2-pentanone (MIBK)	108-10-1	100.16	0.50	U	2.0		
MTBE (Methyl tert-butyl ether)	1634-04-4	88.15	0.50	U	1.8		
Styrene	100-42-5	104.15	0.20	U	0.85		
Tertiary butyl alcohol (TBA)	75-65-0	74.12	5.0	U	15		
1,1,2-Tetrachloroethane	79-34-5	167.85	0.20	U	1.4		
Tetrachloroethene (PCE)	127-18-4	165.83	0.20	U	1.4		
Toluene	108-88-3	92.14	1.1		4.1		
1,2,4-Trichlorobenzene	120-82-1	181.45	0.50	U	3.7		
1,1,1-Trichloroethane	71-55-6	133.41	0.20	U	1.1		
1,1,2-Trichloroethane	79-00-5	133.41	0.20	U	1.1		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.38	0.20	U	1.5		
Trichloroethene (TCE)	79-01-6	131.39	0.20	U	1.1		
Trichlorofluoromethane (Freon 11)	75-69-4	137.37	0.24		1.3		
1,2,4-Trimethylbenzene	95-63-6	120.20	0.20	U	0.98		
1,3,5-Trimethylbenzene	108-67-8	120.20	0.20	U	0.98		
2,2,4-Trimethylpentane	540-84-1	114.23	0.20	U	0.93		
Vinyl Chloride	75-01-4	62.50	0.20	U	0.51		
Xylene (m&p)	1330-20-7	106.17	0.50	U	2.2		
Xylene (o)	95-47-6	106.17	0.20	U	0.87		

Project: 27000
 Field ID Number: CS-34
 Laboratory ID Number: 732609

TARGET ANALYTES -
 AIR RESULTS

Sampling Date: 11/15/2007
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results in ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
Acetone (2-propanone)	67-64-1	58.078	5.0	U	12		
Benzene	71-43-2	78.108	0.20	U	0.64		
Bromodichloromethane	75-27-4	163.83	0.20	U	1.3		
Bromoethene	593-60-2	106.96	0.20	U	0.87		
Bromoform	75-25-2	252.75	0.20	U	2.1		
Bromomethane (Methyl bromide)	74-83-9	94.94	0.20	U	0.78		
1,3-Butadiene	106-99-0	54.09	0.50	U	1.1		
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	0.50	U	1.5		
Carbon disulfide	75-15-0	76.14	0.50	U	1.6		
Carbon tetrachloride	56-23-5	153.81	0.20	U	1.3		
Chlorobenzene	108-90-7	112.55	0.20	U	0.92		
Chloroethane	75-00-3	64.52	0.50	U	1.3		
Chloroform	67-66-3	119.38	0.20	U	0.98		
Chloromethane (Methyl chloride)	74-87-3	50.49	0.50	U	1.0		
3-Chloropropene (allyl chloride)	107-05-1	76.53	0.50	U	1.6		
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.59	0.20	U	1.0		
Cyclohexane	110-82-7	84.16	0.20	U	0.69		
Dibromochloromethane	124-48-1	208.29	0.20	U	1.7		
1,2-Dibromoethane	106-93-4	187.87	0.20	U	1.5		
1,2-Dichlorobenzene	95-50-1	147.00	0.20	U	1.2		
1,3-Dichlorobenzene	541-73-1	147.00	0.20	U	1.2		
1,4-Dichlorobenzene	106-46-7	147.00	0.20	U	1.2		
Dichlorodifluoromethane	75-71-8	120.91	0.56		2.8		
1,1-Dichloroethane	75-34-3	98.96	0.20	U	0.81		
1,2-Dichloroethane	107-06-2	98.96	0.20	U	0.81		
1,1-Dichloroethene	75-35-4	96.94	0.20	U	0.79		
1,2-Dichloroethene (cis)	156-59-2	96.94	0.20	U	0.79		
1,2-Dichloroethene (trans)	156-60-5	96.94	0.20	U	0.79		
1,2-Dichloropropane	78-87-5	112.99	0.20	U	0.92		
1,3-Dichloropropane (cis)	10061-01-5	110.97	0.20	U	0.91		
1,3-Dichloropropane (trans)	10061-02-6	110.97	0.20	U	0.91		
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.92	0.20	U	1.4		
Ethylbenzene	100-41-4	106.17	0.20	U	0.87		
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.20	0.20	U	0.98		
n-Heptane	142-82-5	100.21	0.20	U	0.82		
Hexachlorobutadiene	87-68-3	260.76	0.20	U	2.1		
n-Hexane	110-54-3	86.172	0.50	U	1.8		
Methylene Chloride	75-09-2	84.93	0.50	U	1.7		

Project: 27000
 Field ID Number: CS-34
 Laboratory ID Number: 732609

TARGET ANALYTES -
 AIR RESULTS

Sampling Date: 11/15/2007
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results in ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
4-Methyl-2-pentanone (MIBK)	108-10-1	100.16	0.50	U	2.0		
MTBE (Methyl tert-butyl ether)	1634-04-4	88.15	0.50	U	1.8		
Styrene	100-42-5	104.15	0.20	U	0.85		
Tertiary butyl alcohol (TBA)	75-65-0	74.12	5.0	U	15		
1,1,2,2-Tetrachloroethane	79-34-5	167.85	0.20	U	1.4		
Tetrachloroethene (PCE)	127-18-4	165.83	0.20	U	1.4		
Toluene	108-88-3	92.14	0.64		2.4		
1,2,4-Trichlorobenzene	120-82-1	181.45	0.50	U	3.7		
1,1,1-Trichloroethane	71-55-6	133.41	0.20	U	1.1		
1,1,2-Trichloroethane	79-00-5	133.41	0.20	U	1.1		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.38	0.20	U	1.5		
Trichloroethene (TCE)	79-01-6	131.39	0.20	U	1.1		
Trichlorofluoromethane (Freon 11)	75-69-4	137.37	0.21		1.2		
1,2,4-Trimethylbenzene	95-63-6	120.20	0.20	U	0.98		
1,3,5-Trimethylbenzene	108-67-8	120.20	0.20	U	0.98		
2,2,4-Trimethylpentane	540-84-1	114.23	0.20	U	0.93		
Vinyl Chloride	75-01-4	62.50	0.20	U	0.51		
Xylene (m&p)	1330-20-7	106.17	0.50	U	2.2		
Xylene (o)	95-47-6	106.17	0.20	U	0.87		

Project: 27000
 Field ID Number: AA-22
 Laboratory ID Number: 732610

TARGET ANALYTES -
 AIR RESULTS

Sampling Date: 11/15/2007
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results In ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
Acetone (2-propanone)	67-64-1	58.078	5.0	U	12		
Benzene	71-43-2	78.108	0.20	U	0.64		
Bromodichloromethane	75-27-4	163.83	0.20	U	1.3		
Bromoethene	593-60-2	106.96	0.20	U	0.87		
Bromoform	75-25-2	252.75	0.20	U	2.1		
Bromomethane (Methyl bromide)	74-83-9	94.94	0.20	U	0.78		
1,3-Butadiene	106-99-0	54.09	0.50	U	1.1		
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	0.50	U	1.5		
Carbon disulfide	75-15-0	76.14	0.50	U	1.6		
Carbon tetrachloride	56-23-5	153.81	0.20	U	1.3		
Chlorobenzene	108-90-7	112.55	0.20	U	0.92		
Chloroethane	75-00-3	64.52	0.50	U	1.3		
Chloroform	67-66-3	119.38	0.20	U	0.98		
Chloromethane (Methyl chloride)	74-87-3	50.49	0.69		1.4		
3-Chloropropene (allyl chloride)	107-05-1	76.53	0.50	U	1.6		
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.59	0.20	U	1.0		
Cyclohexane	110-82-7	84.16	0.20	U	0.69		
Dibromochloromethane	124-48-1	208.29	0.20	U	1.7		
1,2-Dibromoethane	106-93-4	187.87	0.20	U	1.5		
1,2-Dichlorobenzene	95-50-1	147.00	0.20	U	1.2		
1,3-Dichlorobenzene	541-73-1	147.00	0.20	U	1.2		
1,4-Dichlorobenzene	106-46-7	147.00	0.20	U	1.2		
Dichlorodifluoromethane	75-71-8	120.91	0.58		2.9		
1,1-Dichloroethane	75-34-3	98.96	0.20	U	0.81		
1,2-Dichloroethane	107-06-2	98.96	0.20	U	0.81		
1,1-Dichloroethene	75-35-4	96.94	0.20	U	0.79		
1,2-Dichloroethene (cis)	156-59-2	96.94	0.20	U	0.79		
1,2-Dichloroethene (trans)	156-60-5	96.94	0.20	U	0.79		
1,2-Dichloropropane	78-87-5	112.99	0.20	U	0.92		
1,3-Dichloropropene (cis)	10061-01-5	110.97	0.20	U	0.91		
1,3-Dichloropropene (trans)	10061-02-6	110.97	0.20	U	0.91		
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.92	0.20	U	1.4		
Ethylbenzene	100-41-4	106.17	0.20	U	0.87		
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.20	0.20	U	0.98		
n-Heptane	142-82-5	100.21	0.20	U	0.82		
Hexachlorobutadiene	87-68-3	260.76	0.20	U	2.1		
n-Hexane	110-54-3	86.172	0.50	U	1.8		
Methylene Chloride	75-09-2	84.93	0.50	U	1.7		

Project: 27000
 Field ID Number: AA-22
 Laboratory ID Number: 732610

TARGET ANALYTES -
 AIR RESULTS

Sampling Date: 11/15/2007
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results in ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
4-Methyl-2-pentanone (MIBK)	108-10-1	100.16	0.50	U	2.0		
MTBE (Methyl tert-butyl ether)	1634-04-4	88.15	0.50	U	1.8		
Styrene	100-42-5	104.15	0.20	U	0.85		
Tertiary butyl alcohol (TBA)	75-65-0	74.12	5.0	U	15		
1,1,2,2-Tetrachloroethane	79-34-5	167.85	0.20	U	1.4		
Tetrachloroethene (PCE)	127-18-4	165.83	0.20	U	1.4		
Toluene	108-88-3	92.14	0.20	U	0.75		
1,2,4-Trichlorobenzene	120-82-1	181.45	0.50	U	3.7		
1,1,1-Trichloroethane	71-55-6	133.41	0.20	U	1.1		
1,1,2-Trichloroethane	79-00-5	133.41	0.20	U	1.1		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.38	0.20	U	1.5		
Trichloroethene (TCE)	79-01-6	131.39	0.20	U	1.1		
Trichlorofluoromethane (Freon 11)	75-69-4	137.37	0.21		1.2		
1,2,4-Trimethylbenzene	95-63-6	120.20	0.20	U	0.98		
1,3,5-Trimethylbenzene	108-67-8	120.20	0.20	U	0.98		
2,2,4-Trimethylpentane	540-84-1	114.23	0.20	U	0.93		
Vinyl Chloride	75-01-4	62.50	0.20	U	0.51		
Xylene (m&p)	1330-20-7	106.17	0.50	U	2.2		
Xylene (o)	95-47-6	106.17	0.20	U	0.87		

Project: 27000
 Field ID Number: BA112107LCS
 Laboratory ID Number: BA112107LCS

TARGET ANALYTES -
 AIR RESULTS

Sampling Date:
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results in ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
Acetone (2-propanone)	67-64-1	58.078	11		26		
Benzene	71-43-2	78.108	10		32		
Bromodichloromethane	75-27-4	163.83	11		74		
Bromoethene	593-60-2	106.96	11		48		
Bromoform	75-25-2	252.75	9.9		100		
Bromomethane (Methyl bromide)	74-83-9	94.94	11		43		
1,3-Butadiene	106-99-0	54.09	13		29		
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	11		32		
Carbon disulfide	75-15-0	76.14	11		34		
Carbon tetrachloride	56-23-5	153.81	11		69		
Chlorobenzene	108-90-7	112.55	8.9		41		
Chloroethane	75-00-3	64.52	12		32		
Chloroform	67-66-3	119.38	10		49		
Chloromethane (Methyl chloride)	74-87-3	50.49	13		27		
3-Chloropropene (allyl chloride)	107-05-1	76.53	12		38		
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.59	9.5		49		
Cyclohexane	110-82-7	84.16	11		38		
Dibromochloromethane	124-48-1	208.29	10		85		
1,2-Dibromoethane	106-93-4	187.87	9.2		71		
1,2-Dichlorobenzene	95-50-1	147.00	7.9		47		
1,3-Dichlorobenzene	541-73-1	147.00	8.1		49		
1,4-Dichlorobenzene	106-46-7	147.00	8.1		49		
Dichlorodifluoromethane	75-71-8	120.91	13		64		
1,1-Dichloroethane	75-34-3	98.96	11		45		
1,2-Dichloroethane	107-06-2	98.96	11		45		
1,1-Dichloroethene	75-35-4	96.94	12		48		
1,2-Dichloroethene (cis)	156-59-2	96.94	11		44		
1,2-Dichloroethene (trans)	156-60-5	96.94	11		44		
1,2-Dichloropropane	78-87-5	112.99	10		46		
1,3-Dichloropropane (cis)	10061-01-5	110.97	10		45		
1,3-Dichloropropane (trans)	10061-02-6	110.97	9.9		45		
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.92	12		84		
Ethylbenzene	100-41-4	106.17	9.1		40		
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.20	8.7		43		
n-Heptane	142-82-5	100.21	11		45		
Hexachlorobutadiene	87-68-3	260.76	9.4		100		
n-Hexane	110-54-3	86.172	12		42		
Methylene Chloride	75-09-2	84.93	12		42		

Project: 27000
 Field ID Number: BA112107LCS
 Laboratory ID Number: BA112107LCS

TARGET ANALYTES -
 AIR RESULTS

Sampling Date:
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results in ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
4-Methyl-2-pentanone (MIBK)	108-10-1	100.16	13		53		
MTBE (Methyl tert-butyl ether)	1634-04-4	88.15	10		36		
Styrene	100-42-5	104.15	9.5		40		
Tertiary butyl alcohol (TBA)	75-65-0	74.12	11		33		
1,1,2,2-Tetrachloroethane	79-34-5	167.85	9.0		62		
Tetrachloroethene (PCE)	127-18-4	165.83	8.7		59		
Toluene	108-88-3	92.14	9.0		34		
1,2,4-Trichlorobenzene	120-82-1	181.45	10		74		
1,1,1-Trichloroethane	71-55-6	133.41	11		60		
1,1,2-Trichloroethane	79-00-5	133.41	9.2		50		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.38	12		92		
Trichloroethene (TCE)	79-01-6	131.39	10		54		
Trichlorofluoromethane (Freon 11)	75-69-4	137.37	11		62		
1,2,4-Trimethylbenzene	95-63-6	120.20	8.4		41		
1,3,5-Trimethylbenzene	108-67-8	120.20	8.9		44		
2,2,4-Trimethylpentane	540-84-1	114.23	11		51		
Vinyl Chloride	75-01-4	62.50	12		31		
Xylene (m&p)	1330-20-7	106.17	18		78		
Xylene (o)	95-47-6	106.17	8.7		38		

Project: 27000
 Field ID Number: BA112107LCSD
 Laboratory ID Number: BA112107LCSD

TARGET ANALYTES -
 AIR RESULTS

Sampling Date:
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results in ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
Acetone (2-propanone)	67-64-1	58.078	11		26		
Benzene	71-43-2	78.108	10		32		
Bromodichloromethane	75-27-4	163.83	11		74		
Bromoethene	593-60-2	106.96	11		48		
Bromoform	75-25-2	252.75	9.8		100		
Bromomethane (Methyl bromide)	74-83-9	94.94	10		39		
1,3-Butadiene	106-99-0	54.09	12		27		
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	11		32		
Carbon disulfide	75-15-0	76.14	11		34		
Carbon tetrachloride	56-23-5	153.81	10		63		
Chlorobenzene	108-90-7	112.55	8.8		41		
Chloroethane	75-00-3	64.52	11		29		
Chloroform	67-66-3	119.38	10		49		
Chloromethane (Methyl chloride)	74-87-3	50.49	12		25		
3-Chloropropene (allyl chloride)	107-05-1	76.53	12		38		
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.59	9.2		48		
Cyclohexane	110-82-7	84.16	11		38		
Dibromochloromethane	124-48-1	208.29	10		85		
1,2-Dibromoethane	106-93-4	187.87	9.0		69		
1,2-Dichlorobenzene	95-50-1	147.00	7.8		47		
1,3-Dichlorobenzene	541-73-1	147.00	8.0		48		
1,4-Dichlorobenzene	106-46-7	147.00	7.9		47		
Dichlorodifluoromethane	75-71-8	120.91	12		59		
1,1-Dichloroethane	75-34-3	98.96	11		45		
1,2-Dichloroethane	107-06-2	98.96	10		40		
1,1-Dichloroethene	75-35-4	96.94	12		48		
1,2-Dichloroethene (cis)	156-59-2	96.94	11		44		
1,2-Dichloroethene (trans)	156-60-5	96.94	11		44		
1,2-Dichloropropane	78-87-5	112.99	9.9		46		
1,3-Dichloropropene (cis)	10061-01-5	110.97	9.8		44		
1,3-Dichloropropene (trans)	10061-02-6	110.97	9.6		44		
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.92	12		84		
Ethylbenzene	100-41-4	106.17	8.9		39		
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.20	9.1		45		
n-Heptane	142-82-5	100.21	11		45		
Hexachlorobutadiene	87-68-3	260.76	10		110		
n-Hexane	110-54-3	86.172	11		39		
Methylene Chloride	75-09-2	84.93	12		42		

Laboratory Name: TAL-Burlington
 Laboratory City: South Burlington, Vermont

master QA form for air

Page 1

Project: 27000
 Field ID Number: BA112107LCSD
 Laboratory ID Number: BA112107LCSD

TARGET ANALYTES -
 AIR RESULTS

Sampling Date:
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results in ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
4-Methyl-2-pentanone (MIBK)	108-10-1	100.16	12		49		
MTBE (Methyl tert-butyl ether)	1634-04-4	88.15	10		36		
Styrene	100-42-5	104.15	9.2		39		
Tertiary butyl alcohol (TBA)	75-65-0	74.12	11		33		
1,1,2,2-Tetrachloroethane	79-34-5	167.85	8.7		60		
Tetrachloroethene (PCE)	127-18-4	165.83	8.8		60		
Toluene	108-88-3	92.14	8.9		34		
1,2,4-Trichlorobenzene	120-82-1	181.45	10		74		
1,1,1-Trichloroethane	71-55-6	133.41	11		60		
1,1,2-Trichloroethane	79-00-5	133.41	8.8		48		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.38	11		84		
Trichloroethene (TCE)	79-01-6	131.39	10		54		
Trichlorofluoromethane (Freon 11)	75-69-4	137.37	11		62		
1,2,4-Trimethylbenzene	95-63-6	120.20	8.5		42		
1,3,5-Trimethylbenzene	108-67-8	120.20	8.3		41		
2,2,4-Trimethylpentane	540-84-1	114.23	11		51		
Vinyl Chloride	75-01-4	62.50	11		28		
Xylene (m&p)	1330-20-7	106.17	17		74		
Xylene (o)	95-47-6	106.17	8.5		37		

Project: 27000
 Field ID Number: MBLK112107BA
 Laboratory ID Number: MBLK112107BA

TARGET ANALYTES -
 AIR RESULTS

Sampling Date:
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results In ppbv	Q	Results In ug/m3	QAS Decision	Footnotes
Acetone (2-propanone)	67-64-1	58.078	5.0	U	12		
Benzene	71-43-2	78.108	0.20	U	0.64		
Bromodichloromethane	75-27-4	163.83	0.20	U	1.3		
Bromoethene	593-60-2	106.96	0.20	U	0.87		
Bromoform	75-25-2	252.75	0.20	U	2.1		
Bromomethane (Methyl bromide)	74-83-9	94.94	0.20	U	0.78		
1,3-Butadiene	106-99-0	54.09	0.50	U	1.1		
2-Butanone (Methyl ethyl ketone)	78-93-3	72.11	0.50	U	1.5		
Carbon disulfide	75-15-0	76.14	0.50	U	1.6		
Carbon tetrachloride	56-23-5	153.81	0.20	U	1.3		
Chlorobenzene	108-90-7	112.55	0.20	U	0.92		
Chloroethane	75-00-3	64.52	0.50	U	1.3		
Chloroform	67-66-3	119.38	0.20	U	0.98		
Chloromethane (Methyl chloride)	74-87-3	50.49	0.50	U	1.0		
3-Chloropropene (allyl chloride)	107-05-1	76.53	0.50	U	1.6		
2-Chlorotoluene (o-Chlorotoluene)	95-49-8	126.59	0.20	U	1.0		
Cyclohexane	110-82-7	84.16	0.20	U	0.69		
Dibromochloromethane	124-48-1	208.29	0.20	U	1.7		
1,2-Dibromoethane	106-93-4	187.87	0.20	U	1.5		
1,2-Dichlorobenzene	95-50-1	147.00	0.20	U	1.2		
1,3-Dichlorobenzene	541-73-1	147.00	0.20	U	1.2		
1,4-Dichlorobenzene	106-46-7	147.00	0.20	U	1.2		
Dichlorodifluoromethane	75-71-8	120.91	0.50	U	2.5		
1,1-Dichloroethane	75-34-3	98.96	0.20	U	0.81		
1,2-Dichloroethane	107-06-2	98.96	0.20	U	0.81		
1,1-Dichloroethene	75-35-4	96.94	0.20	U	0.79		
1,2-Dichloroethene (cis)	156-59-2	96.94	0.20	U	0.79		
1,2-Dichloroethene (trans)	156-60-5	96.94	0.20	U	0.79		
1,2-Dichloropropane	78-87-5	112.99	0.20	U	0.92		
1,3-Dichloropropene (cis)	10061-01-5	110.97	0.20	U	0.91		
1,3-Dichloropropene (trans)	10061-02-6	110.97	0.20	U	0.91		
1,2-Dichlorotetrafluoroethane (Freon 114)	76-14-2	170.92	0.20	U	1.4		
Ethylbenzene	100-41-4	106.17	0.20	U	0.87		
4-Ethyltoluene (p-Ethyltoluene)	622-96-8	120.20	0.20	U	0.98		
n-Heptane	142-82-5	100.21	0.20	U	0.82		
Hexachlorobutadiene	87-68-3	260.76	0.20	U	2.1		
n-Hexane	110-54-3	86.172	0.50	U	1.8		
Methylene Chloride	75-09-2	84.93	0.50	U	1.7		

Project: 27000
 Field ID Number: MBLK112107BA
 Laboratory ID Number: MBLK112107BA

TARGET ANALYTES -
 AIR RESULTS

Sampling Date:
 Analysis Date: 11/21/2007

Chemical	CAS Number	Molecular Weight	Results in ppbv	Q	Results in ug/m3	QAS Decision	Footnotes
4-Methyl-2-pentanone (MIBK)	108-10-1	100.16	0.50	U	2.0		
MTBE (Methyl tert-butyl ether)	1634-04-4	88.15	0.50	U	1.8		
Styrene	100-42-5	104.15	0.20	U	0.85		
Tertiary butyl alcohol (TBA)	75-65-0	74.12	5.0	U	15		
1,1,2,2-Tetrachloroethane	79-34-5	167.85	0.20	U	1.4		
Tetrachloroethene (PCE)	127-18-4	165.83	0.20	U	1.4		
Toluene	108-88-3	92.14	0.20	U	0.75		
1,2,4-Trichlorobenzene	120-82-1	181.45	0.50	U	3.7		
1,1,1-Trichloroethane	71-55-6	133.41	0.20	U	1.1		
1,1,2-Trichloroethane	79-00-5	133.41	0.20	U	1.1		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon TF)	76-13-1	187.38	0.20	U	1.5		
Trichloroethene (TCE)	79-01-6	131.39	0.20	U	1.1		
Trichlorofluoromethane (Freon 11)	75-69-4	137.37	0.20	U	1.1		
1,2,4-Trimethylbenzene	95-63-6	120.20	0.20	U	0.98		
1,3,5-Trimethylbenzene	108-67-8	120.20	0.20	U	0.98		
2,2,4-Trimethylpentane	540-84-1	114.23	0.20	U	0.93		
Vinyl Chloride	75-01-4	62.50	0.20	U	0.51		
Xylene (m&p)	1330-20-7	106.17	0.50	U	2.2		
Xylene (o)	95-47-6	106.17	0.20	U	0.87		

APPENDIX G

Data Usability Summary Report

Data Usability Summary Report (DUSR)
Sea Isle City
Analytical Laboratory: TestAmerica - Edison, NJ
Sample Delivery Group # L 358

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Organic Data Review (EPA 540/R-99/008)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996.

This DUSR pertains to the following samples:

Sample ID
Trip_Blank
TPZ-1
TPZ-3
FB
TPZ-2
FD-1

Project Samples were analyzed according to the following analytical methods:

Parameter	Analytical Method	Holding Time Criteria
1. VOCs - BTEX compounds	EPA 8260B/624	14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- System Monitoring Compound Recoveries
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries, Field Duplicates
- Internal Standard Recoveries
- Target Compound Identification
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target analytes were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples. No qualification of the data is recommended.

System Monitoring Compound Recoveries

System monitoring/surrogate compounds are added to each sample prior to analysis of organic parameters by EPA Methods 8260B, 8270C, and/or 8082 to confirm the efficiency of the sample preparation procedure. The calculated recovery for each surrogate compound was evaluated to confirm the accuracy of the reported results. The calculated recovery of these compounds fell within the laboratory specific quality control criteria. In a few instances, sample extracts required dilution prior to analysis to either improve instrument performance by minimizing matrix interference or enable quantification of the detected target analytes within the instrument calibration range. Where applicable, the laboratory qualified the reported results indicating the system monitoring compound recovery could not be calculated due to a sample extract dilution. In cases where the instrument resolution appeared to be unaffected by the diluted sample matrix, the sample results were accepted without qualification. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries, Field Duplicates

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. The reported recovery of the MS was outside QC limits for toluene and ethylbenzene. However, the sample used for the MS was not project related. No qualification is recommended. The LCS analyses fell within the laboratory QA acceptance criteria. No qualification of the data is recommended. Relative percent differences (RPDs) of field duplicate pairs TPZ-1 and FD-1 were exceeded 35% for benzene, toluene, and xylenes. Laboratory screening of remaining sample aliquots indicated similar RPD results (outside of holding times). Duplicate sample non-homogeneity is suspected, since samples were collected sequentially from a temporary well point. Both results in excess of iterative regulatory criteria and iterative action undertaken. No additional qualification of data recommended.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters by EPA Methods 8260B and/or 8270C to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and - 50% of the corresponding CCV standard. No qualification of the data is recommended.

Target Compound Identification

GC/MS qualitative analysis for organic parameters analyzed by EPA Methods 8260B and/or 8270C was performed to remove mis-identifications of the target compounds. The relative retention times (RRT) of all reported target compounds were within +/- 0.06 RRT units of the associated calibration standard RRT, and all ions present in the reference standard spectrum at a relative intensity greater than 10 percent were also present in the sample spectrum. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Data qualifiers were assigned by the laboratory to the reported results to identify target analytes detected below the reporting limit but above the method detection limit, and/or when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Organic analyses samples that contained concentrations of target analytes at a reportable level in the associated method blanks were flagged by the laboratory with a "B". If the target analyte concentration was greater than 10 times (10X) the amount in any blank for the common laboratory contaminants or 5 times (5X) the amount for other target compounds, the "B" qualifier was not carried forward for database input; if less than the 10X or 5X rule the "B" qualifier was replaced with a "U". The "J" qualifier, which indicates an estimated value because the result was between the MDL and RL was carried through to the database.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable.

Data Usability Summary Report (DUSR)
Sea Isle City
Analytical Laboratory: TestAmerica - South Burlington, VT
Sample Delivery Group # 133066

Analytical results for the project samples were reviewed to evaluate the data usability. Data was assessed in accordance with guidance from the following Federal and/or State guidance documents:

- USEPA National Functional Guidelines for Organic Data Review (EPA 540/R-99/008)

and method protocol criteria where applicable as prescribed by "Test Methods for Evaluating Solid Waste", SW846, Update III, 1996.

This DUSR pertains to the following samples:

Sample ID
CS-10.02
CS-34
AA-22

Project Samples were analyzed according to the following analytical methods:

Parameter	Analytical Method	Holding Time Criteria
1. VOCs	EPA TO-14A/TO-15	3 / 14 days

The following items/criteria applicable to the analysis of project samples and associated QA/QC procedures were reviewed.

- Holding Times
- GC/MS Instrument Performance Check
- Initial Calibration Procedures
- Continuing Calibration Procedures
- Blank Sample Analysis
- Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries
- Internal Standard Recoveries
- Sample Data Reporting Format
- Data Qualifiers
- Summary

Preservation and Holding Times

Maximum allowable holding times, measured from the time of sample collection to the time of sample preparation or analysis, were met for each project sample analyzed as part of this sample delivery group. No qualification of the data is recommended.

GC/MS Instrument Performance Check

GC/MS instrument performance checks for the instruments used in the analysis of project samples fell within method specific criteria without exception. No qualification of the data is recommended.

Initial Calibration Procedures

Initial instrument calibration procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Continuing Calibration Procedures

Continuing calibration verification (CCV) procedures for the analysis of project samples were consistent with the guidelines prescribed by EPA protocols. No Qualification of the data is recommended.

Blank Sample Analysis

In accordance with cited USEPA guidelines, positive sample results should be reported unless the concentration of the compound in the project sample is less than or equal to 10 times (10X) the amount in any blank for metals and the common organic laboratory contaminants (methylene chloride, acetone, 2-butanone, cyclohexane, and phthalate esters), or 5 times (5X) the amount for other target compounds. Target analytes were not detected in associated blank samples (trip, equipment, method) prepared and analyzed concurrently with the project samples. No qualification of the data is recommended.

Laboratory Control Samples, Matrix Spike/Matrix Spike Duplicate Recoveries

Analytical precision and accuracy was evaluated based on the laboratory control and matrix spike sample analyses performed concurrently with the project samples. For matrix spike samples, after the addition of a known amount of each target analyte to the sample matrix, the sample was analyzed to confirm the ability to identify these compounds within the sample matrix. For LCS analyses, after the addition of a known amount of each target analyte into laboratory reagent water, the sample was analyzed to confirm the ability of the analytical system to accurately quantify the compounds. The reported recovery of MS/MSD and LCS analyses fell within the laboratory QA acceptance criteria. No qualification of the data is recommended.

Internal Standard Recoveries

Internal Standard compounds were added to each sample matrix prior to the analysis of organic parameters by EPA Methods 8260B and/or 8270C to quantify the amount of the target compounds detected within each sample. The calculated response of each IS compound fell within the QA/QC criteria of +100% and - 50% of the corresponding CCV standard. No qualification of the data is recommended.

Sample Data Reporting Format

The sample data are presented using USEPA Contract Laboratory Protocol (CLP) format. The data package has been reviewed for completeness and found to contain each required sample result and associated QA/QC report form. The reporting format is complete and compliant with the objectives of the project. No qualification of the data is recommended.

Data Qualifiers

Data qualifiers were assigned by the laboratory to the reported results to identify target analytes detected below the reporting limit but above the method detection limit, and/or when target analytes were detected in the associated method/preparation blank sample. Based on a spot check of the data qualifiers used, these flags appeared to be applied to the reported results in accordance with EPA guidance.

Organic analyses samples that contained concentrations of target analytes at a reportable level in the associated method blanks were flagged by the laboratory with a "B". If the target analyte concentration was greater than 10 times (10X) the amount in any blank for the common laboratory contaminants or 5 times (5X) the amount for other target compounds, the "B" qualifier was not carried forward for database input; if less than the 10X or 5X rule the "B" qualifier was replaced with a "U". The "J" qualifier, which indicates an estimated value because the result was between the MDL and RL was carried through to the database.

Summary

The results presented in each report were found to be compliant with the data quality objectives for the project and usable. Based on our review, the usability of the data is 100%.

Download Document	Permit Number	Well Use	Potentially Potable	Document	Date (permitted/ drilled/ sealed)	Physical Address	County	Municipality	Block	Lot	Location Method	Eastings (X)	Northing (Y)	Distance (feet)	Depth (ft)	Capacity (gal/min)
REDACTED	E201214399	Public Community Replacement	Yes	Permit	10/11/2012	REDACTED	Cape May	Sea Isle City	50.03	REDACTED	Digital Image	0	0	3256	830	880
REDACTED	E201214399	Public Community Replacement	Yes	Record	2/5/2013	REDACTED	Cape May	Sea Isle City	50.03	REDACTED	GPS	0	0	3242	845	
REDACTED	3600028902	Public Community	Yes	Permit	3/16/2005	REDACTED	Cape May	Sea Isle City	54.03	REDACTED	Prop Loc - Hard Copy	0	0		830	800
REDACTED	3600028902	Public Community	Yes	Record	5/19/2005	REDACTED	Cape May	Sea Isle City	54.03	REDACTED	Hard Copy	0	0		820	790
	3600005266	Domestic	Yes	Permit	5/5/1985		Cape May	Dennis Twp	256	2907	Prop Loc - Hard Copy	438214	122101		50	15
	3600005427	Domestic	Yes	Permit	5/5/1985		Cape May	Dennis Twp	245	1401	Prop Loc - Hard Copy	431920	124745		50	15
	3600007498	Domestic	Yes	Permit	9/5/1986		Cape May	Dennis Twp	256	2919	Prop Loc - Hard Copy	438214	122101		50	15
	3600008269	Domestic Replacement	Yes	Permit	3/26/1987	ROUTE 9	Cape May	Dennis Twp	251	8	Prop Loc - Hard Copy	433016	122112		50	10
	3600017055	Domestic	Yes	Permit	8/17/1993	1342 STAGECOACH ROAD	Cape May	Dennis Twp	256.05	36.2	Prop Loc - Hard Copy	432388	122822		55	10
	3600017055	Domestic	Yes	Record	4/28/1993	1342 STAGECOACH ROAD	Cape May	Dennis Twp	256.05	36.2	Prop Loc - Hard Copy	432388	122822		53	15
	3600017049	Domestic	Yes	Permit	8/11/1993	4 ALEXANDRIA WAY	Cape May	Dennis Twp	256.05	36.01	Prop Loc - Hard Copy	431364	122824		60	15
	3600017049	Domestic	Yes	Record	8/16/1993	4 ALEXANDRIA WAY	Cape May	Dennis Twp	256.05	36.01	Prop Loc - Hard Copy	431364	122824		60	10
	3600018136	Irrigation	Yes	Permit	8/4/1994	8005 CENTRAL AVENUE	Cape May	Sea Isle City	80.03	257	Prop Loc - Hard Copy	441832	120070		20	12
	3600018136	Irrigation	Yes	Record	8/16/1994	8005 CENTRAL AVENUE	Cape May	Sea Isle City	80.03	257	Prop Loc - Hard Copy	441832	120070		18	0
REDACTED	5700000010	Public Community	Yes	Decommissioning	2/17/2013	REDACTED	Cape May	Sea Isle City	50.03	REDACTED	Prop Loc - Hard Copy	0	0		871	400
REDACTED	5700000010	Public Community	Yes	Permit	10/29/1930	REDACTED	Cape May	Sea Isle City		REDACTED	Prop Loc - Hard Copy	0	0		871	400
REDACTED	5700000010	Public Community	Yes	Record	10/30/1930	REDACTED	Cape May	Sea Isle City		REDACTED	Prop Loc - Hard Copy	0	0		871	400
REDACTED	5700000009	Public Community	Yes	Permit	1/1/1926	REDACTED	Cape May	Sea Isle City		REDACTED	Prop Loc - Hard Copy	0	0		864	0
REDACTED	5700000009	Public Community	Yes	Record	1/2/1926	REDACTED	Cape May	Sea Isle City		REDACTED	Prop Loc - Hard Copy	0	0		864	0
REDACTED	3700000064	Public Community	Yes	Decommissioning	1/11/2008	REDACTED	Cape May	Sea Isle City	54.03	REDACTED	Prop Loc - Hard Copy	0	0			
REDACTED	3700000064	Public Community	Yes	Permit	3/29/1954	REDACTED	Cape May	Sea Isle City		REDACTED	Prop Loc - Hard Copy	0	0		750	700
REDACTED	3700000064	Public Community	Yes	Record		REDACTED	Cape May	Sea Isle City		REDACTED	Prop Loc - Hard Copy	0	0			

Download Document	Permit Number	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)
REDACTED	3600020238	Public Community Replacement	Yes	Permit	4/22/1996	REDACTED	Cape May	Sea Isle City	39.03	REDACTED	Prop Loc - Hard Copy	0	0		877	700
REDACTED	3600020238	Public Community Replacement	Yes	Record	5/27/1996	REDACTED	Cape May	Sea Isle City	39.03	REDACTED	Prop Loc - Hard Copy	0	0		889	700
REDACTED	3600010378	Public Community	Yes	Permit	7/22/1988	REDACTED	Cape May	Sea Isle City	80.04	REDACTED	Prop Loc - Hard Copy	0	0		875	700
REDACTED	3600010378	Public Community	Yes	Record		REDACTED	Cape May	Sea Isle City	80.04	REDACTED	Prop Loc - Hard Copy	0	0			
REDACTED	5600000098	Public Community	Yes	Permit	1/1/1996	REDACTED	Cape May	Sea Isle City		REDACTED	Prop Loc - Hard Copy	0	0		854	
REDACTED	5600000098	Public Community	Yes	Record	1/2/1996	REDACTED	Cape May	Sea Isle City		REDACTED	Prop Loc - Hard Copy	0	0		854	

Appendix D

Photolog

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Looking South at Site Prior to the Start of Remedial Activities



Environmental Clean Up Sign at 39th Street and Central Avenue

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



214 39th Street Prior to Demolition



214 39th Street Property after Building Demolition

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Road Closing signs at 39th Street



Advancing Sheet Piles at Former 214 39th Street Property

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Installation of Inclinometer I9



Perimeter Air Monitoring (PAM) Station

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Setting Anchors for Temporary Enclosure



Constructing the Temporary Enclosure

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Interior of Temporary Enclosure



Completed Enclosure

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Installation of Road Crossings for Depressurization System Discharge Piping



HDPE Piping for Depressurization System Running Along 39th Street

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Energy Dissipating Rip-Rap Placed at 38th Street Outfall



View of Depressurization System

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey

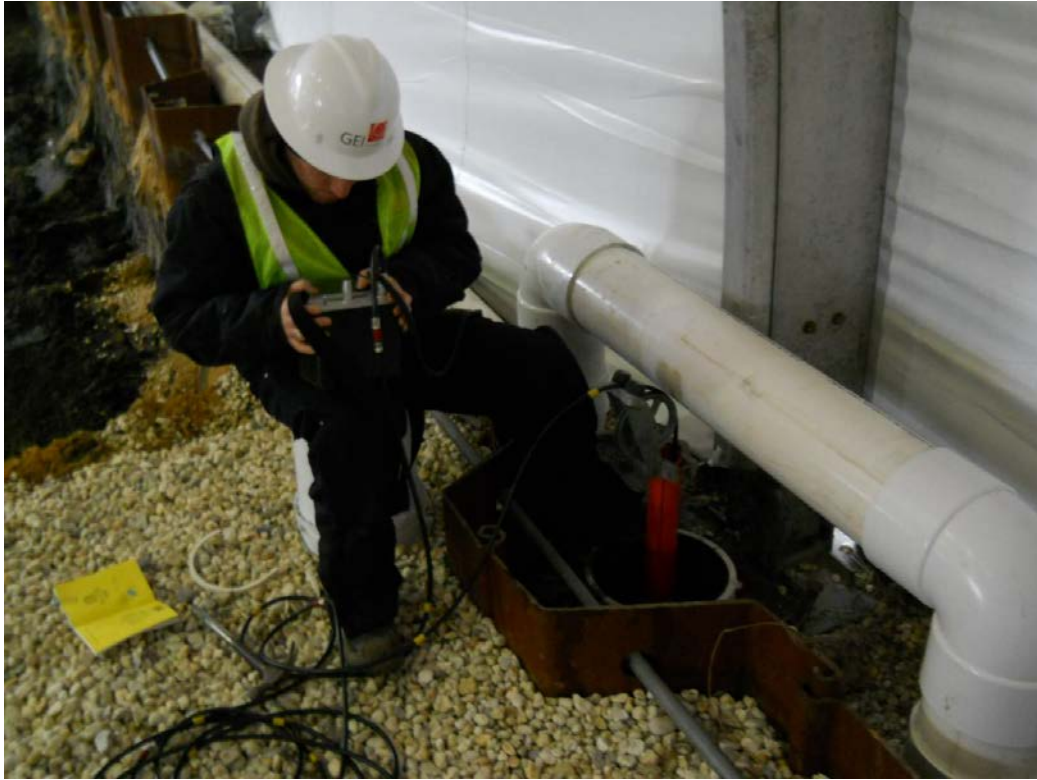


TIGG Air Handling Unit



Initiation of Excavation in Sampling Grid I3

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Collecting Inclinometer Readings



MGP Impacts in I3

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Interior Bracing in Sampling Grids I3 and I4



I3 Sample Location

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



MGP Impacts Visible During Excavation Activities in I5



I5 Sample Location

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Holder Base Visible in Sampling Grid I6

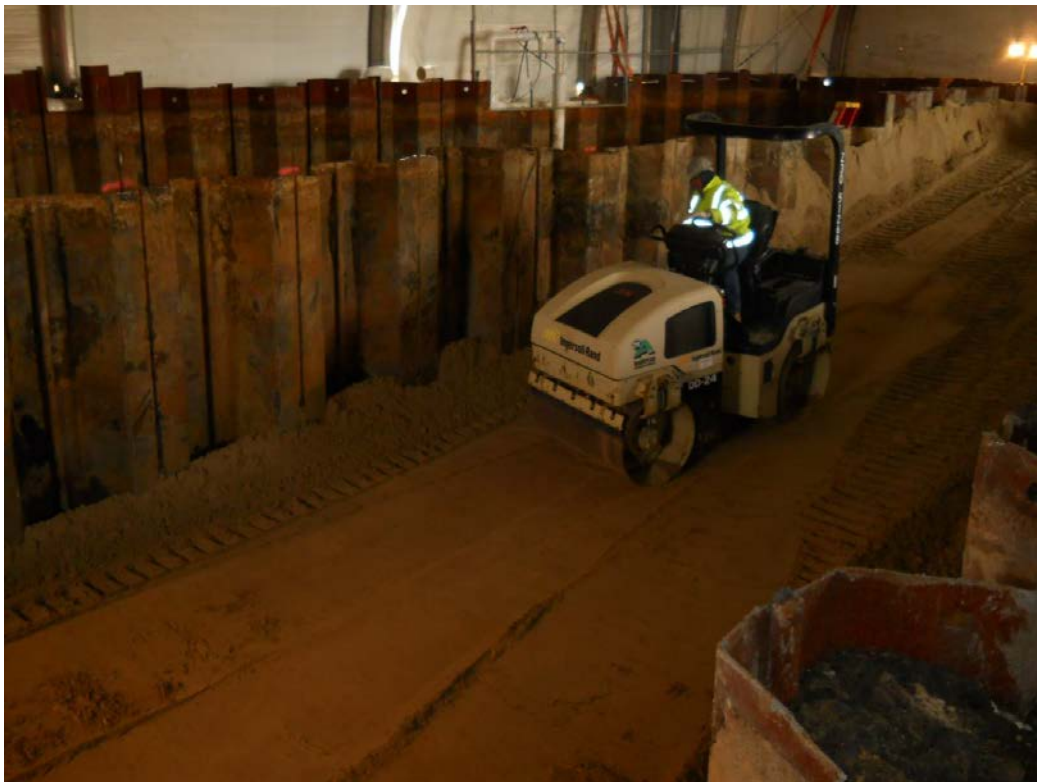


Hand Digging in I6 Below the Former Holder Base

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



I6 Sampling Location



Compacting Backfill in I5 and I6

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Former 214 39th Street Property with Whalers Set Prior to Moving the Enclosure



Moving Enclosure to Former 214 39th Street Property

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Excavating in Sampling Cell I1



I1 Sampling Location

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Excavating in Cell I2



I2 Sample Location

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



MGP Impacts Visible in Cell H2



H2 Sampling Location

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



H1 Sampling Location



Excavating in Sample Grid G3

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Setting Whaler System in Sampling Cell G3



G3 Sampling Location

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Excavating in Sampling Cell G2



G2 Sampling Location

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



F2 Sampling Location



G1 Sampling Location

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



F1 Sampling Location



Backfilling in Sampling Grids F1 and G1

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Disassembly of Temporary Enclosure



Removal of Interior Sheeting

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Compacting I5 material in Sampling Grid I2



Former 214 39th Street Property after Final Backfill Grading

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Installation of Perimeter Fencing



Compacting Fill Material at Final Grade Over the Work Area

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Placement of Stone and Geotextile over site



View of Site Looking East Showing Location of Stockpiled Sheet Piles

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Forming Sidewalks Along 39th Street



Completing Milling of 39th Street

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Repaving 39th Street



Completed Sidewalk and 39th Street Repaving

Remedial Action Photolog
Sea Isle City MGP
Sea Isle City, Cape May County, New Jersey



Site Looking East After Restoration



View of Former 214 39th Street Property after Site Restoration

Appendix E

Permit Approvals

485



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Water Quality
Bureau of Surface Water Permitting
P.O. Box 029 Trenton, NJ 08625-0029
Phone: (609) 292-4860
Fax: (609) 984-7938

CHRIS CHRISTIE
Governor

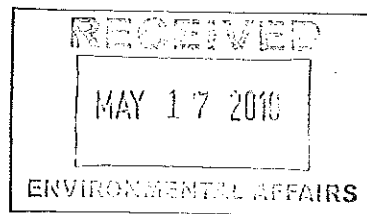
KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

MAY 12, 2010

To: Distribution List

Re: **Final Surface Water Master General Permit Renewal - Statewide**
Category: BGR -General Remediation Clean-up (GP)
NJPDES Permit No. NJ0155438



This letter serves to provide notice that the final New Jersey Pollutant Discharge Elimination System (NJPDES) Category BGR – General Remediation Clean-up renewal permit has been issued in accordance with N.J.A.C. 7:14A. This permit renewal authorizes the discharge of treated groundwater resulting from remediations, dewatering and pump tests to surface waters of the state. This master general permit serves to renew the existing general remediation clean-up permit which expires on May 31, 2010.

The Department issued a letter on March 10, 2010 notifying all permittees, applicants, applicant agents, and other interested parties of the release of the draft permit. Notice of this draft action also appeared in seventeen newspapers to represent all New Jersey counties and was published in the Department's March 10, 2010 *DEP Bulletin*. The public comment period closed on April 24, 2010. The comments received on the draft and the Department's responses are included.

You can find a complete copy of this final permit action on the Department's web site at www.state.nj.us/dep/dwq under General Remediation Clean-up Permit. If you would prefer that a paper copy of the final permit be mailed to you, please contact Kelly Perez or Brian Salvo of the Bureau of Surface Water Permitting at (609) 292-4860 or via email at kelly.perez@dep.state.nj.us or brian.salvo@dep.state.nj.us, respectively.

Attached is a list of facilities for which the Department has received renewal applications. The Department intends to issue individual renewal authorizations for these facilities where the renewal authorization will become effective on July 1, 2010. Until such time as the new permit takes effect, the existing permit conditions will continue in full force and effect pursuant to N.J.A.C. 7:14A-2.8.

If you have any questions or comments regarding the final action, please contact Kelly Perez or Brian Salvo at (609) 292-4860.

Sincerely,

Pilar Patterson, Chief
Bureau of Surface Water Permitting

Enclosures

cc: Permit Distribution List
Masterfile #: 39609; PI #: 50577

Pending BGR Renewal Authorizations

	Facility Name	Facility Location	NJPDES Number
1	Ames Rubber Corp Plant #1	Hamburg Boro	NJG0000141
2	Lowe's Home Center	Eatontown Boro	NJG0002623
3	Hercules Groundwater Trtmt at Geo Spec Chem	Greenwich Twp	NJG0005134
4	Airtron Div/Litton Systems Inc	Morris Plains Boro	NJG0025739
5	Honeywell International, Inc.	Morristown Town	NJG0031305
6	Carpenter Technology-Tube Div	Union Twp	NJG0052931
7	Redi-Flo Corporation	Toms River Twp	NJG0055255
8	Mepco Electra	Morristown Town	NJG0071030
9	Ardell Industries Inc	Maplewood Twp	NJG0080071
10	Evonik Degussa Corp	Piscataway Twp	NJG0082112
11	Evonik Degussa Corp	Elizabeth City	NJG0102270
12	Fisher Scientific Company	Fair Lawn Boro	NJG0102792
13	Haledon Remediation Facility	Haledon Boro	NJG0104451
14	Electric Boat Corp	Woodbridge Twp	NJG0105287
15	RMP Pennsauken	Pennsauken Twp	NJG0105449
16	ADT Security Sys Mfg (Former)	Clifton City	NJG0105490
17	Chemical Leaman Tank Lines Inc	Logan Twp	NJG0105589
18	Private Formulations Inc	Edison Twp	NJG0105716
19	Lockheed Electronics Co Former	Watchung Boro	NJG0105899
20	BICC Cables Corp	New Brunswick City	NJG0107247
21	Shopwell Inc	Tenafly Boro	NJG0109878
22	Safer Textiles Facility (Former)	Moonachie Boro	NJG0109908
23	Former Handy & Harman Site	Montvale Boro	NJG0113794
24	JCP&L Belmar Former Mfg Gas Plant	Belmar Boro	NJG0125130
25	Clariant Corp - Fair Lawn	Fair Lawn Boro	NJG0128236
26	601 Nassau Street	North Brunswick Twp.	NJG0129127
27	Garden State Tile Distributors Inc	South Brunswick Twp	NJG0129526
28	PSE&G Former Paterson Mfg Gas Plant	Paterson City	NJG0130907

	Facility Name	Facility Location	NJPDES Number
29	Former Eco Pump Site	South Plainfield Boro	NJG0130982
30	Inmont Division Facility (Former)	Lodi Boro	NJG0131032
31	Presto Lock Inc (Former)	Garfield City	NJG0131814
32	Fischbach Corporation	New Providence Boro	NJG0132489
33	Denville Technical Park	Denville Twp	NJG0133892
34	Former Laser Diode Facility	New Brunswick City	NJG0137758
35	30 Hudson Street	Jersey City	NJG0139661
36	Hexcel Facility	Lodi Boro	NJG0145378
37	Klockner & Klockner	Rockaway Boro	NJG0156256
38	Penn Color Inc Former Manville, Nj Facility	Hillsborough Twp	NJG0156922
39	Higgins Disposal Superfund Site	Franklin Twp	NJG0160946
40	Higgins Farm Superfund Site	Franklin Twp	NJG0167533
41	Meadowlands Sports Complex	East Rutherford Twp	NJG0167665
42	Somerset St Groundwater Treatment System	Hopewell Boro	NJG0167916
43	Sandvik Coromant Co	Fair Lawn Boro	NJG0167959
44	I.Park Edgewater	Edgewater Boro	NJG0168840
45	Ellis Property	Evesham Twp	NJG0171336
46	Sea Isle City Former Manufactured Gas Plant	Sea Isle City	NJG0172936
47	Standard Chlorine Chemical Co.& Tierra Solns	Kearny Town	NJG0175102
48	Textile Research Institute	Princeton Boro	NJG0175412

Pending BGR Revocations

	Facility Name	Facility Location	NJPDES Number
1	Elizabeth Industrial Park	Elizabeth City	NJG0030511
2	Rexam Groundwater Treatment System	Flemington Boro	NJG0066893
3	Unisys Corp - Plasmagraphics	Warren Twp	NJG0068942
4	Con-Lux Coatings Inc	Edison Twp	NJG0127698
5	Stearns & Foster Bedding Co Former	South Brunswick Twp	NJG0132829
6	Boonton Shopping Center	Boonton Town	NJG0138681
7	Former Lockheed Martin	East Windsor Twp	NJG0163091




**STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF LAND USE REGULATION**

P.O. Box 439, Trenton, New Jersey 08625-0439
Fax: (609) 777-3656 or (609) 292-8115
www.state.nj.us/dep/landuse



PERMIT

<p>In accordance with the laws and regulations of the State of New Jersey, the Department of Environmental Protection hereby grants this permit to perform the activities described below. This permit is revocable with due cause and is subject to the limitations, terms and conditions listed below and on the attached pages. For the purpose of this document, "permit" means "approval, certification, registration, authorization, waiver, etc." Violation of any term, condition or limitation of this permit is a violation of the implementing rules and may subject the permittee to enforcement action.</p>		Approval Date AUG 31 2010
		Expiration Date AUG 31 2015
Permit Number(s) 0509-10-0027.1 CAF100001	Type of Approval(s) Coastal General Permit #15	Enabling Statute(s) N.J.S.A. 13:19-1
<p>Applicant</p> <p>Jersey Central Power & Light Company Environmental Department 300 Madison Avenue, P.O Box 1911 Morristown, NJ 07962-1911</p>	<p>Site Location</p> <p>Block(s) 38.04; 39.04; 39th Street ROW Lot(s): 15, 16, 17, 18; 9, 10.01, 22, 23, 33 & 34</p> <p>Municipality: Sea Isle City County: Cape May</p>	
<p>This permit grants permission to:</p> <p>Excavate and restore approximately 11,795 SF of soil at various depths and install approximately 500LF of steel sheeting to remediate soil contamination at this site. Work is shown on plans entitled "Jersey Central Power & Light Company, Sea Isle City Former MGP Site, Sea Isle City, New Jersey, Soil Excavation Plan (Sheet 2 of 4)/Restoration Plan (Sheet 3 of 4)," dated July 13, 2010, unrevised, and prepared by GEI Consultants.</p> <p>This permit is authorized under and in compliance with applicable Rules on Coastal Zone Management (N.J.A.C. 7:7E-1.1 et seq.) provided the conditions listed are met.</p> <p>Prepared by:  Georgeann Gray Environmental Specialist</p> <p>THIS PERMIT IS NOT EFFECTIVE AND NO CONSTRUCTION APPROVED BY THIS PERMIT, OR OTHER REGULATED ACTIVITY, MAY BE UNDERTAKEN UNTIL THE APPLICANT HAS SATISFIED ALL PRE-CONSTRUCTION CONDITIONS AS SET FORTH IN THIS PERMIT.</p>		
		<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> <p>Received or Recorded by County Clerk</p> </div>
<p>This permit is not valid unless authorizing signature appears on the last page.</p>		

STANDARD CONDITIONS:

1. **Extent of approval:**
 - a. This document grants permission to perform certain activities that are regulated by the State of New Jersey. The approved work is described by the text of this permit and is further detailed by the approved drawings listed herein. All work must conform to the requirements, conditions and limitations of this permit and all approved drawings.
 - b. If you alter the project without prior approval, or expand work beyond the description of this permit, you may be in violation of State law and may be subject to fines and penalties. Approved work may be altered only with the prior written approval of the Department.
 - c. You must keep a copy of this permit and all approved drawings readily available for inspection at the work site.
2. **Acceptance of permit:** If you begin any activity approved by this permit, you thereby accept this document in its entirety, and the responsibility to comply with the terms and conditions. If you do not accept or agree with this document in its entirety, **do not begin** construction. You are entitled to request an appeal within a limited time as detailed on the attached *Administrative Hearing Request Checklist and Tracking Form*.
3. **Recording with County Clerk:** You must record this permit in the Office of the County Clerk for each county involved in this project. You must also mail or fax a copy of the front page of this permit to the Department showing the received stamp from each County Clerk within 30 days of the issuance date
4. **Notice of Construction:** You must notify the Department in writing at least 7 days before you begin any work approved by this permit by submitting the attached construction report. The Construction Reports are also available at www.nj.gov/dep/landuse/forms/index.html.
5. **Expiration date:** All activities authorized by this permit must be completed by the expiration date shown on the first page unless otherwise extended by the Division. At that time, this permit will automatically become invalid and none of the approved work may begin or continue until a replacement permit is granted. (Some permits may qualify for an extension of the expiration date. Please contact the Department for further information.)
6. **Rights of the State:**
 - a. This permit is revocable and subject to modification by the State with due cause.
 - b. Representatives from the State have the statutory authority to enter and inspect this site to confirm compliance with this permit and may suspend construction or initiate enforcement action if work does not comply with this permit.
 - c. This permit does not grant property rights. The issuance of this permit shall not affect any action by the State on future applications, nor affect the title or ownership of property, nor make the State a party in any suit or question of ownership.
7. **Other responsibilities:** You must obtain all necessary local, Federal and other State approvals before you begin work. All work must be stabilized in accordance with the *Standards for Soil Erosion and Sediment Control in New Jersey*, and all fill material must be free of toxic pollutants in toxic amounts as defined in section 307 of the Federal Act.

SPECIAL CONDITIONS IN ADDITION TO THE STANDARD CONDITIONS:

1. All work shall be in accordance with the Department approved Remedial Action Workplan (SRP PI# G000006130, Activity #RPC000001).
2. All excavated soils must be disposed at an approved facility.
3. The applicant must use clean fill for the project.
4. Upon completion of the remedial work, the temporarily disturbed areas will be re-vegetated with native trees, shrubs, and herbaceous vegetation.
5. All fill and earth work on the lands encompassed within this permit authorization shall be stabilized in accordance with "Standards for Soil Erosion and Sediment Control in New Jersey" to prevent eroded soil from entering adjacent waterways or wetlands at any time during and subsequent to construction.
6. The permittee shall immediately inform the Department of any unanticipated adverse effects on the environment not described in the application or in the conditions of this permit.
7. No change in plans or specifications shall be made except with the prior written permission of the Department.
8. Consistency with the Areawide Water Quality Management Plan

The Division of Land Use Regulation has not reviewed this application for consistency with the Areawide Water Quality Management Plan and the issuance of this permit shall not be construed as an approval of any wastewater management plan for this project or site. There shall be no construction of any sewage generating structures unless and until the proposed development has been found to be consistent with the appropriate areawide water quality management plan.

APPEALS

If you or anyone is aggrieved by this permit decision, an administrative appeal may be filed in accordance with the Coastal Permit Program Rules, (N.J.A.C. 7:7-5). Any interested person who considers himself or herself aggrieved by this permit decision may request a hearing within 30 days after notice of the decision is published in the DEP Bulletin by addressing a written request for such hearing to the following address: Office of Legal Affairs, Department of Environmental Protection, P. O. Box 402, Trenton, NJ 08625-0402, Attention: Adjudicatory Hearing Requests.

This written request must include a completed copy of the Administrative Hearing Request Checklist and all information identified in Section III of that list. The DEP bulletin and checklist is available through the Department's website at www.state.nj.us/dep/landuse/forms/index.html.



Colleen Keller, Supervisor
Bureau of Coastal Regulation



Date

Cc: Bureau of Coastal and Land Use Enforcement, Toms River
Township Planning Board
Township Construction Official



Date Issued 11-10-10
Control #
Permit # 10.518

CONSTRUCTION PERMIT NOTICE

Block 39.04 Lot 22,23,24,33,34 Qualification Code _____

Work Site Location: 210-39TH ST, 3904 CETRAL AVE, 3900 CENTRAL & 214-39TH ST

AUTHORIZED FOR: SEVENSON ENVIRONMENTAL SERVICES

- BUILDING
- PLUMBING
- ELEVATOR DEVICES
- OTHER _____
- ELECTRICAL
- FIRE PROTECTION
- DEMOLITION

Description of Work: ERECT TEMPORARY BUILDING FOR THE EXCAVATION OF MGP RESIDUALS

ALL EXCAVATION WILL BE PERFORMED IN THE BUILDING

This notice shall be posted conspicuously at the work site and shall remain so until issuance of a certificate.

2006 I.B.C./I.R.C.
CONSTR DEPT 4416 LANDIS
SEA ISLE CITY, NJ 08243

**UCC NEW JERSEY
CONSTRUCTION
PERMIT**

Date Issued 11/10/10
Control # C-11952
Permit # 10-518

IDENTIFICATION Block 39.04 Lot 22 Qual _____

Work Site Location 39TH CENT AVE Contractor SEVENSON ENVIRONMENTAL SERVICE

Address 300 MADISON AVENUE Address 2749 LOCKPORT ROAD

Telephone (973) 401-8940 Telephone NIAGARA FALLS, NY 14305-

Telephone (973) 401-8940 Telephone (610) 388-0721

Telephone (973) 401-8940 Lic. No. or Bldrs. Reg. No. _____

Telephone (973) 401-8940 Federal Emp. No. 16-0997941

Is hereby granted permission to perform the following work:

- BUILDING PLUMBING LEAD HAZARD ABATEMENT
 - ELECTRICAL FIRE PROTECTION DEMOLITION
 - ELEVATOR DEVICES ASBESTOS ABATEMENT OTHER _____
- (Subchapter 8 only)

DESCRIPTION OF WORK:

ERECT TEMPORARY BUILDING FOR THE EXCAVATION OF MGP RESIDUALS. ALL EXCAVATION WILL BE PERFORMED WITHIN THE BUILDING. PROPERTIES INVOLVED ARE 210-39TH ST, 3904 CENTRAL AVE, 3900 CENTRAL AVE & 214-39TH ST

NOTE: If construction does not commence within one (1) year of issuance, or if construction ceases for a period of six (6) months, this permit is void.

Estimated Cost of Work \$ 125,123

Construction Official [Signature] Date 11/8/10

PAYMENTS (Office Use Only)

Building	4,471
Electrical	390
Plumbing	0
Fire Protection	0
Elevator Devices	0
Other	
DCA State Permit Fee	689
Cert. of Occupancy	0
Other	
Total	5,550
Check No.	<u>077242</u>
Cash	
Collected By	<u>TI</u>

2006 I.B.C./I.R.C.
 CONSTR DEPT 4416 LANDIS
 SEA ISLE CITY, NJ 08243

**UCC NEW JERSEY
 BUILDING
 SUBCODE
 TECHNICAL SECTION**

Date Received 10/08/10
 Date Issued 11/10/10
 Control # C-11952
 Permit # 10-548

A. IDENTIFICATION-APPLICANT: COMPLETE ALL APPLICABLE INFORMATION WHEN CHANGING CONTRACTORS, NOTIFY THIS OFFICE. CALL UTILITY DIG NO: 1-800-272-1000
 Block 39.04 Lot 22 Qual
 Work Site Location 39TH CENT AVE

C. CERTIFICATION IN LIEU OF OATH
 I hereby certify that I am the (agent of) owner of record and am authorized to make this application.

Owner in Fee JERSEY CENTRAL POWER & LIGHT
 Address 300 MADISON AVENUE
 MORRISTOWN, NJ 07962-
 Tele. (973) 401-8940
 Contractor SEVENSON ENVIRONMENTAL SERVICE
 Address 104 LAKEVIEW DRIVE
 CHADDYS FORD, PA 19317-
 Tele. (610) 388-0721 Fax (610) 388-0731
 Lic. No. or Bldrs. Reg. No.
 Federal Emp. No. 16-0997941

D. TECHNICAL SITE DATA
 DESCRIPTION OF WORK
 ERECT TEMPORARY BUILDING FOR THE EXCAVATION OF MGP RESIDUALS. ALL EXCAVATION WILL BE PERFORMED WITHIN THE BUILDING. PROPERTIES INVOLVED ARE 210-39TH ST, 3904 CENTRAL AVE, 3900 CENTRAL AVE & 214-39TH ST

JOB SUMMARY (Office Use Only)
 PLAN REVIEW Date Initial
 No Plans Req. Type Failure Failure Approval Initial
 All Footing
 Footing Foundation
 Foundation Slab
 Frame Frame
 Other BarrierFree
 Joint Plan Review Required: Insulation
 Elect Plumb Fire Finishes
 SUBCODE APPROVAL Elev Energy
 CO CCO CA Mechanical
 Date: TCO
 Approved By: Other
 Final
 BarrierFree

TYPE OF WORK
 New Building FEE (Office Use Only) \$ 4,471
 Addition
 Alteration
 Roofing
 Siding
 Fence 0 Height (exceeds 6')
 Sign 0 Sq. Ft.
 Pool - Above Ground
 Pool - In Ground
 Asbestos Abatement Subchapter 8
 Lead Haz. Abatement NJAC 5:17
 Other
 Other
 Demolition

B. BUILDING CHARACTERISTICS
 Use Group Present U- Proposed U
 Constr. Class Present Proposed
 No. of Stories 0
 Height of Structure 0 Ft.
 Area Largest Floor 0 Sq. Ft.
 New Bldg. Area/All Floors 1 Sq. Ft.
 Volume of New Structure 165,600 Cu. Ft.
 Total Land Area Disturbed 0 Sq. Ft.

Est. Cost of Bldg. Work:
 1. New Bldg. \$ 45,000
 2. Alteration \$ 0
 3. Total (1+2) \$ 45,000
 Paid Check #
 Collected by: Administrative Surcharge \$
 Minimum Fee \$
 TOTAL FEE \$ 4,471
 DCA State Permit Fee \$ 553

2006 I.B.C./I.R.C.
 CONSTR DEPT 4416 LANDIS
 SEA ISLE CITY, NJ 08243

**UCC/NEW JERSEY
 ELECTRICAL
 SUBCODE
 TECHNICAL SECTION**

Date Received 10/14/10
 Date Issued 11/10/10
 Control # C-11952
 Permit # 10-518

A. IDENTIFICATION-APPLICANT: COMPLETE ALL APPLICABLE INFORMATION, WHEN CHANGING
 CONTRACTORS. NOTIFY THIS OFFICE. DO UTILITY DIG NO: 1-800-272-1000
 Block 39.04 Lot 22 Qual _____
 Work Site Location 39TH CENT AVE

D. TECHNICAL SITE DATA

FEE (Office Use Only)

Owner in Fee JERSEY CENTRAL POWER & LIGHT
 Address 300 MADISON AVENUE
 MORRISTOWN, NJ 07962-
 Tele. (973) 401-8940
 Contractor ROGERS-CIPOLLINO ELECTRIC
 Address 499 S. WHITE HORSE PIKE
 ATCO, NJ 08004-
 Tele. (856) 768-7828 Fax (856) 768-9026
 Lic. No. or Bldrs. Reg. No. E9080
 Federal Emp. No. 51-0355889

NO.	SIZE	ITEM	36
10		Lighting Fixtures	
8		Receptacles	
0		Switches	
0		Detectors	
0		Light Poles	
0		Motors-Fract HP	
0		Emergency & Exit Lights	
0		Communications Points	
0		Alarm Devices/F.A.C. Panel	
18		TOTAL NUMBERS	36
0		Pool Permit/with UW Lights	0
0		Storable Pool/Spa/Hot Tub	0
0		KW Elect Range/Receptacle	0
0		KW Oven/Surface Unit	0
0		KW Elect Water Heater	0
0		KW Elect Dryer/Receptacle	0
0		KW Dishwasher	0
0		HP Garbage Disposal	0
0		HP Central A/C Unit	0
0		HP/KW Space Heater/Air Handler	0
0		Baseboard Heat	0
0		HP Motors 1/+ HP	170
17	2	KW Transformer/Generator	0
0	0	AMP Service	92
1	800	AMP Subpanels	46
1	200	AMP Motor Control Center	0
0	0	KW Elect Sign/Outline Light	0
0	0	Other 100 AMP SRVC	46
0	0	Other	0
0	0	Other	0

B. ELECTRICAL CHARACTERISTICS
 Use Group -Present U- Proposed U
 Pole/Pad # _____ Temporary Other _____
 Building Occupied as _____ Utility Co. _____
 Estimated Cost of Electrical Work \$ 80,123

JOB SUMMARY (Office Use Only)
 PLAN REVIEW
 No Plans Required
 Joint Plan Review Required:
 Bidg Plumb
 Fire Elevator
 Elect Plans Approved
 Date: 11/2/10
 Approved By: [Signature]
 SUBCODE APPROVAL
 CO CCO CA
 Date: _____
 Approved By: _____

INSPECTIONS

Type	Dates (Month/Day)	Failure	Approval	Initial
Rough				
Temp Serv				
Const Serv				
TCO				
Other				
Service				
Final				
Temp. Cut-in-Card Date Issued				
Final Cut-in-Card Date Issued				

Paid Check # _____
 Collected by: _____
 Administrative Surcharge \$ 0
 Minimum Fee \$ 0
 TOTAL FEE \$ 390
 DCA State Permit Fee \$ 136

C. CERTIFICATION IN LIEU OF OATH
 I hereby certify that I am the (agent of) owner of record and am authorized
 to make this application and perform the work listed on this application.
 Applicant's Signature/Contractor's Seal and Signature
 Licensed Electrical Contractor Exempt Applicant

INSPECTION REQUEST

THERE WILL BE NO SAME DAY INSPECTIONS. DUPLEXES REQUIRE TWO NOTICES. OFFICE WILL CONFIRM INSPECTION DAY.

ADDRESS _____ BLOCK _____ LOT _____ TODAY'S DATE _____

DATE INSP'T REQUESTED _____ PERMIT# _____ OWNER _____

CONTRACTOR _____ PERSON REQUESTING INSPECTION _____

CELL PHONE # _____

INSPECTION REQUESTED (CIRCLE ONLY ONE PER PERMIT #)

BUILDING: FOOTING, FOUNDATION, STRAPPING, FRAME, INSULATION, FINAL

ELECTRICAL: TEMP POLE, ROUGH, SERVICE, FINAL

PLUMBING: WATER & SEWER UNDERGROUND SERVICES, ROUGH, GAS PIPING, FINAL,
W/S DISCONNECT, W/S CONNECTION, SLAB

FIRE: FINAL

COMMENTS/INSTRUCTIONS:

Construction Office Fax # 609-263-1366

Signature



State of New Jersey

CHRIS CHRISTIE
Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

Division of Water Quality
Bureau of Surface Water Permitting
P.O. Box 029 Trenton, NJ 08625-0029
Phone: (609) 292-4860
Fax: (609) 984-7938

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Harry J. Slagle
JCP&L CO
PO Box 1911 - 300 Madison Avenue
Morristown, NJ 07962-1911

7007 0220 0002 1034 6978
MAY 28, 2010

Re: Surface Water GPA Renewal
Category: BGR -General Remediation Clean-up (GP)
NJPDES Permit No. NJG0172936
SEA ISLE CITY FORMER MGP SITE
Sea Isle City, Cape May County

Dear Mr. Slagle:

Enclosed is an Individual NJPDES/DSW General Permit Authorization under the General Remediation Cleanup (BGR) permit which was issued by the Department on May 12, 2010. This General Permit Authorization is issued in accordance with the New Jersey Pollutant Discharge Elimination System (NJPDES) Regulations (N.J.A.C. 7:14A-1 et seq.). This general permit authorizes the discharge of treated groundwater under the master BGR permit No. NJ0155438. Approximately 2,000 GPD of groundwater will be pumped and treated via aeration, a frac tank and bag filters and then discharged from outfall DSN001A and/or DSN003A to storm drains and finally to Ludlam Thorofare (tidal water) which is classified as SE1(C2). The Department has prepared this individual authorization to renew your existing permit.

This individual General Permit Authorization allows for the discharge of treated groundwater through Outfalls DSN001A and DSN003A. If the hydraulic capacity of DSN001A is exceeded, treated groundwater will also be discharged through DSN003A. All effluent must meet the limitations specified for DSN001A in Part III. Since DSN003A is an overflow for DSN001A and the water discharged via both outfalls has gone through the same treatment, monitoring only is necessary at DSN003A for Flow, Duration of Flow, and Total Flow.

The limits and monitoring requirements in Part III of this authorization are included in accordance with N.J.A.C. 7:14A-12, Appendix B and are based on the groundwater data submitted with the BGR application and the existing permit. Please note that as per the May 12, 2010 BGR Master General Permit (NJ0155438) and in accordance with N.J.A.C. 7:14A-6.4(a) and 13.21(b), a **chronic WET** limitation with a schedule to achieve compliance has been included in this permit. **Monitoring only** on a quarterly basis is required for the first year of the discharge authorization (10/1/2010 to 9/30/2011) and the limitation will become effective on 10/1/2011.

In order to document ultimate management of the sludge generated from the settling and frac tanks, an annual Residual Transfer Report shall be completed each year sludge is removed.

In order to document ultimate management of the sludge generated from the settling and frac tanks, an annual Residual Transfer Report shall be completed each year sludge is removed.

Per your renewal application cover letter received on December 3, 2009, the Department recognizes discharge has stopped as of February 28, 2009 and will resume in October 2010. Based on your request, the effective start date of this permit is October 1, 2010. Please notify the Department if you intend to discharge prior to this period.

The enclosed Authorization to discharge groundwater under the General Permit shall expire on June 30, 2015 unless otherwise noted on the Individual Authorization Page. Applications for renewal of this Authorization must be submitted to the Department at least 180 days prior to expiration of the Individual Authorization pursuant to N.J.A.C. 7:14A-4.2(e)3.

The NJPDES Monitoring Report Form (MRF) Reference Manual can be accessed at "http://www.state.nj.us/dep/dwq/pdf/MRF_Manual.pdf" for further information regarding reporting of monitoring data. Please note that if there is a discrepancy between the General Permit Authorization and the MRF Reference Manual, the General Permit Authorization always takes precedence.

All monitoring shall be conducted in accordance with the Department's "Field Sampling Procedures Manual" applicable at the time of sampling (N.J.A.C. 7:14A-6.5(b)4). The Field Sampling Procedures Manual can be found on the Department's website at "<http://www.state.nj.us/dep/srp/guidance/fspm/>".

If you have questions or comments regarding the final action, please contact Brian Salvo at (609) 292-4860.

Sincerely,



Melisse Carasia Auriti, Supervising Environmental Specialist
Bureau of Surface Water Permitting

Enclosures

c: Permit Distribution List

Masterfile #: 63965; PI #: 213133

Table of Contents

This final general permit authorization contains the items listed below:

- 1. Cover Letter**
- 2. Table of Contents**
- 3. NJPDES Permit Authorization Page for NJG0172936**
- 4. NJPDES Permit Authorization Page for Master General Permit NJPDES No. NJ0155438**
- 5. USGS Map**
- 6. Site Map**
- 7. Part I – General Requirements: NJPDES**
- 8. Part II – General Requirements: Discharge Categories**
- 9. Part III – Limits and Monitoring Requirements**
- 10. Part IV – Specific Requirements: Narrative**
- 11. Appendix A – Chronic Toxicity Testing Specifications**

New Jersey Department of Environmental Protection



Bureau of Surface Water Permitting
Division of Water Quality
PO Box 029
Trenton, NJ 08625-0029
(609) 292-4860

**AUTHORIZATION TO DISCHARGE
BGR -General Remediation Clean-up (GP)**

Facility Name: SEA ISLE CITY FORMER MGP SITE

PI ID #: 213133

Facility Address:

210 39TH ST
Sea Isle City, NJ 08243

NJPDES #: NJG0172936

Type of Activity: Surface Water GPA Renewal

Owner:

JCP&L CO
PO BOX 1911 - 300 MADISON AVE
Morristown, NJ 07962-1911

Operating Entity:

JCP&L CO
PO BOX 1911 - 300 MADISON AVE
Morristown, NJ 07962-1911

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
Category BGR	5/25/2010	10/1/2010	6/30/2015

Outfall Number	Latitude	Longitude	Receiving Stream	Classification
DSN001A	39° 09' 35.6 "	74° 41' 46.7 "	Ludlam Thorofare via storm sewer at 39th Street	SE1
DSN003A	39° 09' 23.3 "	74° 41' 44.5 "	Ludlam Thorofare via storm sewer at 38th Street	SE1

Your Request for Authorization under NJPDES General Permit No. NJ0155438 has been approved by the New Jersey Department of Environmental Protection.

Melisse Carasia Auriti, Supervising Environmental Specialist
Bureau of Surface Water Permitting
Division of Water Quality
New Jersey Department of Environmental Protection



NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJ0155438

Final: Surface Water Master General Permit Renewal

Permittee:

NJPDES Master General Permit Program Interest
Per Individual Notice of Authorization
Division of Water Quality
P.O. Box 029, 401 East State Street
Trenton, NJ 08625

Co-Permittee:

Property Owner:

NJPDES Master General Permit Program Interest
Per Individual Notice of Authorization
Division of Water Quality
P.O. Box 029, 401 East State Street
Trenton, NJ 08625

Location Of Activity:

NJPDES Master General Permit Program Interest
Per Individual Notice of Authorization
Division of Water Quality
P.O. Box 029, 401 East State Street
Trenton, NJ 08625

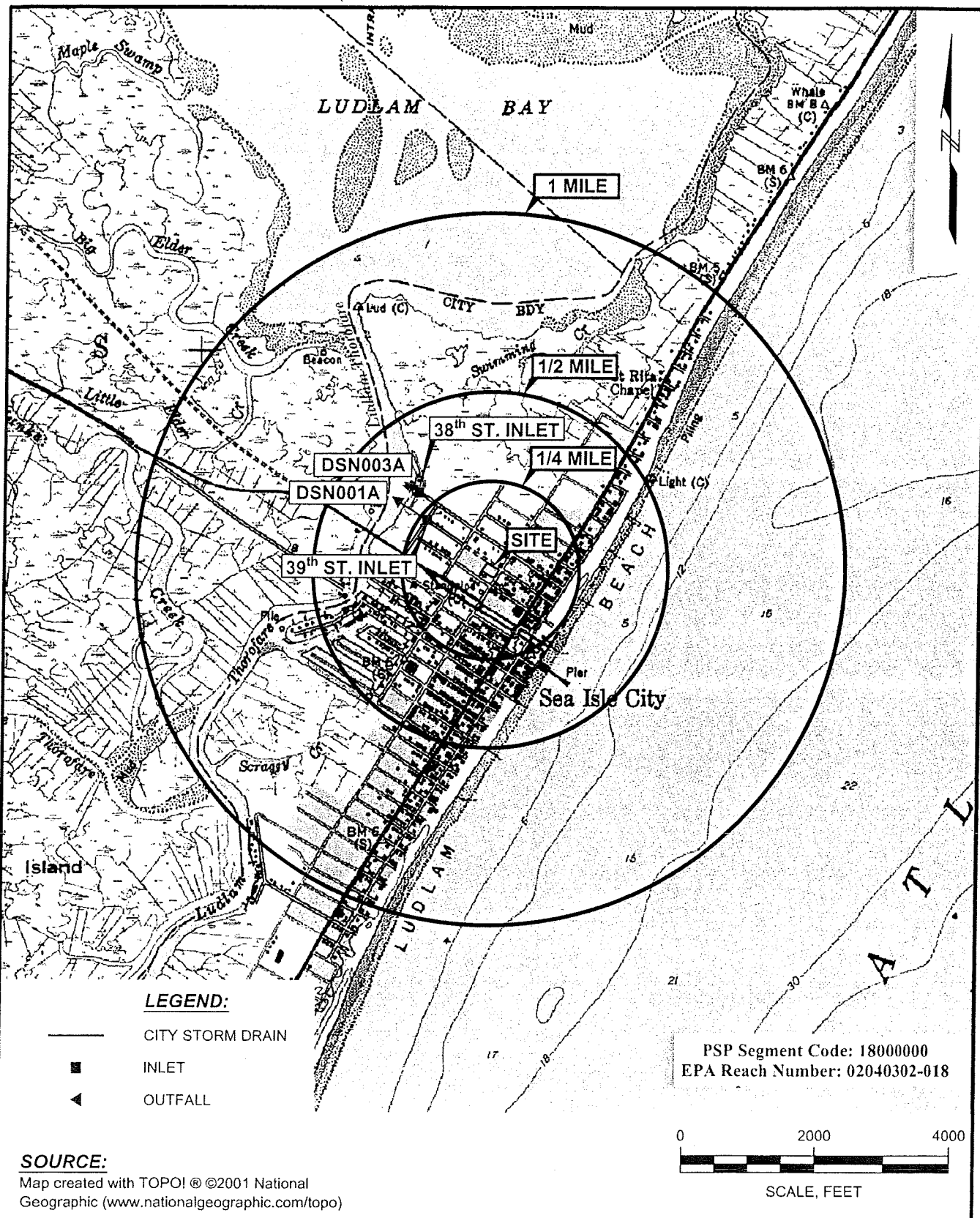
Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Expiration Date
BGR -General Remediation Clean-up (GP)	5/12/2010	7/1/2010	6/30/2015

By Authority of:
Commissioner's Office

DEP AUTHORIZATION
Pilar Patterson, Chief
Bureau of Surface Water Permitting
Division of Water Quality

(Terms, conditions and provisions attached hereto)

Division of Water Quality



Discharge Permit
Sea Isle City Former MGP Site
Sea Isle City, New Jersey

Jersey Central Power & Light Company
Morristown, New Jersey



Project 013660

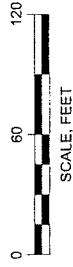
BGR DISCHARGE
LOCATION MAP

November 2009

Figure 3

LEGEND

- APPROXIMATE DEWATERING AREA FOR RCP PERMIT
- EXISTING DEWATERING WELL
- DW1
- LIMIT OF SOIL ABOVE RIDEUP CLEANUP CRITERIA
- ESTIMATED LIMIT OF SOIL ABOVE RIDEUP CLEANUP CRITERIA
- INFLUENT PIPING
- PROPERTY LINE
- CONTOUR LINE
- WOOD FENCE
- CONCRETE CURB
- WATER LINE
- GAS LINE
- SANITARY SEWER LINE
- STORY DRAIN
- UTILITY POLE
- SIGN
- INLET
- SEWER MANHOLE
- CLEAN-OUT
- BELL TELL MANHOLE
- WATER METER
- WATER VALVE
- GAS VALVE
- FIRE HYDRANT



NOTES:

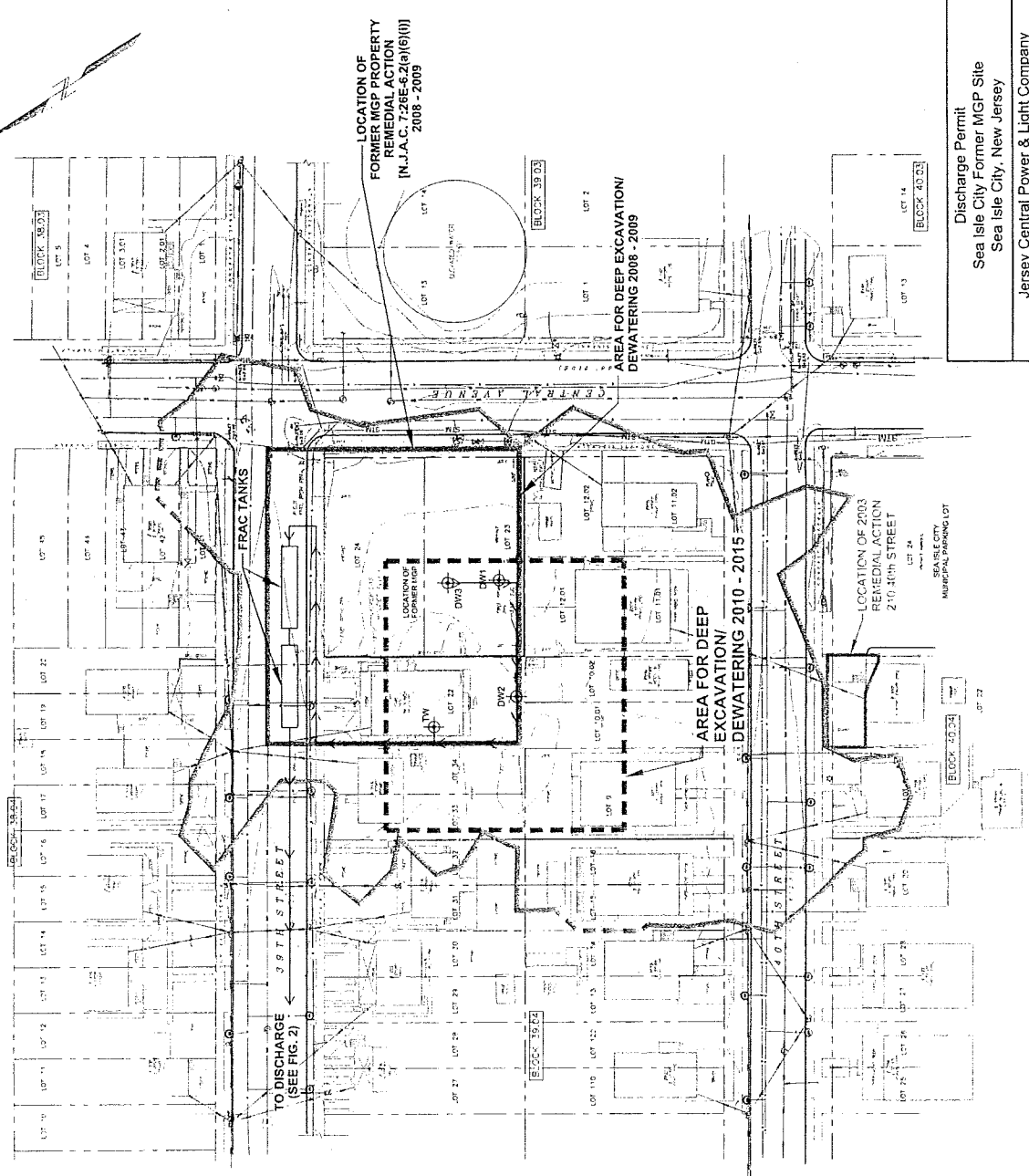
1. INFLUENT PIPING AND DEWATERING WELL LOCATIONS SHOWN FOR FIRST PHASE OF DEWATERING.
2. LIMIT OF SOIL EXCEEDANCES IS BASED ON CORRECTING SAMPLE LOCATIONS WITH NO EXCEEDANCE OF CRITERIA.
3. HORIZONTAL DATUM IS THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD 1983) AND IS REFERENCED TO N.J.G.C.S. MONUMENT SITES (PD 102339). VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD).
4. DRAWING BASED ON PLAN "RAY LOTS 22, 23 & 24, BLOCK 39.04, CITY OF SEA ISLE, OCEAN COUNTY, N.J." BY VAPCO ASSOCIATES, FRANKLINVILLE, N.J., NOVEMBER 27, 2002.

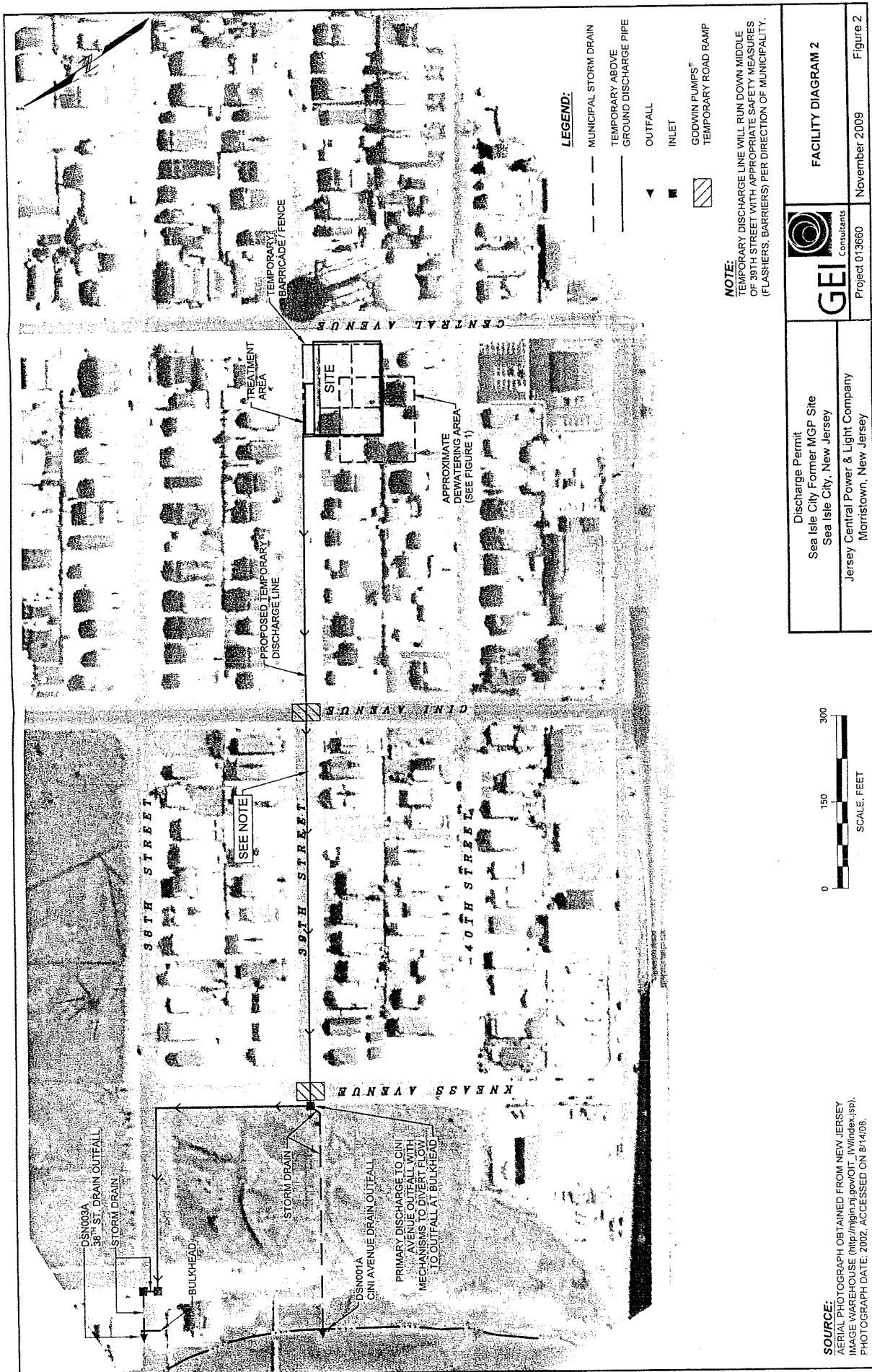
Discharge Permit
Sea Isle City Former MGP Site
Sea Isle City, New Jersey
Jersey Central Power & Light Company
Morristown, New Jersey



FACILITY DIAGRAM 1

Project 013660 November 2009 Figure 1





DSN003A
38" ST. DRAIN OUTFALL
STORM DRAIN

BULKHEAD

STORM DRAIN
STORM DRAIN

DSN001A
CINI AVENUE DRAIN OUTFALL

PRIMARY DISCHARGE TO CINI AVENUE OUTFALL WITH MECHANISMS TO DIVERT FLOW TO OUTFALL AT BULKHEAD

SEE NOTE

PROPOSED TEMPORARY DISCHARGE LINE

TREATMENT AREA

SITE

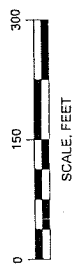
APPROXIMATE DEWATERING AREA (SEE FIGURE 1)

TEMPORARY BARRICADE/FENCE

LEGEND:

- MUNICIPAL STORM DRAIN
- TEMPORARY ABOVE GROUND DISCHARGE PIPE
- ◀ OUTFALL
- INLET
- ▨ GODWIN PUMPS™
- TEMPORARY ROAD RAMP

NOTE:
TEMPORARY DISCHARGE LINE WILL RUN DOWN MIDDLE OF 38TH STREET WITH APPROPRIATE SAFETY MEASURES (FLASHERS, BARRIERS) PER DIRECTION OF MUNICIPALITY.



SOURCE:
AERIAL PHOTOGRAPH OBTAINED FROM NEW JERSEY IMAGE WAREHOUSE (http://img1.pl.gov/011_N/index.jsp). PHOTOGRAPH DATE, 2002. ACCESSED ON 8/14/08.

\\G:\C\CP\SEA\SEA\ISLE\013660\DISCHARGE PERMIT\NOVEMBER 2009\SEA-DP FACILITY DIAGRAM 2.DWG

	<p>Discharge Permit Sea Isle City Former MGP Site Sea Isle City, New Jersey Jersey Central Power & Light Company Morristown, New Jersey</p>	<p>FACILITY DIAGRAM 2</p>
	<p>Project 013660</p>	<p>November 2009</p>

Figure 2

PART I GENERAL REQUIREMENTS: NJPDES

A. General Requirements of all NJPDES Permits

1. Requirements Incorporated by Reference

- a. The permittee shall comply with all conditions set forth in this permit and with all the applicable requirements incorporated into this permit by reference. The permittee is required to comply with the regulations, including those cited in paragraphs b. through e. following, which are in effect as of the effective date of the final permit.
- b. General Conditions
 - Penalties for Violations N.J.A.C. 7:14-8.1 et seq.
 - Incorporation by Reference N.J.A.C. 7:14A-2.3
 - Toxic Pollutants N.J.A.C. 7:14A-6.2(a)4i
 - Duty to Comply N.J.A.C. 7:14A-6.2(a)1 & 4
 - Duty to Mitigate N.J.A.C. 7:14A-6.2(a)5 & 11
 - Inspection and Entry N.J.A.C. 7:14A-2.11(e)
 - Enforcement Action N.J.A.C. 7:14A-2.9
 - Duty to Reapply N.J.A.C. 7:14A-4.2(e)3
 - Signatory Requirements for Applications and Reports N.J.A.C. 7:14A-4.9
 - Effect of Permit/Other Laws N.J.A.C. 7:14A-6.2(a)6 & 7 & 2.9(c)
 - Severability N.J.A.C. 7:14A-2.2
 - Administrative Continuation of Permits N.J.A.C. 7:14A-2.8
 - Permit Actions N.J.A.C. 7:14A-2.7(c)
 - Reopener Clause N.J.A.C. 7:14A-6.2(a)10
 - Permit Duration and Renewal N.J.A.C. 7:14A-2.7(a) & (b)
 - Consolidation of Permit Process N.J.A.C. 7:14A-15.5
 - Confidentiality N.J.A.C. 7:14A-18.2 & 2.11(g)
 - Fee Schedule N.J.A.C. 7:14A-3.1
 - Treatment Works Approval N.J.A.C. 7:14A-22 & 23
- c. Operation And Maintenance
 - Need to Halt or Reduce not a Defense N.J.A.C. 7:14A-2.9(b)
 - Proper Operation and Maintenance N.J.A.C. 7:14A-6.12
- d. Monitoring And Records
 - Monitoring N.J.A.C. 7:14A-6.5
 - Recordkeeping N.J.A.C. 7:14A-6.6
 - Signatory Requirements for Monitoring Reports N.J.A.C. 7:14A-6.9
- e. Reporting Requirements
 - Planned Changes N.J.A.C. 7:14A-6.7
 - Reporting of Monitoring Results N.J.A.C. 7:14A-6.8
 - Noncompliance Reporting N.J.A.C. 7:14A-6.10 & 6.8(h)
 - Hotline/Two Hour & Twenty-four Hour Reporting N.J.A.C. 7:14A-6.10(c) & (d)
 - Written Reporting N.J.A.C. 7:14A-6.10(e) & (f) & 6.8(h)
 - Duty to Provide Information N.J.A.C. 7:14A-2.11, 6.2(a)14 & 18.1
 - Schedules of Compliance N.J.A.C. 7:14A-6.4
 - Transfer N.J.A.C. 7:14A-6.2(a)8 & 16.2

PART II

GENERAL REQUIREMENTS: DISCHARGE CATEGORIES

A. Additional Requirements Incorporated By Reference

1. Requirements for Discharges to Surface Waters

- a. In addition to conditions in Part I of this permit, the conditions in this section are applicable to activities at the permitted location and are incorporated by reference. The permittee is required to comply with the regulations which are in effect as of the effective date of the final permit.
 - i. Surface Water Quality Standards N.J.A.C. 7:9B-1

B. General Conditions

1. Scope

- a. The issuance of this permit shall not be considered as a waiver of any applicable federal, state, and local rules, regulations and ordinances.

2. Permit Renewal Requirement

- a. Permit conditions remain in effect and enforceable until and unless the permit is modified, renewed or revoked by the Department.
- b. Submit a complete permit renewal application: no later than 180 days prior to the expiration date of this document.

3. Notification of Non-Compliance

- a. The permittee shall notify the Department of all non-compliance when required in accordance with N.J.A.C. 7:14A-6.10 by contacting the DEP HOTLINE at 1-877-WARNDEP (1-877-927-6337).
- b. The permittee shall submit a written report as required by N.J.A.C. 7:14A-6.10 within five days.

4. Notification of Changes

- a. The permittee shall give written notification to the Department of any planned physical or operational alterations or additions to the permitted facility when the alteration is expected to result in a significant change in the permittee's discharge and/or residuals use or disposal practices including the cessation of discharge in accordance with N.J.A.C. 7:14A-6.7.
- b. Prior to any change in ownership, the current permittee shall comply with the requirements of N.J.A.C. 7:14A-16.2, pertaining to the notification of change in ownership.

5. Access to Information

- a. The permittee shall allow an authorized representative of the Department, upon the presentation of credentials, to enter upon a person's premises, for purposes of inspection, and to access / copy any records that must be kept under the conditions of this permit.

6. Operator Certification

- a. Pursuant to N.J.A.C. 7:10A-1.1 et seq. every wastewater system not exempt pursuant to N.J.A.C. 7:10A-1.1(b) requires a licensed operator. The operator of a system shall meet the Department's requirements pursuant to N.J.A.C. 7:10A-1.1 and any amendments. The name of the proposed operator, where required shall be submitted to the Department at the address below, in order that his/her qualifications may be determined prior to initiating operation of the treatment works.
 - i. Notifications shall be submitted to:
NJDEP
Examination and Licensing Unit
P.O. Box 417
Trenton, New Jersey 08625
(609)777-1012
- b. The permittee shall notify the Department of any changes in licensed operator within two weeks of the change.

7. Operation Restrictions

- a. The operation of a waste treatment or disposal facility shall at no time create: (a) a discharge, except as authorized by the Department in the manner and location specified in Part III of this permit; (b) any discharge to the waters of the state or any standing or ponded condition for water or waste, except as specifically authorized by a valid NJPDES permit.

8. Residuals Management

- a. The permittee shall comply with land-based sludge management criteria and shall conform with the requirements for the management of residuals and grit and screenings under N.J.A.C. 7:14A-6.15(a), which includes:
 - i. Standards for the Use or Disposal of Residual, N.J.A.C. 7:14A-20;
 - ii. Section 405 of the Federal Act governing the disposal of sludge from treatment works treating domestic sewage;
 - iii. The Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq., and the Solid Waste Management Rules, N.J.A.C. 7:26;
 - iv. The Sludge Quality Assurance Regulations, N.J.A.C. 7:14C;
 - v. The Statewide Sludge Management Plan promulgated pursuant to the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and the Solid Waste Management Act, N.J.S.A. 13:1E-1 et seq.; and
 - vi. The provisions concerning disposal of sewage sludge and septage in sanitary landfills set forth at N.J.S.A. 13:1E-42 and the Statewide Sludge Management Plan.
 - vii. Residual that is disposed in a municipal solid waste landfill unit shall meet the requirements in 40 CFR Part 258 and/or N.J.A.C. 7:26 concerning the quality of residual disposed in a municipal solid waste landfill unit. (That is, passes the Toxicity Characteristic Leaching Procedure and does not contain "free liquids" as defined at N.J.A.C. 7:14A-1.2.)
- b. If any applicable standard for residual use or disposal is promulgated under section 405(d) of the Federal Act and Sections 4 and 6 of the State Act and that standard is more stringent than any limitation on the pollutant or practice in the permit, the Department may modify or revoke and reissue the permit to conform to the standard for residual use or disposal.

- c. The permittee shall make provisions for storage, or some other approved alternative management strategy, for anticipated downtimes at a primary residual management alternative. The permittee shall not be permitted to store residual beyond the capacity of the structural treatment and storage components of the treatment works. N.J.A.C. 7:14A-20.8(a) and N.J.A.C. 7:26 provide for the temporary storage of residuals for periods not exceeding six months, provided such storage does not cause pollutants to enter surface or ground waters of the State. The storage of residual for more than six months is not authorized under this permit. However, this prohibition does not apply to residual that remains on the land for longer than six months when the person who prepares the residual demonstrates that the land on which the residual remains is not a surface disposal site or landfill. The demonstration shall explain why residual must remain on the land for longer than six months prior to final use or disposal, discuss the approximate time period during which the residual shall be used or disposed and provide documentation of ultimate residual management arrangements. Said demonstration shall be in writing, be kept on file by the person who prepares residual, and submitted to the Department upon request.
- d. The permittee shall comply with the appropriate adopted District Solid Waste or Sludge Management Plan (which by definition in N.J.A.C. 7:14A-1.2 includes Generator Sludge Management Plans), unless otherwise specifically exempted by the Department.
- e. The preparer must notify and provide information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements to the person who applies bulk residual to the land. This shall include, but not be limited to, the applicable recordkeeping requirements and certification statements of 40 CFR 503.17 as referenced at N.J.A.C 7:14A-20.7(j).
- f. The preparer who provides biosolids to another person who further prepares the biosolids for application to the land must provide this person with notification and information necessary to comply with the N.J.A.C. 7:14A-20 land application requirements.
- g. Any person who prepares bulk residual in New Jersey that is applied to land in a State other than New Jersey shall comply with the requirement at N.J.A.C. 7:14A-20.7(b)1.ix to provide written notice to the Department and to the permitting authority for the State in which the bulk residual is proposed to be applied.

PART III LIMITS AND MONITORING REQUIREMENTS

MONITORED LOCATION: 001A Treated Groundwater
RECEIVING STREAM: Ludlam Thorofare
STREAM CLASSIFICATION: SE1(C2)
DISCHARGE CATEGORY(IES): BGR - General Remediation Clean-up (GP)

Location Description

Sampling shall be performed after all treatment steps but prior to discharge to Ludlam Thorofare (Lat. 39 deg. 09' 35.6" and Long. 74 deg. 41" 46.7") via storm sewer at 39th Street.

Contributing Waste Types

Ground Water Treatment

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

A chronic WET limitation of 61% shall become effective October 1, 2011. This permittee shall institute measures to minimize erosion at the point of discharge to the best extent practicable.

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Limit	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GPD	REPORT Monthly Average	REPORT Per Minimum	REPORT Per Maximum		*****	Continuous	Metered
		***	***		***	*****	***		***		
January thru December	Effluent Gross Value	*****	*****	*****	6.0	9.0	Report Per Maximum		*****	1/2 Weeks	Grab
	pH	***	***		***	***	***		***		
January thru December	Effluent Gross Value	*****	*****	*****	REPORT Monthly Average	REPORT Monthly Average	REPORT Daily Maximum		MG/L	1/2 Weeks	Grab
	Solids, Total Suspended	***	***		***	***	***		***		
January thru December	Effluent Gross Value	*****	*****	*****	REPORT Per Minimum	REPORT Per Minimum	REPORT Per Maximum		%EFFL	1/Quarter	Composite
	IC25 Stare 7day Chr Mysid Bahia	***	***		***	***	***		***		
January thru December	QL	***	***		***	***	***				

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

A chronic WET limitation of 61% shall become effective October 1, 2011. This permittee shall institute measures to minimize erosion at the point of discharge to the best extent practicable.

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: 1-Initial PHASE Start Date: 10/01/2010 PHASE End Date: 09/30/2011

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Units	Limit	Limit	Units	Frequency	Sample Type
Carbon, Tot Organic (TOC)	Effluent Gross Value	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	20 Daily Maximum	MG/L	1/2 Weeks	Grab
	QL	***	***			***		***	***			
Arsenic, Total (as As)	Effluent Gross Value	*****	*****	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***			***		8	8			
Barium, Total Recoverable (as Ba)	Effluent Gross Value	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/2 Weeks	Grab
	QL	***	***			***		***	***			
Chromium, Total (as Cr)	Effluent Gross Value	*****	*****	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***			***		10	10			
Nickel, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***			***		10	10			
Zinc, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	*****	*****	100 Monthly Average	200 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***			***		30	30			
Copper, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***			***		10	10			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

A chronic WET limitation of 61% shall become effective October 1, 2011. This permittee shall institute measures to minimize erosion at the point of discharge to the best extent practicable.

Table III - A - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: 1-Initial PHASE Start Date: 10/01/2010 PHASE End Date: 09/30/2011

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Limit	Limit	Frequency	Sample Type
Acenaphthylene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	1/2 Weeks	Grab
	QL	***	***						***	***		
Acenaphthene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	1/2 Weeks	Grab
	QL	***	***						***	***		
Anthracene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	1/2 Weeks	Grab
	RQL	***	***						10	10		
Fluoranthene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	25 Monthly Average	68 Daily Maximum	1/2 Weeks	Grab
	RQL	***	***						10	10		
Fluorene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	1/2 Weeks	Grab
	RQL	***	***						10	10		
Phenanthrene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	1/2 Weeks	Grab
	RQL	***	***						10	10		
Pyrene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	22 Monthly Average	67 Daily Maximum	1/2 Weeks	Grab
	RQL	***	***						10	20		
January thru December	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	25 Monthly Average	67 Daily Maximum	1/2 Weeks	Grab
	RQL	***	***						20	20		

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

A chronic WET limitation of 61% shall become effective October 1, 2011. This permittee shall institute measures to minimize erosion at the point of discharge to the best extent practicable.

Table III - A - I: Surface Water DMR Limits and Monitoring Requirements

PHASE: 1-Initial **PHASE Start Date: 10/01/2010** **PHASE End Date: 09/30/2011**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Limit	Limit	Limit	Frequency	Sample Type
Naphthalene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	59 Daily Maximum	1/2 Weeks	Grab
	QL	***	***						***	***	***		
Bis(2-ethylhexyl) phthalate	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	59 Monthly Average	118 Daily Maximum	118 Daily Maximum	1/2 Weeks	Grab
	RQL	***	***						30	30	30		
2-Methylnaphthalene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	REPORT Daily Maximum	1/2 Weeks	Grab
	QL	***	***						***	***	***		
Chloroform	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	21 Monthly Average	46 Daily Maximum	46 Daily Maximum	1/2 Weeks	Grab
	RQL	***	***						5	5	5		
Acetone	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	REPORT Daily Maximum	1/2 Weeks	Grab
	QL	***	***						***	***	***		

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

A chronic WET limitation of 61% shall become effective October 1, 2011. This permittee shall institute measures to minimize erosion at the point of discharge to the best extent practicable.

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final PHASE Start Date: 10/01/2011 PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Units	Limit	Limit	Units	Frequency	Sample Type
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GPD	*****	*****		*****	*****		Continuous	Metered
	QL	***	***		***	***		***	***			
pH	Effluent Gross Value	*****	*****	*****	6.0 Report Per Minimum	Report Per Maximum		*****	9.0	SU	1/2 Weeks	Grab
	QL	***	***		***	***		***	***			
Solids, Total Suspended	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average		*****	40 Daily Maximum		1/2 Weeks	Grab
	QL	***	***		***	***		***	***			
January thru December	Effluent Gross Value	*****	*****	*****	61 Report Per Minimum	Report Per Maximum		*****	*****		1/Quarter	Composite
	QL	***	***		***	***		***	***			
Carbon, Tot Organic (TOC)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average		*****	20 Daily Maximum		1/2 Weeks	Grab
	QL	***	***		***	***		***	***			
January thru December	Effluent Gross Value	*****	*****	*****	*****	50 Monthly Average		*****	100 Daily Maximum		1/2 Weeks	Grab
	QL	***	***		***	8		***	8	UG/L	1/2 Weeks	Grab
Barium, Total Recoverable (as Ba)	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average		*****	REPORT Daily Maximum		1/2 Weeks	Grab
	QL	***	***		***	***		***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

A chronic WET limitation of 61% shall become effective October 1, 2011. This permittee shall institute measures to minimize erosion at the point of discharge to the best extent practicable.

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements**PHASE:2-Final PHASE Start Date: 10/01/2011 PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Limit	Units	Limit	Limit	Limit	Units	Frequency	Sample Type
Chromium, Total (as Cr)	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	1/2 Weeks	Grab	
	RQL	***	***						10	10				
Nickel, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	1/2 Weeks	Grab	
	RQL	***	***						10	10				
Zinc, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	100 Monthly Average	200 Daily Maximum	UG/L	1/2 Weeks	Grab	
	RQL	***	***						30	30				
Copper, Total Recoverable	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	50 Monthly Average	100 Daily Maximum	UG/L	1/2 Weeks	Grab	
	RQL	***	***						10	10				
Acenaphthylene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/2 Weeks	Grab	
	QL	***	***						***	***				
Acenaphthene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/2 Weeks	Grab	
	QL	***	***						***	***				
Anthracene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	1/2 Weeks	Grab	
	RQL	***	***						10	10				

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

A chronic WET limitation of 61% shall become effective October 1, 2011. This permittee shall institute measures to minimize erosion at the point of discharge to the best extent practicable.

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final PHASE Start Date: 10/01/2011 PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Units	Limit	Limit	Units	Frequency	Sample Type
Fluoranthene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	25 Monthly Average	68 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***					10	10			
Fluorene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***					10	10			
Phenanthrene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***					10	10			
Pyrene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	25 Monthly Average	67 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***					20	20			
Naphthalene	Effluent Gross Value	*****	*****	*****	*****	*****	*****	22 Monthly Average	59 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***					***	***			
Bis(2-ethylhexyl) phthalate	Effluent Gross Value	*****	*****	*****	*****	*****	*****	59 Monthly Average	118 Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***					30	30			
January thru December	Effluent Gross Value	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***					***	***			
January thru December	Effluent Gross Value	*****	*****	*****	*****	*****	*****	REPORT Monthly Average	REPORT Daily Maximum	UG/L	1/2 Weeks	Grab
	RQL	***	***					***	***			

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

A chronic WET limitation of 61% shall become effective October 1, 2011. This permittee shall institute measures to minimize erosion at the point of discharge to the best extent practicable.

Table III - A - 2: Surface Water DMR Limits and Monitoring Requirements

PHASE: 2-Final PHASE Start Date: 10/01/2011 PHASE End Date:

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Units	Limit	Limit	Frequency	Sample Type
Chloroform	Effluent Gross Value	*****	*****	*****	*****	21	*****	46	46	1/2 Weeks	Grab
		***	***		5	5					
January thru December	RQL	*****	*****	*****	*****	REPORT Monthly Average	*****	REPORT Daily Maximum	REPORT Daily Maximum	1/2 Weeks	Grab
		***	***		5	5					
Acetone	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Average	*****	REPORT Daily Maximum	REPORT Daily Maximum	1/2 Weeks	Grab
		***	***		5	5					
January thru December	QL	***	***		***						

MONITORED LOCATION: 003A Treated Groundwater
RECEIVING STREAM: Ludlum Thorofare
STREAM CLASSIFICATION: SE1(C2)
DISCHARGE CATEGORY(IES): BGR - General Remediation Clean-up (GP)

Location Description

Sampling shall be performed after all treatment steps but prior to discharge to Ludlum Thorofare (Lat. 39 deg. 09' 23.3" and Long. 74 deg. 41" 44.5") via storm sewer at 38th Street.

Contributing Waste Types

Ground Water Treatment

Surface Water DMR Reporting Requirements:

Submit a Monthly DMR: within twenty-five days after the end of every month beginning from the effective date of the permit (EDP).

Comments:

DSN003A serves as an overflow point for DSN001A. Any effluent diverted to DSN003A must be routed through all DSN001A treatment and meet all effluent limitations and monitoring conditions for DSN001A.

Table III - B - 1: Surface Water DMR Limits and Monitoring Requirements

PHASE: Final **PHASE Start Date:** 10/01/2010 **PHASE End Date:**

Parameter	Sample Point	Limit	Limit	Units	Limit	Limit	Units	Limit	Units	Frequency	Sample Type
Duration Of Discharge	Effluent Gross Value	*****	*****	*****	*****	REPORT Monthly Total	# OF DAYS	*****	1/Month	Calculated	
	QL	***	***		***			***			
Flow, In Conduit or Thru Treatment Plant	Effluent Gross Value	REPORT Monthly Average	REPORT Daily Maximum	GPD	*****	*****		*****	1/Month	Metered	
	QL	***	***		***	***		***			
Flow, Total	Effluent Gross Value	REPORT Monthly Average	*****	MGAL/MON	*****	*****		*****	1/Month	Calculated	
	QL	***	***		***	***		***			

MONITORED LOCATION:

SI6A Settling/Frac Tank Sludge

DISCHARGE CATEGORY(IES):

BGR - General Remediation Clean-up
(GP)

Location Description

An annual Residuals Transfer Report shall be completed each year sludge is removed for ultimate management.

Contributing Waste Types

Ind Residual-Other

Residuals Transfer Reporting Requirements:

Submit an Annual RTR: due 60 calendar days after the end of each calendar year.

PART IV

SPECIFIC REQUIREMENTS: NARRATIVE

General Remediation Clean-up (GP)

A. MONITORING REQUIREMENTS

1. Standard Monitoring Requirements

- a. Each analysis required by this permit shall be performed by a New Jersey Certified Laboratory that is certified to perform that analysis.
- b. The Permittee shall perform all water/wastewater analyses in accordance with the analytical test procedures specified in 40 CFR 136 unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.
- c. The permittee shall utilize analytical methods that will ensure compliance with the Quantification Levels (QLs) listed in PART III. If the permittee and/or contract laboratory determines that the QLs achieved for any pollutant(s) generally will not be as sensitive as the QLs specified in PART III, the permittee must submit a justification of such to the Bureau of Surface Water Permitting. For limited parameters with no QL specified, the sample analysis shall use a detection level at least as sensitive as the effluent limit.
- d. All sampling shall be conducted in accordance with the Department's Field Sampling Procedures Manual, or an alternate method approved by the Department in writing.
- e. All monitoring shall be conducted as specified in Part III.
- f. All sample frequencies expressed in Part III are minimum requirements. Any additional samples taken consistent with the monitoring and reporting requirements contained herein shall be reported on the Monitoring Report Forms.
- g. If annual and semi-annual wastewater testing is specified, it shall be conducted in a different quarter of each year so that tests are conducted in each of the four permit quarters of the permit cycle. Testing may be conducted during any month of the permit quarters.
- h. The permittee shall perform all residual analyses in accordance with the analytical test procedures specified in 40 CFR 503.8 and the Sludge Quality Assurance Regulations (N.J.A.C. 7:14C) unless other test procedures have been approved by the Department in writing or as otherwise specified in the permit.
- i. Flow shall be measured using a meter unless specified otherwise in the individual authorization.

B. RECORDKEEPING

1. Standard Recordkeeping Requirements

- a. The permittee shall retain records of all monitoring information, including 1) all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation (if applicable), 2) copies of all reports required by this NJPDES permit, 3) all data used to complete the application for a NJPDES permit, and 4) monitoring information required by the permit related to the permittee's residual use and/or disposal practices, for a period of at least 5 years, or longer as required by N.J.A.C. 7:14A-20, from the date of the sample, measurement, report, application or record.
- b. Records of monitoring information shall include 1) the date, locations, and time of sampling or measurements, 2) the individual(s) who performed the sampling or measurements, 3) the date(s) the analyses were performed, 4) the individual(s) who performed the analyses, 5) the analytical techniques or methods used, and 6) the results of such analyses.

C. REPORTING

1. Standard Reporting Requirements

- a. The permittee shall submit all required monitoring results to the Department on the forms provided to them. The Monitoring Report Forms (MRFs) may be provided to the permittee in either a paper format or in an electronic file format. Unless otherwise noted, all requirements below pertain to both paper and electronic formats.
- b. Any MRFs in paper format shall be submitted to the following addresses:
 - i. NJDEP
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, New Jersey 08625-0029
 - ii. (if requested by the Water Compliance and Enforcement Bureau)
NJDEP: Northern Bureau of Water Compliance and Enforcement
7 Ridgedale Avenue
Cedar Knolls, New Jersey 07927-1112
 - iii. (if requested by the Water Compliance and Enforcement Bureau)
NJDEP: Central Bureau of Water Compliance and Enforcement
P.O. Box 407
Trenton, New Jersey 08625-0407
 - iv. (if requested by the Water Compliance and Enforcement Bureau)
NJDEP: Southern Bureau of Water Compliance and Enforcement
One Port Center
2 Riverside Drive, Suite 201
Camden, New Jersey 08102
- c. Any electronic data submission shall be in accordance with the guidelines and provisions outlined in the Department's Electronic Data Interchange (EDI) agreement with the permittee. Paper copies must be available for on-site inspection by DEP personnel or provided to the DEP upon written request.
- d. All monitoring report forms shall be certified by the highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility.

- e. The highest ranking official may delegate responsibility to certify the monitoring report forms in his or her absence. Authorizations for other individuals to sign shall be made in accordance with N.J.A.C. 7:14A-4.9(b).
- f. Monitoring results shall be submitted in accordance with the current Discharge Monitoring Report Manual and any updates thereof.
- g. If monitoring for a parameter is not required in a monitoring period, the permittee must report "CODE=N" for that parameter.
- h. For intermittent discharges, the permittee shall obtain a sample during at least one of the discharge events occurring during a monitoring period.
- i. If there are no discharge events during an entire monitoring period, the permittee must notify the Department when submitting the monitoring results. This is accomplished by placing a check mark in the "No Discharge this monitoring period" box on the paper or electronic version of the monitoring report submittal form.

D. SUBMITTALS

1. Standard Submittal Requirements

- a. The permittee shall prepare/update the Operation and Maintenance (O&M) Manual including an emergency plan in accordance with requirements of N.J.A.C. 7:14A-6.12(c).
- b. The permittee shall amend the Operation & Maintenance Manual whenever there is a change in the treatment works design, construction, operations or maintenance which substantially changes the treatment works operations and maintenance procedures.

E. FACILITY MANAGEMENT

1. Discharge Requirements

- a. The permittee shall discharge at the location(s) specified in PART III of this permit.
- b. The permittee shall not discharge foam or cause foaming of the receiving water that: 1) Forms objectionable deposits on the receiving water, 2) Forms floating masses producing a nuisance, or 3) Interferes with a designated use of the waterbody.
- c. The permittee's discharge shall not produce objectionable color or odor in the receiving stream.
- d. The discharge shall not exhibit a visible sheen.
- e. When quantification levels (QL) and effluent limits are both specified for a given parameter in Part III, and the QL is less stringent than the effluent limit, effluent compliance will be determined by comparing the reported value against the QL.
- f. The permittee shall attain effluent limits of 10 mg/L as a monthly average and 15 mg/L as a daily maximum for oil & grease. Quarterly, semi-annual or annual monitoring may also be required and shall be specified in Part III.

2. Operation, Maintenance and Emergency conditions

- a. The permittee shall operate and maintain treatment works and facilities which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit as specified in the Operation & Maintenance Manual.

- b. The permittee shall develop emergency procedures to ensure effective operation of the treatment works under emergency conditions in accordance with NJAC 7:14A-6.12(d).

3. Chronic Toxicity Testing Requirements (applicable only if a chronic toxicity limit is specified in Part III)

- a. The permittee shall conduct toxicity tests on its wastewater discharge in accordance with the provisions in this section. Such testing will determine if appropriately selected effluent concentrations adversely affect the test species.
- b. Chronic toxicity tests shall be conducted using the test species and method identified in Part III of this permit.
- c. Any test that does not meet the specifications contained in the Department's "Chronic Toxicity Testing Specifications for Use in the NJPDES Program" document must be repeated within 30 days of the completion of the initial test. The repeat test shall not replace subsequent testing required in Part III.
- d. IC25 - Inhibition Concentration - Concentration of effluent which has an inhibitory effect on 25% of the test organisms for the monitored effect, as compared to the control (expressed as percent effluent).
- e. Test results shall be expressed as the IC25 for each test endpoint. Where a chronic toxicity testing endpoint yields IC25's from more than one test endpoint, the most sensitive endpoint will be used to evaluate effluent toxicity.
- f. The permittee shall submit a Chronic Methodology Questionnaire within 60 days of commencement of discharge or of any change in laboratory.
- g. Submit a chronic whole effluent toxicity test report along with your Discharge Monitoring Reports within twenty-five days after the end of every month during which a chronic whole effluent toxicity test was performed. These toxicity tests shall be performed according to the frequency specified in the individual General Permit Authorization. The permittee shall submit toxicity test results on appropriate forms.
- h. Test reports shall be submitted to:
New Jersey Department of Environmental Protection
Division of Water Quality, Bureau of Surface Water Permitting
P.O. Box 029
Trenton, New Jersey 08625

4. Toxicity Reduction Implementation Requirements (TRIR) (applicable only if a whole effluent toxicity limit is specified in Part III)

- a. The permittee shall initiate a tiered toxicity investigation if two out of six consecutive WET tests demonstrate that the effluent does not comply or will not comply with the toxicity limit or action level specified in Part III of this Permit.
 - i. If the exceedence of the toxicity limit or action level is directly caused by a documented facility upset, or other unusual event which has been identified and appropriately remedied by the permittee, the toxicity test data collected during the event may be eliminated when determining the need for initiating a TRIR upon written Department approval.
- b. The permittee shall begin toxicity characterization within 30 days of the end of the monitoring period when the second toxicity test exceeds the toxicity limits or action levels in Part III. The monitoring frequency for toxicity testing shall be increased to semi-monthly (i.e. every two months). Up to 12 additional tests may be required.

- i. The permittee may return to the toxicity testing frequency specified in Part III if four consecutive toxicity tests conducted during the Toxicity Characterization do not exceed the toxicity limit or action level.
- ii. If two out of any six consecutive, acceptable tests again exceed the toxicity limit or action level in Part III, the permittee shall repeat Toxicity Reduction Implementation Requirements.
- c. The permittee shall initiate a preliminary toxicity identification (PTI) upon the fourth exceedence of the toxicity limit or action level specified in Part III during toxicity characterization.
 - i. The permittee may return to the monitoring frequency specified in PART III while conducting the PTI. If more frequent WET testing is performed during the PTI, the permittee shall submit all biomonitoring reports to the DEP and report the results for the most sensitive species on the DMR.
 - ii. As appropriate, the PTI shall include:
 - (1) treatment plant performance evaluation,
 - (2) evaluation of chemical use and processes at the facility, and
 - (3) an evaluation of incidental facility procedures and chemical spill disposal which may contribute to effluent toxicity.
 - iii. The permittee shall submit a Preliminary Toxicity Identification Notification within 15 months of triggering TRIR. This notification shall include a determination that the permittee intends to demonstrate compliance OR plans to initiate a CTI.
- d. The permittee must demonstrate compliance with the WET limitation or action level in four consecutive WET tests to satisfy the requirements of the Toxicity Reduction Investigation Requirements. After successful completion, the permittee may return to the WET monitoring frequency specified in PART III.
- e. The permittee shall initiate a Comprehensive Toxicity Investigation (CTI) if the PTI does not identify the cause of toxicity and a demonstration of consistent compliance with the toxicity limit or action level in Part III can not be made.
 - i. The permittee shall develop a project study plan identifying the party or parties responsible for conducting the comprehensive evaluation, establish a schedule for completing the study, and a description of the technical approach to be utilized.
 - ii. If the permittee determines that the PTI has failed to demonstrate consistent compliance with the toxicity limit or action level in Part III , a Comprehensive Toxicity Investigation Workplan must be prepared and submitted within 90 days.
 - iii. The permittee shall summarize the data collected and the actions taken in CTI Quarterly Reports. The reports shall be submitted within 30 calendar days after the end of each quarter.
 - iv. The permittee shall submit a Final CTI Report 90 calendar days after the last quarterly report. The final CTI report shall include the corrective actions identified to reduce toxicity and a schedule for implementing these corrective actions.
- f. Upon receipt of written approval from the Department of the corrective action schedule, the permittee shall implement those corrective actions consistent with that schedule.
 - i. The permittee shall satisfy the requirements of the Toxicity Reduction Implementation Requirements and return to the original toxicity monitoring frequency after corrective actions are implemented and the permittee demonstrates consistent compliance with the toxicity limit or action level in Part III in four consecutive toxicity tests.

- ii. If the implemented corrective measures do not result in consistent compliance with the toxicity limit or action level in Part III, the permittee shall submit a plan for resuming the CTI.

F. CONDITIONS FOR MODIFICATION

1. Notification requirements

- a. For new discharges, the permittee shall notify the Department that a tag to mark the location of the outfall pipe has been installed consistent with N.J.A.C. 7:14A-6.2(a)9.

2. Causes for modification

- a. The Department may modify or revoke and reissue any permit to incorporate 1) any applicable effluent standard or any effluent limitation, including any effluent standards or effluent limitations to control the discharge of toxic pollutants or pollutant parameters such as acute or chronic whole effluent toxicity and chemical specific toxic parameters, 2) toxicity reduction requirements, or 3) the implementation of a TMDL or watershed management plan adopted in accordance with N.J.A.C. 7:15-7.
- b. The permittee may request a minor modification to eliminate the monitoring requirements associated with a discharge authorized by this permit when the discharge ceases due to changes at the facility.
- c. For new dischargers where a chronic whole effluent toxicity requirement is imposed: The Department may issue a minor modification further deferring the effective date of the chronic whole effluent toxicity limitation if a facility is implementing the Toxicity Reduction Implementation Requirements (TRIR) in Part IV of this permit.
- d. The Department may modify individual authorizations under this permit through a minor modification in accordance with N.J.A.C. 7:14A-16.5(a)1 to reduce WET monitoring to either semi-annual, annual, or once per permit cycle. The criteria for such reduction is a minimum of four data points with a result of >100%. The Department may also consider site-specific characteristics such as discharge volume, location, and wastewater constituents.
- e. The Department may modify individual authorizations under this permit through a minor modification in accordance with N.J.A.C. 7:14A-16.5(a)1 to reduce toxics and conventional monitoring to quarterly or an alternate monitoring frequency. The criteria for such reduction is consistent compliance with the applicable limits for at least 12 data points. The Department may eliminate the total petroleum hydrocarbons or oil and grease monitoring requirement if 12 consecutive data points are non-detectable. This change will be incorporated as a minor modification pursuant to N.J.A.C. 7:14A-16.5.

G. OPERATIONAL ISSUES

1. Operational Requirements

- a. The treatment works shall operate at the optimal average design flow rate for maximum groundwater clean-up.
- b. No backwash from any treatment unit(s) for maintenance purposes or any other reasons shall be discharged through the authorized outfall(s).
- c. The permittee shall not attain any effluent limitations by dilution pursuant to N.J.A.C. 7:14A-6.2. Specifically, the permittee shall not pump from a recovery well and divert such waters to the treatment system for the purposes of diluting groundwater from other contaminated recovery wells.

- d. Samples taken in compliance with the specified monitoring requirements shall be taken at the discharge outfall(s) specified in Part III of this permit authorization at the nearest accessible point after final treatment but prior to actual discharge.

2. Use of Chemical Addition Agents

- a. If a permittee proposes addition of any chemical or biofouling agents in its treatment system in order to enhance treatment effectiveness and system performance, the permittee must obtain permission from the Department in writing prior to use of such compounds.
- b. The permittee shall submit a letter to the Department describing the use of such chemical addition agents, including information pertaining to dosage rates and frequency of dosage, and shall also include a material safety data sheet for the product(s).
- c. This letter shall be submitted to the Bureau of Surface Water Permitting at the address included in the cover letter. The Department will then evaluate the submittal and notify the permittee in writing as to whether the compound can be utilized under the conditions of the individual authorization under this permit. Please note that N.J.A.C. 7:14A-22.4(a)7 does not require a treatment works approval (TWA) modification for chemical addition where it is used for purposes of improving treatment system performance.

3. Third Party Storm Sewers

- a. If the permittee proposes to discharge or discharges through an off-site public or private storm drainage system, please note that this permit to discharge does not exempt, nor shall be construed to exempt, the permittee from compliance with rules, regulations, policies, and/or laws lodged in any agency or subdivision of the state having legal jurisdiction over the storm sewer system proposed for use as a wastewater conveyance.

4. Permanent Cessation of Discharge to Surface Waters

- a. If the permittee permanently discontinues its discharge to surface waters for 30 days or more the appropriate Regional Bureau of Water and Compliance Enforcement shall be notified:
 - i. NORTHERN BUREAU (Counties of Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex and Warren) - (973) 656-4099.
 - ii. CENTRAL BUREAU (Counties of Mercer, Middlesex, Monmouth, Ocean and Union) - (609) 292-3010.
 - iii. SOUTHERN BUREAU (Counties of Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem) - (856) 614-3655.

5. Revocation of an Individual Authorization under the Permit.

- a. If the permittee has permanently ceased its discharge to surface water, the permittee can request revocation of its individual authorization under the permit. The permittee can obtain the necessary revocation forms by accessing www.state.nj.us/dep/dwq or by contacting the Department's Bureau of Permit Management at (609) 984-4428. The permittee can also contact the appropriate Regional Enforcement Office for further guidance on closure proceedings.

- b. Upon receipt of an administratively complete revocation request, the Department will verify with the appropriate Regional Enforcement Office that the discharge has ceased and that the treatment works has undergone closure, in conformance with N.J.A.C. 7:14A-23.34. The Department will then revoke such individual authorization by preparing a copy of the individual authorization page showing the revocation date of the individual authorization and sending such to the permittee. However, the Department will not revoke an individual authorization if the Site Remediation Program disagrees that revocation is appropriate.

APPENDIX A:

CHRONIC TOXICITY TESTING SPECIFICATIONS

FOR USE IN THE NJPDES PERMIT PROGRAM

Version 2.1

May 1997

TABLE OF CONTENTS

- I. AUTHORITY AND PURPOSE**
- II. GENERAL CONDITIONS**
 - A. Laboratory Safety and Glassware
 - B. Test Concentrations / Replicates
 - C. Dilution Water
 - D. Effluent Sample Collection
 - E. Physical Chemical Measurements
 - F. Statistics
- III. TEST ACCEPTABILITY CRITERIA**
- IV. STANDARD REFERENCE TOXICANT TESTING**
 - A. Initial Testing Requirements
 - B. Subsequent Testing Requirements
 - C. Changing an Established Reference Toxicant
 - D. Control Charts
 - E. Unacceptable SRT Results
 - F. Annual Submittals
- V. TEST CANCELLATION / RESCHEDULING EVENTS**
- VI. REPORTING**
- VII. METHODS SPECIFICATIONS**
 - A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
 - B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
 - C. Algal, (*Selenastrum capricornutum*), Growth Test, method 1003.0
 - D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
 - E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
 - F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0
 - G. *Champia parvula*, Sexual Reproduction Test, method 1009.0
- VIII. REFERENCES**

Notice: Mention of trade names or commercial products do not constitute endorsement or recommendation for use.

I. AUTHORITY AND PURPOSE

These methods specifications for the conduct of whole effluent chronic toxicity testing are established under the authority of the NJPDES permitting program, N.J.A.C. 7:14A-6.5(a)2 and 40 CFR 136, for discharges to waters of the State. The methods referenced herein are included by reference in 40 CFR 136, Table 1.A. and, therefore, constitute approved methods for chronic toxicity testing. The information contained herein serves to clarify testing requirements not sufficiently clarified in those methods documents and also serves to outline and implement the interlaboratory Standard Reference Toxicant Program until a formal laboratory certification program is established under N.J.A.C. 7:18. As such these methods are intended to be used to determine compliance with discharge permits issued under the authority of the NJPDES permit program. Tests are to be conducted in accordance with the general conditions and test organism specific method specifications contained in this document. All other conditions and specifications can be found in 40 CFR 136 and USEPA methodologies.

Until a subchapter on chronic toxicity testing within the regulations governing the certification of laboratories and environmental measurements (N.J.A.C. 7:18) becomes effective, tests shall be conducted in conformance with the methodologies as designated herein and contained in 40 CFR 136. The laboratory performing the testing shall be within the existing acute toxicity testing laboratory certification program established under N.J.A.C. 7:18, as required by N.J.A.C. 7:9B-1.5(c)5.

Testing shall be in conformance with the subchapter on chronic toxicity testing within the N.J.A.C. 7:18 when such regulations become effective. The laboratory performing the toxicity testing shall be within the chronic toxicity testing laboratory certification program to be established under that subchapter, when it becomes effective.

These methods are incorporated into discharge permits as enforceable permit conditions. Each discharge permit will specify in Part IV of the permit, the test species specific methods from this document that will be required under the terms of the discharge permit. Although the test species specific methods for each permit are determined on a case-by-case basis, the purpose of this methods document is to assure consistency among dischargers and to provide certified laboratories with information on the universe of tests to be utilized so that they can make the necessary preparations, including completing the required Standard Reference Toxicant testing. Please note that these methodologies are required for compliance testing only. Facilities and/or laboratories conducting testing under the requirements of a Toxicity Identification Evaluation or for informational purposes are not bound by these methods.

This document constitutes the second version of the NJDEP's interim chronic methodologies. This version contains no significant changes to the test methods themselves. However, in keeping with the Department's continued emphasis on good laboratory practices and quality control, the areas addressing the Standard Reference Toxicant Program, data analysis and data reporting, have been significantly revised.

II. GENERAL CONDITIONS

A. LABORATORY SAFETY, GLASSWARE, ETC.

All safety procedures, glassware cleaning procedures, etc., shall be in conformance with 40 CFR 136 and USEPA's "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," "Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms" and N.J.A.C. 7:18.

B. TEST CONCENTRATIONS / REPLICATES

All testing is to be performed with a minimum of five effluent concentrations plus a dilution water control. A second reference water control is optional when a dilution water other than culture water is used. The use of both a 0.5 or 0.75 dilution factor is acceptable for the selection of test concentrations. If hypothesis testing will be used to determine the test endpoint, one effluent concentration shall be the chronic permit limitation, unless the existing data for the discharge indicate that the NOEC is expected to be significantly less than the permit limit. The use of the 0.5 dilution factor may require more than five dilutions to cover the entire range of effluent concentrations as well as the chronic permit limit, since the permit limit will often not be one of the nominal concentrations in a 0.5 dilution series. In such an instance, the 0.5 dilution series may be altered by including an additional test concentration equal to the permit limit in the dilution series, or by changing the concentration closest to the permit toxicity limit to be equal to that limit. The Department recommends the use of the 0.75 dilution factor using Table 1.0 to determine test concentrations. That table establishes test concentrations based on the chronic toxicity limitation.

For either the 0.5 or 0.75 dilution factor, there shall be at least one test concentration above the permit limitation and at least three test concentrations below the permit limit along with the dilution water control unless the permit limitation prohibits such (e.g., limitations greater than 75% effluent). An effort shall be made to bracket the anticipated test result.

To use Table 1.0, locate the permit limit in column 4. The dilution series becomes the row that corresponds to the permit limit in column 4. For example, a permit limit of 41 would require a dilution series of the dilution water control, 17%, 23%, 31%, 41% and 55% effluent.

The number of replicates used in the test must, at a minimum, satisfy the specifications of the applicable methods contained herein. Increased data sensitivity can be obtained by increasing the number of replicates equally among test concentrations and thus an increased number of replicates is acceptable. Further, the use of nonparametric statistical analysis requires a minimum of four replicates per test concentration. If the data for any particular test is not conducive to parametric analyses and if less than four replicates were included, the test may not be considered acceptable for compliance purposes.

The use of single concentration tests consisting of the permit limitation as a concentration and a control is not permitted for compliance purposes, but may be used by a permittee in the conduct of a Toxicity Investigation Evaluation (TIE) or for information gathering purposes. Such a test would be considered a "pass" if there was no significant difference in test results, using hypothesis testing methods.

Table 1.0: 0.75 DILUTION SERIES INDEXED BY PERMIT LIMIT

Permit Limit					Permit Limit						
Col #	1	2	3	4	5	Col #	1	2	3	4	5
	0.4	0.6	0.8	1	1.3		22	29	38	51	68
	0.8	1.1	1.5	2	2.7		22	29	39	52	69
	1.3	1.7	2.3	3	4		22	30	40	53	71
	1.7	2.3	3	4	5.3		23	30	41	54	72
	2.1	2.8	3.8	5	6.7		23	31	41	55	73
	2.5	3.4	4.5	6	8		24	32	42	56	75
	3	4	5	7	9		24	32	43	57	76
	3	5	6	8	11		24	33	44	58	77
	4	5	7	9	12		25	33	44	59	79
	4	6	8	10	13		25	34	45	60	80
	5	6	8	11	15		26	34	46	61	81
	5	7	9	12	16		26	35	47	62	83
	5	7	10	13	17		27	35	47	63	84
	6	8	11	14	19		27	36	48	64	85
	6	8	11	15	20		27	37	49	65	87
	7	9	12	16	21		28	37	50	66	88
	7	10	13	17	23		28	38	50	67	89
	8	10	14	18	24		29	38	51	68	91
	8	11	14	19	25		29	39	52	69	92
	8	11	15	20	27		30	39	53	70	93
	9	12	16	21	28		30	40	53	71	95
	9	12	17	22	29		30	41	54	72	96
	10	13	17	23	31		31	41	55	73	97
	10	14	18	24	32		31	42	56	74	99
	11	14	19	25	33		32	42	56	75	100
	11	15	20	26	35	24	32	43	57	76	
	11	15	20	27	36	24	32	43	58	77	
	12	16	21	28	37	25	33	44	59	78	
	12	16	22	29	39	25	33	44	59	79	
	13	17	23	30	40	25	34	45	60	80	
	13	17	23	31	41	26	34	46	61	81	
	14	18	24	32	43	26	35	46	62	82	
	14	19	25	33	44	26	35	47	62	83	
	14	19	26	34	45	27	35	47	63	84	
	15	20	26	35	47	27	36	48	64	85	
	15	20	27	36	48	27	36	48	65	86	
	16	21	28	37	49	28	37	49	65	87	
	16	21	29	38	51	28	37	50	66	88	
	16	22	29	39	52	28	38	50	67	89	
	17	23	30	40	53	28	38	51	68	90	
	17	23	31	41	55	29	38	51	68	91	
	18	24	32	42	56	29	39	52	69	92	
	18	24	32	43	57	29	39	52	70	93	
	19	25	33	44	59	30	40	53	71	94	
	19	25	34	45	60	30	40	53	71	95	
	19	26	35	46	61	30	41	54	72	96	
	20	26	35	47	63	31	41	55	73	97	
	20	27	36	48	64	31	41	55	74	98	
	21	28	37	49	65	31	42	56	74	99	
	21	28	38	50	67	32	42	56	75	100	

* Select the dilution series by finding the row which contains the permit limit in column #4.

NOTE: All values are in units of "% effluent" not toxic units.

C. DILUTION WATER

1. Marine and Estuarine Waters

A high quality natural water, such as the Manasquan River Inlet is strongly recommended as the dilution water source for chronic toxicity testing with marine and estuarine organisms. The use of the receiving water as the dilution water source is not required. Saline waters prepared with hypersaline brine and deionized water may also be used as dilution water. Hypersaline brines shall be prepared from a high quality natural seawater and shall not exceed a concentration of 100 ppt. The type of a dilution water for a permittee may not be changed without the prior approval of the Department.

The standard test salinity shall be 25 ppt, except for *Champia parvula*, which shall be tested at 30 ppt. Since most effluents are freshwater based, in most cases it will be necessary to adjust the salinity of the test concentrations to the standard test salinity.

2. Fresh Waters

A high quality natural water, such as Round Valley Reservoir (if access is allowed) or Lake Hopatcong, is strongly recommended as the dilution water source for chronic toxicity testing with freshwater organisms. It is not required to perform the toxicity testing with the receiving water as dilution water. Tests performed with a reconstituted water or up to 20% Diluted Mineral Water (DMW) as dilution water is acceptable. For testing with *Ceriodaphnia dubia*, the addition of 5 µg/l selenium (2 µg/l selenium with natural water) and 1 µg/l vitamin B12 is recommended (Keating and Dagbusan, 1984; Keating, 1985 and 1988). The source of a dilution water for a permittee may not be changed without the prior approval of the Department. Reconstituted water and DMW should be prepared with Millipore Super Q^R or equivalent, meet the requirements of N.J.A.C. 7:18-6 and should be aerated a minimum of 24 hrs prior to use, but not supersaturated.

D. EFFLUENT SAMPLE COLLECTION

Effluent samples shall be representative of the discharge being regulated. For each discharge serial number (DSN), the effluent sampling location shall be the same as that specified in the NJPDES permit for other sampling parameters unless an alternate sampling point is specified in the NJPDES discharge permit. For industrial dischargers with a combined process/sanitary waste stream, effluent sampling shall be after chlorination, unless otherwise designated in the permit.

For continuous discharges, effluent sampling shall consist of 24 hour composite samples consisting either of equal volumes taken once every hour or of a flow-proportionate composite sample, unless otherwise approved by the Department. At a minimum, three samples shall be collected as specified above, one every other day. The first sample shall be used for test initiation and the first renewal. The second sample for the next two renewals. The third sample shall be used for the final three renewals. For the *Champia* and *Selenastrum* tests, a single sample shall be collected not more than 24 hours prior to test initiation. No effluent sample shall be over 72 hours old at the time of its use to initiate or renew solutions in a test. It is acceptable to collect samples more frequently for chronic WET testing and if samples are collected daily for acute toxicity testing conducted concurrently, available samples may be used to renew the test solutions as appropriate.

For all other types of discharges, effluent sampling shall be conducted according to specifications contained within the discharge permit, methodology questionnaire or as otherwise specified by the Department. The use of grab samples or other special sampling procedures will be based on time of occurrence and duration of intermittent discharge events.

If a municipal discharger has concerns that the concentrations of ammonia and/or chlorine in an effluent are adequate to cause violations of the permit limit for chronic toxicity testing, the permittee should conduct analyses, as specified in USEPA's toxicity investigation methods documents, to illustrate the relationship between chronic effluent toxicity and chlorine and/or ammonia as applicable. This data may then be submitted to

the Department as justification for a request to use modified test procedures, which account for ammonia and/or chlorine toxicity, in future chronic toxicity tests. The Department may, where adequate justification exists, permit the adjustment of these pollutants in the effluent sample if discharge limits for these pollutants are contained in the NJPDES permit and those permit limitations are adequate for the protection of water quality. Any proposed modified test procedures to adjust effluent chlorine and/or ammonia shall be approved by the Department prior to use of those test procedures for any compliance testing.

Except for filtration through a 2 mm or larger screen or an adjustment to the standard test salinity, no other adjustments to the effluent sample shall be made without prior written approval by the Department. Aeration of samples prior to test start shall be minimized where possible and samples shall not be aerated where adequate saturation exists to maintain dissolved oxygen.

E. PHYSICAL CHEMICAL MEASUREMENTS

At a minimum, the physical chemical measurements shall be as follows:

- pH and dissolved oxygen shall be measured at the beginning and end of each 24 hour exposure period, in at least one chamber, of the high, medium and low test concentrations and the control. In order to ensure that measurements for these parameters are representative of the test concentrations during the test, measurements for these parameters should be taken in an additional replicate chamber for such concentrations which contains no test organisms, but is subject to the same test conditions.
- Temperature shall either be monitored continuously, measured daily in at least two locations in the environmental control system, or measured at the beginning of each 24 hr exposure period in at least one replicate for each treatment.
- Salinity shall be measured in all salt water tests at the beginning of each 24 hour exposure period, in at least one replicate for each treatment.
- For all freshwater tests, alkalinity, hardness and conductivity shall be measured in each new sample (100% effluent) and control.
- Nitrite, nitrate and ammonia shall be measured in the control before each renewal in the mysid test only.
- For samples of discharges where concentrations of ammonia and/or chlorine are known or are suspected to be sufficient to cause toxicity, it is recommended that the concentrations of these pollutants be determined and submitted with the standardized report form. The laboratory is advised to consult with the permittee to determine if these parameters should be measured in the effluent. Where such measurements are deemed appropriate, measurements shall be conducted at the beginning of each 24 hour exposure period. Also, since a rise in the test pH can affect the toxicity of ammonia in the effluent, analysis of ammonia during the test may be appropriate if a rise in pH is accompanied by a significant increase in mortality.

F. STATISTICS

The use of both hypothesis testing techniques and point estimate techniques are currently in use by the Department or by permittees for compliance purposes. The NJPDES permit should be checked to determine which type of analysis is required and appropriate for each specific facility. It is not acceptable to simply evaluate any data by "visual data review" unless in the analysis of survival data, no mortality occurred in the test. All data sets must be appropriately statistically evaluated.

For hypothesis testing techniques, statistical analysis shall follow the protocols in USEPA (1988, 1989) to evaluate adverse effects. A significance level of 0.05 shall be utilized to evaluate such effects. Use of a protocol not contained in these documents must be accompanied by a reference and explanation addressing its

applicability to the particular data set. Please note the following when evaluating data using hypothesis testing techniques.

Special attention should be given to the omission and inclusion of a given replicate in the analysis of mysid fecundity data (USEPA 1994, p. 275) and *Ceriodaphnia* reproduction data (USEPA 1994, page 174).

Determination of acceptability criteria and average individual dry weight for the growth endpoints must follow the specifications in the applicable documents (e.g., p.84 for saltwater methods document.)

Use of nonparametric statistical analyses requires a minimum of four replicates per test concentration. If the data for any particular test are not conducive to parametric analyses and if less than four replicates were included, the test may not be acceptable to the Department.

Where hypothesis testing is used for compliance purposes, if the results of hypothesis testing indicate that a deviation from the dose response occurs such that two test concentrations are deemed statistically significant from the control but an intermediate test concentration is not, the test is deemed unacceptable and cannot be used for compliance testing purposes.

For point estimate techniques, statistical analysis should follow the protocol contained in "A Linear Interpolation Method for Sublethal Toxicity: The Inhibition Concentration (ICp) Approach (Version 2.0), July 1993, National Effluent Toxicity Assessment Center Technical Report 03-93." Copies of the program can be obtained by contacting the Department. The linear interpolation estimate ICp values and not the bootstrap mean ICp, shall be reported for permit compliance purposes. The ICp value reported on the Discharge Monitoring Report shall be rounded off as specified in the Department's "Discharge Monitoring Report (DMR) Instruction Manual, December 1993." IC25 values shall be reported under the parameter code listed as "NOEC" on the DMR, until the DMR's are adjusted accordingly.

If the result reported by the ICp method is greater than the highest concentration tested, the test result is reported as "greater than C" where "C" is the highest tested concentration. If the ICp is lower than the lowest concentration tested, the test result is reported as "less than C" where "C" is the lowest tested concentration.

If separate NOEC's/IC25's can be calculated from multiple test endpoints, for example a reproductive endpoint and a growth endpoint, the lowest NOEC/IC25 value expressed in units of "% effluent" will be used to determine permit compliance and should, therefore, be reported as the NOEC/IC25 value for the test. If the NOEC value for growth and/or reproduction is not lower than that for survival, the NOEC/IC25 value reported for the test shall be as survival. For saltwater tests, where additional controls are used in a test (i.e. brine and/or artificial sea salt control), a T-test shall be used to determine if there is a significant difference between the original test control and the additional controls. If there is a significant difference between any of the controls, the test may be deemed unacceptable and if so, will not be used for permit compliance.

III. TEST ACCEPTABILITY CRITERIA

Any test that does not meet these acceptability criteria will not be used by the Department for any purpose and must be repeated as soon as practicable, with a freshly collected sample.

1. Tests must be performed by a laboratory approved for the conduct of chronic toxicity tests and certified for acute toxicity testing under N.J.A.C. 7:18.
2. Test results may be rejected due to inappropriate sampling, including the use of less than three effluent samples in a test and/or use of procedures not specified in a permit or methodology questionnaire, use of frozen or unrefrigerated samples or unapproved pretreatment of an effluent sample.
3. Controls shall meet the applicable performance criteria specified in the Table 2.0 and in the individual method specifications contained herein.
4. Acceptable and applicable Standard Reference Toxicant Data must be available for the test.
5. No unapproved deviations from the applicable test methodology may be present.
6. When using hypothesis testing techniques, a deviation from the dose response as explained in the statistical portion of this document shall not be present in the data.

Table 2.0:

CONTROL PERFORMANCE

TEST ORGANISM	MINIMUM SURVIVAL	MINIMUM WEIGHT GAIN	MINIMUM FECUNDITY/ REPRODUCTION
<i>Pimephales promelas</i>	80%	0.25 mg avg	N/A
<i>Ceriodaphnia dubia</i>	80%	N/A	Average of ≥ 15 young per surviving female
<i>Selenastrum capricornutum</i>	Density $\geq 2 \times 10^5$ cells/ml	N/A	Variability in controls not to exceed 20%.
<i>Cyprinodon variegatus</i>	80%	0.60 mg (unpreserved) avg 0.50 mg (preserved) avg	N/A
<i>Menidia beryllina</i>	80%	0.50 mg (unpreserved) avg 0.43 mg (preserved) avg	N/A
<i>Mysidopsis bahia</i>	80%	0.2 mg per mysid avg	egg production by 50% of control females if fecundity is used as an endpoint.
<i>Champia parvula</i>	100%	N/A	≥ 10 cystocarps per plant Plants in controls and lower test concentrations shall not fragment so that individual plants cannot be identified.

THE DETERMINATION OF A TEST AS UNACCEPTABLE DOES NOT RELIEVE THE FACILITY FROM MONITORING FOR THAT MONITORING PERIOD

IV. STANDARD REFERENCE TOXICANT TESTING

All chronic testing shall be accompanied by testing with a Standard Reference Toxicant (SRT) as a part of each laboratory's internal quality control program. Such a testing program should be consistent with the quality assurance/quality control protocols described in the USEPA chronic testing manuals. Laboratories may utilize the reference toxicant of their choice and toxicants such as cadmium chloride, potassium chloride, sodium dodecyl sulfate and copper sulfate are all acceptable. However, Potassium chloride has been chosen by several laboratories and is recommended by the Department. The concentration of the reference toxicant shall be verified by chemical analysis in the low and high test concentrations once each year or every 12 tests, whichever is less. It is not necessary to run SRT tests, for all species using the same SRT.

A. INITIAL STANDARD REFERENCE TOXICANT (SRT) TESTING REQUIREMENTS

At a minimum, this testing shall include an initial series of at least five SRT tests for each test species method. Acceptable SRT testing for chronic toxicity shall be performed utilizing the short term chronic toxicity test methods as specified herein. Reference toxicant tests utilizing acute toxicity testing methods, or any method other than those contained in this document are not acceptable. The laboratory should forward results of the initial SRT testing, including control charts, the name of the reference toxicant utilized, the supplier and appropriate chemical analysis of the toxicant to either address listed in the reporting requirements section herein. The initial series of a least five SRT tests for a specific test species method shall be completed and approved in writing by the Department prior to the conduct of any chronic toxicity testing for compliance purposes.

B. SUBSEQUENT SRT TESTING REQUIREMENTS

After receiving the initial approval from the Department to conduct chronic toxicity tests for compliance purposes, subsequent SRT testing shall be conducted as follows:

1. Where organisms used in testing are cultured at the testing laboratory, SRT testing should be conducted once per month for each species/method.
2. Where the laboratory purchases organisms from a laboratory certified in New Jersey for the conduct of acute toxicity testing and approved for the conduct of chronic toxicity testing for the test organism in question (i.e. the "supplier laboratory"), SRT data provided by the "supplier laboratory" for each lot of organisms purchased is acceptable as long as the SRT test result falls within the control limits of the control chart established by the "supplier laboratory" for that organism. The laboratory using purchased organisms is responsible for the results of any compliance tests they perform.
3. A testing laboratory purchasing organisms from a supplier laboratory must still perform SRT testing on a quarterly basis at a minimum, for each species they test with, in order to adequately document their own interlaboratory precision.
4. If a testing laboratory purchasing organisms elects not to use the SRT data from a "supplier laboratory" or such data is unavailable or where organisms are purchased from another organism supplier, the testing laboratory must conduct SRT testing on each lot of organisms purchased.
5. For industrial laboratories certified under N.J.A.C. 7:18 to conduct acute toxicity tests, only the SRT testing conditions specified in 2. through 4. above apply. Where that laboratory/facility cultures their own test organisms, the frequency of SRT testing required will be determined on a case by case basis, based on the frequency of testing for that facility.

NOTE: Based on these requirements, SRT data are considered applicable to a compliance test when the SRT test results are acceptable and the SRT test is conducted within 30 days of the compliance test, for the test species and SRT in question. Therefore, it is not necessary for an approved laboratory to run an SRT test every month if the laboratory is not conducting compliance tests for a particular species.

C. CHANGING OF AN ESTABLISHED REFERENCE TOXICANT

The SRT used for any species by a laboratory may be changed at any time provided that the following conditions have been satisfied:

1. A series of at least three reference toxicant tests are conducted with the new reference toxicant and the results of those tests are identified as satisfactory, in writing, by the Department.
2. Laboratories must continue using the already approved SRT in their ongoing QA/QC program, until such time as the letter referenced above, is received by the laboratory.

D. CONTROL CHARTS

Control charts shall be established from SRT test results in accordance with the procedures outlined in the USEPA methods documents. Control charts shall be constructed using IC25's using the following methods:

1. The upper and lower control limits shall be calculated by determining +/- two standard deviations above and below the mean.
2. SRT test results which exhibit an IC25 that is greater than the highest concentration tested or less than the lowest concentration tested (i.e. a definitive endpoint cannot be determined), shall not be used to establish control charts.
3. SRT tests which do not meet the acceptability criteria for a specific species shall not be used to establish control charts.
4. All values used in the control charts should be as nominal concentrations. However, the control charts shall be accompanied by a chart tabulating the test results as measured concentrations.
5. An outlier (i.e. values which fall outside the upper and lower control limits) should be included on the control chart unless it is determined that the outlier was caused by factors not directly related to the test organisms (e.g., test concentration preparation) as the source of variability would not be directly applicable to effluent tests. In such case, the result and explanation shall be reported to the Department within 30 days of the completion of the SRT test.

The control chart established for the initial series of SRT data submitted will be used by the laboratory and the Department to determine outliers from SRT test results reported in the "NJPDES Biomonitoring Report Form - Chronic Toxicity Test" submitted by the permittees for the test species. These initial control limits will remain unchanged until twenty SRT tests have been completed by the laboratory.

The following procedures shall be used for continually updating control charts after twenty acceptable SRT tests have been completed:

1. Once a laboratory has completed twenty acceptable SRT tests for a test species, the upper and lower control limits shall be recalculated with those twenty values.
2. For each successive SRT test conducted after these first twenty tests, a moving average shall be calculated and the control limits reevaluated using the last twenty consecutive test results.
3. The upper and lower control limits shall be reported on the "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" along with the SRT test result.

E. UNACCEPTABLE SRT TEST RESULTS

If a laboratory produces any SRT test results which are outside the established upper and lower control limits for a test species at a frequency greater than one test in any ten tests, a report shall be forwarded to the Department at the address contained herein. This report shall include any identified problem which caused the values to fall outside the expected range and the corresponding actions that have been taken by the laboratory. The Department may not accept or may require repeat testing for any toxicity testing that may have been affected by such an occurrence.

If a laboratory produces two consecutive SRT test results or three out of any ten test results which are outside the established upper and lower limits for a specific test species, the laboratory shall be unapproved to conduct chronic toxicity tests for compliance purposes for that test species. Reapproval shall be contingent upon the laboratory producing SRT test results within the established upper and lower control limits for that test species in two consecutive SRT tests. If one or both of those test results again fall outside the established control levels, the laboratory is unapproved for that test species until five consecutive test results within the established upper and lower control limits are submitted and approved by the Department.

F. ANNUAL SUBMITTALS

Control charts shall be forwarded to the Department on an annual basis, on the anniversary of approval for the test species.

The Department may request, at any time, any information which is essential in the evaluation of SRT results and/or compliance data.

V. TEST CANCELLATION / RESCHEDULING EVENTS

A lab may become aware of QA problems during or immediately following a test that will prevent data from being submitted or a lab may be unable to complete a tests due to sample collection or shipping problems. If for any reason a chronic toxicity test is initiated and then prematurely ended by the laboratory or at the request of the permittee, the laboratory shall submit the form entitled "Chronic Whole Effluent Toxicity Testing Test Cancellation / Rescheduling Event Form" contained herein. This form shall be used to detail the reason for prematurely ending the test. This completed form and any applicable raw data sheets shall be submitted to the appropriate biomonitoring program at the address above within 30 days of the cessation of the test.

Tests are considered to be initiated once test organisms have been added to all test chambers.

Submission of this form does not relieve the facility from monitoring for that monitoring period.

VI. REPORTING

The report form entitled "NJPDES Biomonitoring Report Form - Chronic Toxicity Tests" should be used to report the results of all NJPDES chronic compliance biomonitoring tests. Laboratory facsimiles are acceptable but must contain all information included on any recent revisions of the form by the Department. Statistical printouts and raw data sheets for all endpoints analyzed shall be included with the report submitted to the Department. Two copies of all chronic toxicity test report forms shall be submitted to the following address as applicable:

Bureau of Point Source Permitting Region 1 **OR**
Bureau of Point Source Permitting Region 2 (as indicated in the cover letter)

New Jersey Department of Environmental Protection
Division of Water Quality
PO Box 29
Trenton, NJ 08625-0029

It is not necessary to attach a copy of a test report form to the Discharge Monitoring Report (DMR) form when submitting this form to the Department. However, the results of all chronic toxicity tests conducted for compliance purposes must be reported on the DMR form under the appropriate parameter code in the monitoring period in which the test was conducted.

VII. METHOD SPECIFICATIONS

The following method specifications shall be followed as specified in the NJPDES permit. Any changes to these methods will not be considered acceptable unless they are approved in writing by the Department, prior to their use.

- A. Fathead Minnow (*Pimephales promelas*), Larval Survival and Growth Test, method 1000.0
- B. *Ceriodaphnia dubia*, Survival and Reproduction Test, method 1002.0
- C. Algal, (*Selenastrum capricornutum*), Growth Test, method 1003.0
- D. Sheepshead Minnow (*Cyprinodon variegatus*), Larval Survival and Growth Test, method 1005.0
- E. Inland Silverside (*Menidia beryllina*), Larval Survival and Growth Test, method 1006.0
- F. *Mysidopsis bahia*, Survival, Growth, and Fecundity Test, method 1007.0
- G. *Champia parvula*, Sexual Reproduction Test, method 1009.0

VIII. REFERENCES

1. Keating, K. 1985. The influence of Vitamin B12 deficiency on the reproduction of Daphnia pulex Leydig (Cladocera). *J. Crustacean Biology* 5:130-136.
2. Keating, K. 1988. N.J.D.E.P. Project C29589, Fiscal 1988 Third Quarter Summary Report. Producing Nutritionally Competent Daphnids for Use in Bioassay. 44p.
3. Keating, K., and B. Dagbusan. 1984. Effect of selenium deficiency on cuticle integrity in Cladocera (Crustacea). *Proc. Natl. Acad. Sci. USA* 81:3433-3437.
4. NJDEP, 1993. Discharge Monitoring Report (DMR) Instruction Manual.
5. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA-600/4-91-003. July 1994. Second Edition.
6. USEPA. 1994. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms. EPA/600/4-91/002. July 1994. Third Edition.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
PO Box 29
TRENTON, NEW JERSEY 08625-0029
BIOMONITORING PROGRAM

**CHRONIC WHOLE EFFLUENT TOXICITY TESTING
TEST CANCELLATION / RESCHEDULING EVENT FORM**

**THIS FORM IS TO BE COMPLETED AND SUBMITTED TO THE DEPARTMENT DIRECTLY BY THE
LABORATORY CONDUCTING CHRONIC TOXICITY TESTS WHENEVER A CHRONIC TOXICITY TEST
IS PREMATURELY ENDED FOR ANY REASON**

NJPDES No.: _____

FACILITY NAME: _____

LOCATION: _____

CONTACT: _____ PHONE: _____

CANCELLATION EVENT:

LABORATORY NAME / NUMBER: _____

CONTACT: _____

TEST START DATE: ____/____/____ TEST END DATE: ____/____/____

REASON FOR CANCELLATION: _____

EFFLUENT SAMPLING:

SAMPLING POINT / DESCRIPTION OF SAMPLING SITE: _____

SAMPLING INITIATED: DATE: ____/____/____ TIME: _____

SAMPLING ENDED: DATE: ____/____/____ TIME: _____

NUMBER OF EFFLUENT SAMPLES COLLECTED: _____

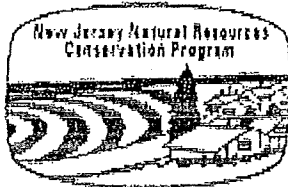
SAMPLE TYPE (GRAB/COMPOSITE): _____

RECEIVED IN LAB BY/FROM: _____

METHOD OF SHIPMENT: _____

(ALL APPLICABLE RAW DATA SHEETS MUST BE ATTACHED)

c: Permittees authorized agent.



For District Use Only

Application Number	293-08 CA1
CERTIFIED BY THE CAPE-ATLANTIC SOIL CONSERVATION DISTRICT	
SEP 5 2008	

APPLICATION FOR SOIL EROSION AND SEDIMENT CONTROL PLAN CERTIFICATION

The enclosed soil erosion and sediment control plan and supporting information are submitted for certification pursuant to the Soil Erosion and Sediment Control Act, Chapter 251, P.L. 1975 as amended (NJSA 4:24-39 et. seq.) An application for certification of a soil erosion and sediment control plan shall include the items listed on the reverse side of this form.

Name of Project SIC / Former Manufactured Gas Plant		Project Location: Municipality Sea Isle City	
Project Street Address corner of 39th Str. & Central		A Block 39.04	Lot 22, 23, & 24
Project Owner(s) Name FirstEnergy Corp./JCP&L Attn: Harry Slagle, Site Remed. Supervisor		Phone # 973-401-8940	Fax # 973-644-4165
Project Owner(s) Street Address (No P.O. Box Numbers) 300 Madison Avenue		City Morristown	State NJ Zip 07962-1911
Total Area of Project (Acres) 0.4	Total Area or Land to be Disturbed (Acres) 0.4	No. Dwelling or other Units N/A	Fee \$ 460.00
Plans Prepared by* E2 PROJECT MANAGEMENT LLC		Phone # 973-299-5200	Fax # 973-299-5059
Street Address 1220 ROUTE 46 WEST		City PARSIPPANY	State NJ Zip 07054

(Engineering related items of the Soil Erosion and Sediment Control Plan MUST be prepared by or under the direction of and be sealed by a Professional Engineer or Architect licensed in the State of New Jersey, in accordance with NJAC 13:27-6.1 et. seq.)

Agent Responsible During Construction Code Environmental Services, Inc.			
Street Address 400 Middlesex Avenue			
City Carteret	State NJ	Zip 07008	Phone 732-969-2700 Fax # 732-969-2701

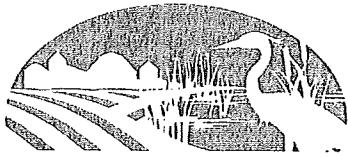
The applicant hereby certifies that all soil erosion and sediment control measures are designed in accordance with current Standards for Soil Erosion and Sediment Control in New Jersey and will be installed in accordance with those Standards and the plan as approved by the Soil Conservation District and agrees as follows:

- To notify the District in writing at least 48 hours in advance of any land disturbance activity. Failure to provide such notification may result in additional inspection fees.
- To notify the District upon completion of the Project (Note: No certificate of occupancy can be granted until a report of compliance is issued by the District.
- To maintain a copy of the certified plan on the project site during construction.
- To allow District agents to go upon project lands for inspection.
- That any conveyance of this project or portion thereof prior to its completion will transfer full responsibility for compliance with the certified plan to any subsequent owners.
- To comply with all terms and conditions of this application and certified plan including payment of all fees prescribed by the district fee schedule hereby incorporated by reference.

The applicant hereby acknowledges that structural measures contained in the Soil Erosion and Sediment Control Plan are reviewed for adequacy to reduce offsite soil erosion and sedimentation and not for adequacy of structural design. The applicant shall retain full responsibility for any damages which may result from any construction activity notwithstanding district certification of the subject soil erosion and sediment control plan. It is understood that approval of the plan submitted with this application shall be valid only for the duration of the initial project approval granted by the municipality. All municipal renewals of this project will require submission and approval by the district. In no case shall the approval extend beyond three and one half years at which time resubmission and certification will be required. Soil Erosion and Sediment Control Plan certification is limited to the controls specified in the plan. It is not authorization to engage in the proposed land use unless such use has been previously approved by the municipality or other controlling agency.

1. Applicant Certification* Signature: <u><i>[Signature]</i></u> Date: <u>9/02/08</u> Applicant Name (Print): <u>Richard J. Abramo, President of Code Env.</u>	3. Plans determined complete: Signature of District Official: <u><i>[Signature]</i></u> Date: <u>9-5-08</u>
2. Receipt of fee, plan and supporting documents is hereby acknowledged: Signature of District Official: <u><i>[Signature]</i></u> Date: <u>9-5-08</u>	4. Plan certified, denied or other actions noted above. Special Remarks: Signature of District Official: <u><i>[Signature]</i></u> Date: <u>9-5-08</u>

*If other than project owner, written authorization of owner must be attached.

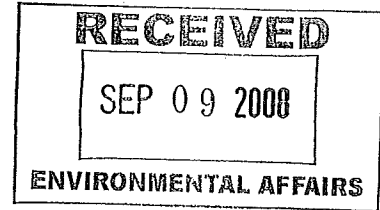


CAPE ATLANTIC
CONSERVATION DISTRICT

6260 Old Harding Highway
Mays Landing, New Jersey 08330
Phone (609) 625-3144 Fax (609) 625-7360
www.capeatlantic.org

September 5, 2008

Harry Slagle
First Energy Corp. /JCP&L
300 Madison Avenue
Morristown, NJ 07962-1911



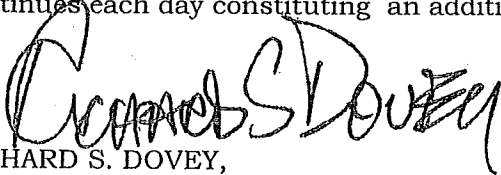
RE: CERTIFICATION – SOIL EROSION AND SEDIMENT CONTROL PLAN
APPLICATION NO. 293-08 PROJECT NAME: SIC/Former Manufactured Gas Plant
BLOCK: 39.04 LOT(S): 22, 23 & 24
MUNICIPALITY: Sea Isle City
PREPARED BY: E2 Project Management, LLC
DATE: 8/19/08 LAST REVISED DATE: 8/20/08

The Cape Atlantic Conservation District has reviewed the above erosion control plan and certifies that the plan is in accordance with the N.J. Erosion and Sediment Control Act, Chapter 251, P.L. 1975.

CERTIFICATION REQUIREMENTS;

1. The District must be notified 48 hours in advance of start of any land disturbance. Use postcard enclosed.
2. A copy of the Erosion Control Plan must be on site.
3. All revisions and municipal renewals of this project will require resubmission and approval by the District. Any conveyance of the project (or portion thereof) will transfer full responsibility for compliance to subsequent owner(s). The District must be notified in writing of any change of ownership.
4. NO Certificates of Occupancy will be issued by a Municipality until a Certificate of Compliance is issued by this Office. Requests for certificates of Compliance must be made **FIVE (5) WORKING DAYS IN ADVANCE**.
5. This approval is limited to the controls specified in this plan. It is not an authorization to engage in the proposed land use unless the Municipality or other controlling agency has previously approved such use.
6. This Certification is valid for three and one-half year.

Failure to follow the provisions of your Plan will result in the filing of a complaint against you under the provisions of N.J.S.A. 2A:58-1 et. Seq., the Penalty Enforcement Law wherein you may be subject to fines of up to \$3,000.00 for each and every day during which said violation continues each day constituting an additional separate and district offense.


RICHARD S. DOVEY,
Chairman

cc: Robert Bowman, Construction Official
Andrew Previti, Twp. Engineer
John Ferrante, Planner



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Municipal Finance and Construction Element

Division of Water Quality

P.O. Box 425

Trenton, New Jersey 08625

Fax: (609) 633-8165

www.state.nj.us/dep/dwq

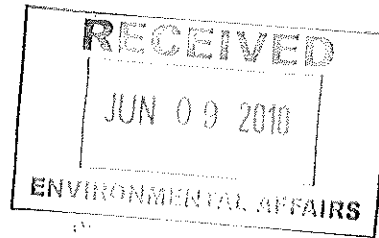
CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

JUN 7 2010

JCP&L Co.
P.O. Box 1911
Morristown, NJ 07962



Re: Treatment Works Approval No. 10-0083
Sea Isle City Former MGP
Sea Isle City, Cape May County

Gentlemen:

There is enclosed a Treatment Works Approval issued to you pursuant to Title 58 of the Revised Statutes of New Jersey and in consideration of your application received on 03/19/2010 signed by Harry J. Slagle, Supv.-Site Remediation, and Christopher Dailey, P.E.

This approval is valid for a period of two (2) years from the issuance date, unless otherwise stated in the attached approval document. This approval shall expire unless building, installing or modifying of the treatment works has begun within the initial approval period. Treatment works approvals may be extended beyond the original two year approval date, to a maximum period of five years from the original issuance date, in accordance with the terms and conditions contained in N.J.A.C. 7:14A-22.12. A time extension request must be received by the Department prior to the permit's expiration date. Time extension requests shall be submitted to the Bureau of Financing and Construction Permits at the address noted in the heading of this letter.

If you have any questions regarding the permit, please contact me by calling (609) 984-4429.

Sincerely,

Nicholas Horiates
Supervising Environmental Specialist
Bureau of Financing and Construction Permits

10-0083

Enclosure

cc: GEI Consultants
City of Sea Isle City

Let's protect our earth



STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
P.O. Box 402, TRENTON, NJ 08625-0402

PERMIT TO CONSTRUCT AND OPERATE* TREATMENT WORKS

**Local Agency approval required prior to operation*

The New Jersey Department of Environmental Protection grants this approval in accordance with your application, attachments accompanying same application, and applicable laws and regulation.

PERMIT NO.	ISSUANCE DATE	EXPIRATION DATE	DESIGN FLOW
10-0083	06/04/2010	06/03/2012	2.8 M.G.D.

NAME AND ADDRESS OF APPLICANT

JCP&L Co.
P.O. Box 1911
Morristown NJ 07962

LOCATION OF ACTIVITY

Sea Isle City
Cape May County

This permit grants permission to:


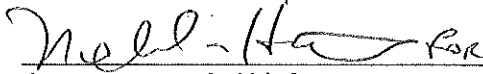
Construct and operate two 21,000 gallon frac tanks each equipped with a venturi air injector system, two 21,000 gallon settling tanks, and three multi-bag sediment filters (total rated capacity @ 2,000 GPM) for treatment of groundwater associated with dewatering operations as part of contaminated soil removal at the Jersey Central Power and Light Sea Isle City former Manufactured Gas Plant facility, located at 210 39th Street, Lots 22, 23 and 24, Block 39.04, in the City of Sea Isle City, Cape May County.

According to the plans entitled:

"Jersey Central Power & Light Company, Remedial Action Drawings, Sea Isle City Former MGP Site, Sea Isle City, New Jersey", prepared by GEI Consultants, dated March 2010, unrevised sheets 1 through 10 of 10.

and according to the specifications entitled:

"Technical Specifications, Water Treatment Works for Remedial Action at Sea Isle City Former Manufactured Gas Plant, 39th Street and Central Avenue, Sea Isle City, New Jersey", signed and sealed by Christopher W. Dailey, P.E., dated March 19, 2010.

 Nicholas Horiates Supervising Environmental Specialist	APPROVED by the Department of Environmental Protection  Gautam R. Patel, Chief Bureau of Financing and Construction Permits
--	---

This permit is also subject to special provisos and general conditions stipulated on the attached page(s) which are agreed to by the permittee upon acceptance of the permit.

PART I

PROVISOS

A. Project Specific Provisos

1. That the Department's review of this industrial treatment works has been limited to the administrative aspects of the application. For the technical aspects of the project, the Department has relied upon the certification by the N.J. Licensed Professional Engineer, Christopher W. Dailey, License No. 41877, responsible for the design of the treatment works, stating:
 - a. The proposed treatment works, as designed, will enable the facility to meet all applicable Federal, State and local effluent limitations, conditions and/or requirements;
 - b. The proposed treatment works or contributing facility will not dilute any portion of its waste stream for the purpose of meeting any applicable NJPDES effluent limitation or condition;
 - c. The permittee currently holds a valid NJPDES permit, General permit authorization, or for indirect dischargers, the applicant is specifically exempted by the Department.
2. That the operation of the treatment works shall be under the supervision of a licensed operator on the first day of operation and continually thereafter in accordance with N.J.S.A. 58:11-64 and amendments thereto. The operator shall meet the requirements for N-2 classification or equivalent, pursuant to the provisions of N.J.A.C. 7:10A-1.
3. That the issuance of this permit does not exempt the applicant of the responsibility to comply with all other permitting and regulatory requirements of the Department's Air Quality Regulation Program.

B. Additional General Industrial TWA Conditions

1. That the storage and/or disposal of any sludge or residue resulting from the operation of the treatment facility approved herein shall be in conformance with the applicable requirements and provisions of N.J.A.C. 7:14A-20 et seq. and/or N.J.A.C. 7:26-1.1 et seq.
2. That no sewage or industrial wastes shall bypass treatment except in conformance with the applicable NJPDES Permit and/or N.J.A.C. 7:14A-2.5, or other applicable regulatory requirement, and that all sewage or industrial wastes arriving at the treatment works to which the approval relates shall be treated by each and every process comprising said treatment works.
3. That no wastewater shall be treated by said works or portion thereof until a professional engineer licensed to practice in this State has certified that the project has been inspected under his/her supervision and constructed according to approved plans and specifications and that the works are adequate to meet all applicable Federal, Interstate and State effluent limitations. If any changes are made, "as-built" plans and specifications shall be submitted and certified by the professional engineer responsible.

4. That for facilities which discharge directly into surface waters and/or ground waters of the State, the permittee shall conform to all effluent and monitoring requirements stipulated in the NJPDES Permit for this facility, or any modification thereof, unless otherwise permitted by the Department. That the discharge of treated effluent into the Ludlam Thorofare through NJPDES outfalls DSN001A and DSN003A shall be in conformance with the NJPDES Permit No. NJG0172936 for this facility.

GENERAL CONDITIONS FOR TREATMENT WORKS APPROVALS**Section A. GENERAL CONDITIONS**

1. This permit is revocable, or subject to modification or change, at any time, when in the judgement of the Department of Environmental Protection of the State of New Jersey such revocation, modification or change shall be necessary.
2. The issuance of this permit shall not be deemed to affect in any way action by the Department of Environmental Protection of the State of New Jersey on any future application.
3. The works, facilities, and/or activities shown by plans and/or other engineering data, which are this day approved, subject to the conditions herewith established, shall be constructed and/or executed in conformity with such plans and/or engineering data and the said conditions.
4. No change in plans or specifications shall be made except with the prior written permission of the Department of Environmental Protection of the State of New Jersey.
5. The granting of this permit shall not be construed to in any way affect the title or ownership of property, and shall not make the Department of Environmental Protection or the State a party in any suit or question of property.
6. This permit does not waive the obtaining of Federal or other State or local government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained.
7. A copy of this permit shall be kept at the work site, and shall be exhibited upon request of any person.
8. No treatment unit or conveyance system may be by-passed which would result in the discharge of untreated sewage into any of the waters of the state.
9. The full responsibility for adequate design, construction and operation of the treatment works, and the full responsibility for successful collection, treatment, and discharge of pollutants shall be on the applicant.
10. The issuance of approval by the Department shall not relieve the applicant of the continuing responsibility for the successful collection, treatment, or discharge of pollutants for the continuing compliance with any applicable effluent limitations, permits, regulations, statute, or other law.
11. Review and approval is based solely upon the information contained in the application and the contents of the engineer's report as certified by the licensed professional engineer as being in compliance with the Department's Rules and Regulations.

Section B. CONSTRUCTION COMPLETION CERTIFICATION

1. Within 30 days of completion of the treatment works approved herein, the permittee shall submit two executed forms, WQM005 Certification of Approval, to the appropriate sewage treatment plant (STP) for their approval prior to operation. One executed copy approved by the receiving STP shall be forwarded to the appropriate Bureau and address noted on the cover page of this approval. Failure to submit the certification within 30 days of completion of the project may be grounds for revocation of the permit. Should partial operation be required prior to completion, approval will be under local jurisdiction.
2. In cases where the project and the receiving treatment facility are one in the same, the WQM005 Certification of Approval form must be submitted to the Bureau and address noted on the cover page of this approval within 30 days of completion of the treatment works. Failure to submit the certification within this time period may be grounds for revocation of the permit.

Section C. PERMIT EXPIRATION AND EXTENSIONS OF TIME

1. This permit shall remain in force for a period of only two years from the date of approval unless stated otherwise within the special provisos, or construction of said works has begun within the approved time frame. Interruption of construction of said works for a period of more than two years may serve as a basis for permit revocation.
2. Treatment works approvals may be extended beyond the original two year approval date, to a maximum of five years from the original issuance date, in accordance with the terms and conditions in N.J.A.C. 7:14A-22.12, unless stated otherwise within the special provisos. A time extension request must be received by the Department prior to the permit's expiration date. Requests must be submitted to the Bureau and address noted on the cover page.

Section D. ADJUDICATORY HEARING REQUESTS

1. Pursuant to N.J.A.C. 7:1C-1.9 et seq., any interested person who considers himself or herself aggrieved by this action, may, within 10 days of publication of notice of the decision in the DEP Bulletin, request a hearing by addressing a written request for such hearing to the:

Office of Legal Affairs
Attention: Adjudicatory Hearing Requests
Department of Environmental Protection
P.O. Box 402
Trenton, NJ 08625-0402

Such a request should include a completed Administrative Hearing Request Checklist and Tracking form for Approvals or Denials (enclosed herein for Denials). This form is required, as DEP is the transmitting agency to the Office of Administrative Law, pursuant to N.J.A.C. 1:1-8.2.

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER QUALITY
CN425
TRENTON, N.J. 08625-0425
TREATMENT WORKS APPROVAL PROGRAM

CERTIFICATION FOR APPROVAL BY PROFESSIONAL ENGINEER

Within 30 days after the construction of the treatment works has been completed, the permittee shall submit two executed copies of this form to the appropriate receiving wastewater treatment plant for their approval prior to operation. One executed copy approved by the receiving wastewater treatment plant shall be forwarded to the Division of Water Quality at the above noted address.

Treatment Works Approval Permit No.: _____

Name of Permittee: _____

Location of Activity: _____
(Municipality and County)

I hereby certify the treatment works identified above has been inspected and tested under my supervision. Construction was witnessed as required in the specifications.

The project was constructed in substantial conformance with the approved plans and specifications. Any minor exceptions to the approved plans and/or specifications are attached hereto with the approval of the permittee.

Signature of Certifying Engineer

Name and Date
(Print or Type)

Professional Engineer's
Embossed Seal

RECEIVING WASTEWATER TREATMENT PLANT ACKNOWLEDGMENT	
Name of Wastewater Treatment Plant	_____
Acknowledgment by Wastewater Treatment Plant Owner*	_____
	(signature and date)

*Person authorized to sign section C of the NJDEP's WQM-603 Consent Form

Appendix F

Monitoring Well Permits, Form As, and Well Abandonment Documentation

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROBERT C KLOCKNER, JOURNEYMAN LICENSE # 0013757

Permit Issued to: MORETRENCH AMERICAN CORP

Company Address: 100 STICKLE AVE PO BOX 316 ROCKAWAY, NJ 07866

PROPERTY OWNER

Name: KENNETH SEBOROWSKI

Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 33 Block: 39.04

Easting (X): 437419 Northing (Y): 118282

Local ID: DW-4

Coordinate System: NJ State Plane (NAD83) - USFEET

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: DEWATERING

Other Use(s): _____

Diameter (in.): 8

Regulatory Program _____

Depth (ft.): 75

Requiring Wells/Borings: _____

Pump Capacity (gpm): 300

Case ID Number: _____

Drilling Method: Mud Rotary

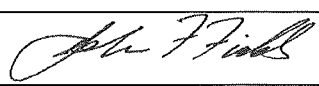
Deviation Requested: N

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 5, 2010
Expiration Date: November 5, 2011

Approved by the authority of:
Bob Martin
Commissioner


John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed. [N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a)1i)]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit. [N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROBERT C KLOCKNER, JOURNEYMAN LICENSE # 0013757

Permit Issued to: MORETRENCH AMERICAN CORP

Company Address: 100 STICKLE AVE PO BOX 316 ROCKAWAY, NJ 07866

PROPERTY OWNER

Name: KENNETH SEBOROWSKI

Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 33 Block: 39.04

Easting (X): 437480 Northing (Y): 118350

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: IM-1 (I9)

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INCLINOMETER

Other Use(s): _____

Diameter (in.): 2.75

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 65

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

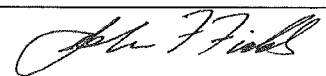
Approval Date: November 16, 2010

Expiration Date: November 16, 2011

Approved by the authority of:

Bob Martin

Commissioner



John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed. [N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit. [N.J.A.C. 7:9D-1]
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The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
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Company Address: 100 STICKLE AVE PO BOX 316 ROCKAWAY, NJ 07866

PROPERTY OWNER

Name: KENNETH SEBOROWSKI

Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 34 Block: 39.04

Easting (X): 437451 Northing (Y): 118324

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: IM-2

(18)

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INCLINOMETER

Other Use(s): _____

Diameter (in.): 2.75

Regulatory Program _____

Requiring Wells/Borings: _____

Depth (ft.): 65

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments: _____

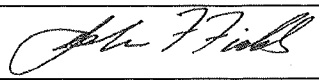
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 16, 2010

Expiration Date: November 16, 2011

Approved by the authority of:

Bob Martin
Commissioner


John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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WELL PERMIT

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Certifying Driller: ROBERT C KLOCKNER, JOURNEYMAN LICENSE # 0013757

Permit Issued to: MORETRENCH AMERICAN CORP

Company Address: 100 STICKLE AVE PO BOX 316 ROCKAWAY, NJ 07866

PROPERTY OWNER

Name: KENNETH SEBOROWSKI

Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue

City: Morristown

State: New Jersey

Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May

Municipality: Sea Isle City

Lot: 34

Block: 39.04

Easting (X): 437469 Northing (Y): 118319

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: IM-3

(I7)

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INCLINOMETER

Other Use(s): _____

Diameter (in.): 2.75

Regulatory Program _____

Requiring Wells/Borings: _____

Depth (ft.): 65

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments: _____

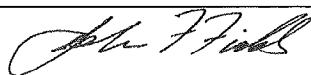
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 16, 2010

Expiration Date: November 16, 2011

Approved by the authority of:

Bob Martin
Commissioner


John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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Certifying Driller: ROBERT C KLOCKNER, JOURNEYMAN LICENSE # 0013757

Permit Issued to: MORETRENCH AMERICAN CORP

Company Address: 100 STICKLE AVE PO BOX 316 ROCKAWAY, NJ 07866

PROPERTY OWNER

Name: KENNETH SEBOROWSKI

Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue

City: Morristown

State: New Jersey

Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May

Municipality: Sea Isle City

Lot: 33

Block: 39.04

Easting (X): 437478 Northing (Y): 118348

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-1

(P9D)

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 60

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments: _____

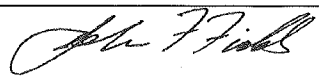
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 16, 2010

Expiration Date: November 16, 2011

Approved by the authority of:

Bob Martin
Commissioner


John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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Permit Issued to: MORETRENCH AMERICAN CORP
Company Address: 100 STICKLE AVE PO BOX 316 ROCKAWAY, NJ 07866

PROPERTY OWNER

Name: KENNETH SEBOROWSKI
Organization: Jersey Central Power & Light Co.
Address: 300 Madison Avenue
City: Morristown **State:** New Jersey **Zip Code:** 07962

PROPOSED WELL LOCATION

Facility Name: Former MGP Site
Address: Central Avenue & 39th Street
County: Cape May **Municipality:** Sea Isle City **Lot:** 33 **Block:** 39.04

Easting (X): 437451 **Northing (Y):** 118322
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-2 (P&D)

SITE CHARACTERISTICS

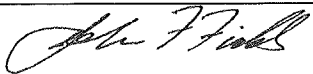
PROPOSED CONSTRUCTION

WELL USE: <u>PIEZOMETER</u>	Other Use(s): _____
Diameter (in.): <u>2</u>	Regulatory Program
Depth (ft.): <u>60</u>	Requiring Wells/Borings: _____
Pump Capacity (gpm): <u>0</u>	Case ID Number: _____
Drilling Method: <u>Mud Rotary</u>	Deviation Requested: <u>N</u>
Attachments: _____	

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 16, 2010
Expiration Date: November 16, 2011

Approved by the authority of:
Bob Martin
Commissioner


John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS

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Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue

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State: New Jersey

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Local ID: PZ-3

(P7D)

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s): _____

Diameter (in.): 2

Regulatory Program

Requiring Wells/Borings: _____

Depth (ft.): 60

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 16, 2010

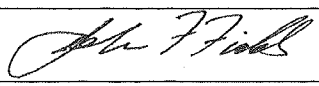
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Approved by the authority of:

Bob Martin

Commissioner

Well Permit -- Page 1 of 2


John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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Name: KENNETH SEBOROWSKI
Organization: Jersey Central Power & Light Co.
Address: 300 Madison Avenue
City: Morristown **State:** New Jersey **Zip Code:** 07962

PROPOSED WELL LOCATION

Facility Name: Former MGP Site
Address: Central Avenue & 39th Street
County: Cape May **Municipality:** Sea Isle City **Lot:** 33 **Block:** 39.04

Easting (X): 437451 **Northing (Y):** 118326
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-4 (PBS)

SITE CHARACTERISTICS

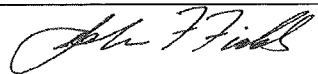
PROPOSED CONSTRUCTION

WELL USE: <u>PIEZOMETER</u>	Other Use(s): _____
Diameter (in.): <u>2</u>	Regulatory Program
Depth (ft.): <u>25</u>	Requiring Wells/Borings: _____
Pump Capacity (gpm): <u>0</u>	Case ID Number: _____
Drilling Method: <u>Mud Rotary</u>	Deviation Requested: <u>N</u>
Attachments: _____	

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 16, 2010
Expiration Date: November 16, 2011

Approved by the authority of:
Bob Martin
Commissioner


John Fields, Acting Bureau Chief
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WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
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For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: ROBERT C KLOCKNER, JOURNEYMAN LICENSE # 0013757

Permit Issued to: MORETRENCH AMERICAN CORP

Company Address: 100 STICKLE AVE PO BOX 316 ROCKAWAY, NJ 07866

PROPERTY OWNER

Name: KENNETH SEBOROWSKI

Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 33 Block: 39.04

Easting (X): 437470 Northing (Y): 118323
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-5

(P7S)

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s): _____

Diameter (in.): 2

Regulatory Program _____

Requiring Wells/Borings: _____

Depth (ft.): 25

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

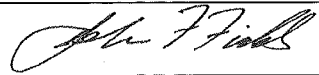
Drilling Method: Mud Rotary

Attachments: _____

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 16, 2010
Expiration Date: November 16, 2011

Approved by the authority of:
Bob Martin
Commissioner


John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
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For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
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If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

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Permit Issued to: MORETRENCH AMERICAN CORP

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Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 33 Block: 39.04

Easting (X): 437482 Northing (Y): 118352

Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-6

(P9S)

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s): _____

Diameter (in.): 2

Regulatory Program _____

Requiring Wells/Borings: _____

Depth (ft.): 25

Case ID Number: _____

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments: _____

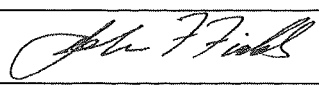
SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 16, 2010

Expiration Date: November 16, 2011

Approved by the authority of:

Bob Martin
Commissioner


John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

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This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]



GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

DW-4

GROUND SURFACE ELEVATION (FT): _____ LOCATION: 211 40th Street
 NORTHING: 118282.75 EASTING: 437363.56 TOTAL DEPTH (FT): 75.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC IN.			
0					NARROWLY GRADED GRAVELLY SAND WITH SILT (SP-SM); moist, brown. WIDELY GRADED SAND WITH GRAVEL (SW); moist, light brown.	
5					SILTY SAND (SM); moist, gray.	
10					WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); wet, gray.	
15					SILTY SAND (SM); wet, dark gray. ORGANIC SILT (OL); moist, gray.	
20					CLAY (CL); wet, light brown.	
25					SAND WITH SILT (SM); saturated, brown and light gray.	
30					CLAY (CL); wet, brown.	
35					SAND WITH SILT (SM); moist, dark gray.	
40						
45						
50					WIDELY GRADED SAND (SW); wet, gray.	
55						
60					WIDELY GRADED SAND WITH SILT (SP-SM); moist, light gray and brown.	
65						
70						
75					Bottom of borehole at 75.0 feet.	

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	ppm = PARTS PER MILLION	NLO = NAPHTHALENE LIKE ODOR	CrLO = CREOSOTE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	IN. = INCHES	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)	FT. = FEET	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	



GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

17

GROUND SURFACE ELEVATION (FT): _____ LOCATION: 211 40th Street
 NORTHING: 118259.69 EASTING: 437403.73 TOTAL DEPTH (FT): 65.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS	
	TYPE and NO.	PEN FT.	REC IN.				
0					SILTY SAND (SM); moist, brown.		
5					WIDELY GRADED SAND WITH SILT AND GRAVEL (SW-SM); wet, brown and gray. SILTY SAND (SM); wet, gray.		
10					WIDELY GRADED SAND WITH GRAVEL (SW); moist, light gray. ORGANIC SILT (OL); wet, gray.		
15							
20					CLAY (CL); moist, brown.		
25					SAND WITH SILT (SM); moist, light gray and brown.		
30					CLAY (CL); moist, brown.		
35					SAND WITH SILT (SM); wet, dark gray.		
40							
45							
50					WIDELY GRADED SAND (SW); wet, gray.		
55							
60							
65					Bottom of borehole at 65.0 feet.		

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
 REC = RECOVERY LENGTH OF SAMPLE
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)

ppm = PARTS PER MILLION
 IN. = INCHES
 FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
 PLO = PETROLEUM LIKE ODOR
 TLO = TAR LIKE ODOR
 CLO = CHEMICAL LIKE ODOR
 ALO = ASPHALT LIKE ODOR

CrLO = CREOSOTE LIKE ODOR
 OLO = ORGANIC LIKE ODOR
 SLO = SULFUR LIKE ODOR
 MLO = MUSTY LIKE ODOR



GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

18

GROUND SURFACE ELEVATION (FT): _____ LOCATION: 218 39th Street
 NORTHING: 118359.39 EASTING: 437381.04 TOTAL DEPTH (FT): 65.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS	
	TYPE and NO.	PEN FT.	REC IN.				
0					WIDELY GRADED SAND WITH SILT (SW-SM); wet, brown.		
5					NARROWLY GRADED SAND (SP); wet, brown.		
10					WIDELY GRADED SAND WITH SILT (SW-SM); wet, gray.		
15					ORGANIC SILT (OL); moist, gray.		
20					CLAY (CL); moist, brown.		
25					SAND WITH SILT (SM); moist, brown.		
30					CLAY (CL); moist, brown.		
35					SAND WITH SILT (SM); wet, gray.		
40							
45							
50					WIDELY GRADED SAND (SW); wet, gray.		
55							
60							
65					Bottom of borehole at 65.0 feet.		

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

NOTES:

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GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

19

GROUND SURFACE ELEVATION (FT): _____ LOCATION: _____
 NORTHING: 118387.22 EASTING: 437432.04 TOTAL DEPTH (FT): 65.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS	
	TYPE and NO.	PEN FT.	REC IN.				
0					WIDELY GRADED SAND WITH SILT (SP-SM); moist, brown. WIDELY GRADED SAND (SW); saturated, dark gray.		
5					NARROWLY GRADED SAND (SP); moist, light gray. NARROWLY GRADED SAND WITH SILT (SP-SM); moist, gray.		
10					ORGANIC SILT (OL); saturated, gray, Plant fibers throughout, increasing with depth, Meadowmat.		
15					WIDELY GRADED SAND (SP-SM); wet, light gray and light brown.		
20							
25					CLAY (CL); wet, gray.		
30					WIDELY GRADED SILTY SAND (SP-SM); moist, brown.		
35							
40							
45					GRAVELLY SAND (SW); saturated, dark brown.		
50							
55							
60					SAND WITH CLAY AND GRAVEL (SW); wet, dark brown.		
65					Bottom of borehole at 65.0 feet.		

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

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PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	ppm = PARTS PER MILLION	NLO = NAPHTHALENE LIKE ODOR	CrLO = CREOSOTE LIKE ODOR
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GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

P-7D

GROUND SURFACE ELEVATION (FT): _____ LOCATION: 211 40th Street
 NORTHING: 118262.44 EASTING: 437399.5 TOTAL DEPTH (FT): 60.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC IN.			
0					SILTY SAND (SM); moist, brown.	
5					SAND WITH SILT AND GRAVEL (SW-SM); wet, brown and gray.	
10					SILTY SAND (SM); wet, gray. SAND WITH GRAVEL (SW); wet, light gray.	
15					ORGANIC SILT (OL); moist, gray.	
20					CLAY (CL); moist, brown.	
25					SAND WITH SILT (SM); wet, light brown and gray.	
30					CLAY (CL); moist, brown.	
35					SAND WITH SILT (SM); wet, dark gray.	
40						
45						
50					WIDELY GRADED SAND (SW); wet, gray.	
55						
60					Bottom of borehole at 60.0 feet.	

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
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GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

P-7S

GROUND SURFACE ELEVATION (FT): _____ LOCATION: 211 40th Street
 NORTHING: 118257.01 EASTING: 437407.85 TOTAL DEPTH (FT): 20.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC IN.			
0					SILTY SAND (SM); brown and gray.	
5					SILTY SAND (SM); saturated, gray.	
					SILT (ML); saturated, brown olive.	
10					SILTY SAND (SM); saturated, gray.	
					SILT (ML); saturated, brown olive.	
15					ORGANIC SILT (OL); saturated, gray.	
20					Bottom of borehole at 20.0 feet.	

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	ppm = PARTS PER MILLION	NLO = NAPHTHALENE LIKE ODOR	CrLO = CREOSOTE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	IN. = INCHES	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)	FT. = FEET	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	



GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

P-8D

GROUND SURFACE ELEVATION (FT): _____ LOCATION: 218 39th Street
 NORTHING: 118363.43 EASTING: 437383.66 TOTAL DEPTH (FT): 60.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC IN.			
0					WIDELY GRADED SAND WITH SILT (SW-SM); wet, brown.	
5					NARROWLY GRADED SAND (SP); wet, light brown.	
10					WIDELY GRADED SAND WITH SILT (SW-SM); wet, gray.	
15					ORGANIC SILT (OL); moist, gray.	
20					CLAY (CL); moist, dark brown.	
25					SAND WITH SILT (SM); wet, brown and gray.	
30					CLAY (CL); moist, light brown.	
35					SAND WITH SILT (SM); wet, gray.	
40						
45						
50					WIDELY GRADED SAND (SW); wet, gray.	
55						
60					Bottom of borehole at 60.0 feet.	

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
 REC = RECOVERY LENGTH OF SAMPLE
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)

ppm = PARTS PER MILLION
 IN. = INCHES
 FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
 PLO = PETROLEUM LIKE ODOR
 TLO = TAR LIKE ODOR
 CLO = CHEMICAL LIKE ODOR
 ALO = ASPHALT LIKE ODOR

CrLO = CREOSOTE LIKE ODOR
 OLO = ORGANIC LIKE ODOR
 SLO = SULFUR LIKE ODOR
 MLO = MUSTY LIKE ODOR



GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

P-8S

GROUND SURFACE ELEVATION (FT): _____ LOCATION: 218 39th Street
 NORTHING: 118355.21 EASTING: 437378.34 TOTAL DEPTH (FT): 20.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC IN.			
0					WIDELY GRADED SAND WITH SILT (SW-SM); wet, light brown.	
5					NARROWLY GRADED SAND (SP); wet, brown.	
10					WIDELY GRADED SAND WITH SILT (SW-SM); wet, dark gray. ORGANIC SILT (OL); moist, light gray.	
15					CLAY (CL); moist, brown.	
20					Bottom of borehole at 20.0 feet.	

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
 REC = RECOVERY LENGTH OF SAMPLE
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)

ppm = PARTS PER MILLION
 IN. = INCHES
 FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
 PLO = PETROLEUM LIKE ODOR
 TLO = TAR LIKE ODOR
 CLO = CHEMICAL LIKE ODOR
 ALO = ASPHALT LIKE ODOR

CrLO = CREOSOTE LIKE ODOR
 OLO = ORGANIC LIKE ODOR
 SLO = SULFUR LIKE ODOR
 MLO = MUSTY LIKE ODOR



GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

P-9D

GROUND SURFACE ELEVATION (FT): _____ LOCATION: 218 39th Street
 NORTHING: 118389.9 EASTING: 437427.86 TOTAL DEPTH (FT): 60.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC IN.			
0					WIDELY GRADED SAND WITH SILT (SP-SM); moist, brown. NARROWLY GRADED SAND (SW); moist, light brown.	
5					WIDELY GRADED SAND (SW); saturated, light gray. NARROWLY GRADED SAND (SP); saturated, gray. NARROWLY GRADED SAND WITH SILT (SP-SM); wet, gray.	
10					ORGANIC SILT (OL); wet, gray, Plant fibers throughout, increasing with depth, Meadowmat.	
15					SAND (SP-SM); moist, gray and light brown.	
20						
25					CLAY (CL); moist, dark gray.	
30					SILTY SAND (SP-SM); moist, light brown.	
35						
40						
45					GRAVELLY SAND (SW); saturated, brown.	
50						
55					SAND WITH CLAY AND GRAVEL (SW); wet, brown.	
60					Bottom of borehole at 60.0 feet.	

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL	ppm = PARTS PER MILLION	NLO = NAPHTHALENE LIKE ODOR	CrLO = CREOSOTE LIKE ODOR
REC = RECOVERY LENGTH OF SAMPLE	IN. = INCHES	PLO = PETROLEUM LIKE ODOR	OLO = ORGANIC LIKE ODOR
PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)	FT. = FEET	TLO = TAR LIKE ODOR	SLO = SULFUR LIKE ODOR
		CLO = CHEMICAL LIKE ODOR	MLO = MUSTY LIKE ODOR
		ALO = ASPHALT LIKE ODOR	



GEI Consultants

CLIENT: JCP&L
 PROJECT NAME: Sea Isle City Former MGP
 CITY/STATE: Sea Isle City, New Jersey
 GEI PROJECT NUMBER: 013660

BORING LOG

PAGE
1 of 1

P-9S

GROUND SURFACE ELEVATION (FT): _____ LOCATION: 218 39th Street
 NORTHING: 118384.52 EASTING: 437436.26 TOTAL DEPTH (FT): 20.0
 DRILLED BY: Moretrench DATUM VERT. / HORZ.: NAVD 1988 / NJ State Plane NAD 1983
 LOGGED BY: _____ DATE START / END: 11/5/2010
 DRILLING DETAILS: Mud rotary
 WATER LEVEL DEPTHS (FT): Water level not measured.

DEPTH FT.	SAMPLE INFO			STRATA	SOIL / BEDROCK DESCRIPTION	WELL CONSTRUCTION DETAILS
	TYPE and NO.	PEN FT.	REC IN.			
0					NARROWLY GRADED SAND WITH SILT (SP-SM); moist, light brown.	
5					WIDELY GRADED SAND WITH SILT (SW-SM); moist, brown. SILTY SAND (SM); saturated, gray.	
10					SILT (ML); wet, gray.	
15					ORGANIC SILT (OL); wet, light brown.	
20					Bottom of borehole at 20.0 feet.	

ENVIRONMENTAL BORING LOG SIC COMBINED.GPJ GEI CONSULTANTS.GDT 8/18/11

NOTES:

PEN = PENETRATION LENGTH OF SAMPLER OR CORE BARREL
 REC = RECOVERY LENGTH OF SAMPLE
 PID = PHOTOIONIZATION DETECTOR READING (JAR HEADSPACE)

ppm = PARTS PER MILLION
 IN. = INCHES
 FT. = FEET

NLO = NAPHTHALENE LIKE ODOR
 PLO = PETROLEUM LIKE ODOR
 TLO = TAR LIKE ODOR
 CLO = CHEMICAL LIKE ODOR
 ALO = ASPHALT LIKE ODOR

CrLO = CREOSOTE LIKE ODOR
 OLO = ORGANIC LIKE ODOR
 SLO = SULFUR LIKE ODOR
 MLO = MUSTY LIKE ODOR

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: CENTRAL AVENUE & 39TH STREET / (P4A) FORMER MANUFACTURED GAS PLANT

County: Cape May Municipality: Sea Isle City Lot: 22, 23 & 24 Block: 39.04

Easting (X): 437482 Northing (Y): 118320
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** December 22, 2010

WELL USE: MONITORING

Other Use(s): _____

Local ID: P4A

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 20

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	0.5	2	PVC	
Screen	0.5	20	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20	2	0	3	45	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: CENTRAL AVENUE & 39TH STREET / (P4B) FORMER MANUFACTURED GAS PLANT

County: Cape May Municipality: Sea Isle City Lot: 22, 23 & 24 Block: 39.04

Easting (X): 437478 Northing (Y): 118313
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** December 22, 2010

WELL USE: MONITORING

Other Use(s): _____

Local ID: P4B

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 55

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	35	2	PVC	
Screen	35	55	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	55	2	0	6	100	9
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: CENTRAL AVENUE & 39TH STREET / (12) FORMER MANUFACTURED PLANT

County: Cape May Municipality: Sea Isle City Lot: 22, 23 & 24 Block: 39.04

Easting (X): 437302 Northing (Y): 118418
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** December 22, 2010

WELL USE: INCLINOMETER

Other Use(s): _____

Local ID: I-4

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 63

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	67	2.75	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	67	2.75	0	12	160	21
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: CENTRAL AVENUE & 39TH STREET / (I3) FORMER MANUFACTURED PLANT

County: Cape May Municipality: Sea Isle City Lot: 22, 23 & 24 Block: 39.04

Easting (X): 437398 Northing (Y): 118405
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** April 14, 2011

WELL USE: INCLINOMETER

Other Use(s): _____

Local ID: I-5

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 63

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	67	2.75	PVC	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	67	2.75	0	12	160	21
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

Robert C Klockner
JOURNEYMAN
Sealing Driller: LICENSE # 0013757

MORETRENCH AMERICAN CORP
100 STICKLE AVE
Company: Rockaway (Morris), NJ 07866

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: CENTRAL AVENUE & 39TH STREET / (P6A) FORMER MANUFACTURED PLANT

County: Cape May Municipality: Sea Isle City Lot: 22, 23 & 24 Block: 39.04

Easting (X): 437522 Northing (Y): 118522
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** April 14, 2011

WELL USE: MONITORING

Other Use(s): _____

Local ID: P5A

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 20

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	0.5	2	PVC	
Screen	0.5	20	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20	2	0	3	50	4
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: CENTRAL AVENUE & 39TH STREET / (P6B) FORMER MANUFACTURED PLANT

County: Cape May Municipality: Sea Isle City Lot: 22, 23 & 24 Block: 39.04

Easting (X): 437529 Northing (Y): 118323
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** April 14, 2011

WELL USE: MONITORING

Other Use(s): _____

Local ID: P5B

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 55

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	35	2	PVC	
Screen	35	55	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	55	2	0	6	100	9
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 33 Block: 39.04

Easting (X): 437423 Northing (Y): 118317
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** April 14, 2011

WELL USE: PIEZOMETER

Other Use(s): _____

Local ID: PZ-4 **(P85)**

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 20

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	0	2	Other	
Screen	0	20	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20	2	0	2	40	3.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 33 Block: 39.04

Easting (X): 437429 Northing (Y): 118325
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** April 14, 2011

WELL USE: PIEZOMETER

Other Use(s): _____

Local ID: PZ-2 (P&D)

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 55

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	35	2	PVC	
Screen	35	55	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	55	2	0	6	102	9
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 33 Block: 39.04

Easting (X): 437470 Northing (Y): 118359
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** April 14, 2011

WELL USE: PIEZOMETER

Other Use(s): _____

Local ID: PZ-1 **(P9D)**

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 55

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	35	2	PVC	
Screen	35	55	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	55	2	0	6	102	9
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 34 Block: 39.04

Easting (X): <u>437425</u> Northing (Y): <u>118321</u>
Coordinate System: <u>NJ State Plane (NAD83) - USFEET</u>

DATE WELL DECOMMISSIONED: April 14, 2011

WELL USE: INCLINOMETER

Other Use(s): _____

Local ID: IM-2 **(18)**

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 70

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	70	2.76	Other	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	70	2.76	0	13	250	22
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 33 Block: 39.04

Easting (X): <u>437474</u> Northing (Y): <u>118357</u>
Coordinate System: <u>NJ State Plane (NAD83) - USFEET</u>

DATE WELL DECOMMISSIONED: April 14, 2011

WELL USE: INCLINOMETER

Other Use(s): _____

Local ID: IM-1 **(I9)**

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 70

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	70	2.76	Other	
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	70	2.76	0	13	250	22
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KENNETH SEBOROWSKI

Company/Organization: Jersey Central Power & Light Co.

Address: 300 Madison Avenue Morristown, New Jersey 07962

WELL LOCATION: Former MGP Site

Address: Central Avenue & 39th Street

County: Cape May Municipality: Sea Isle City Lot: 33 Block: 39.04

Easting (X): 437478 Northing (Y): 118355
Coordinate System: NJ State Plane (NAD83) - USFEET

**DATE WELL
DECOMMISSIONED:** April 14, 2011

WELL USE: PIEZOMETER

Other Use(s): _____

Local ID: PZ-6 (P95)

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 20

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number: _____

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	0	2	Other	
Screen	0	20	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in.)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20	2	0	2	40	3.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: _____

Obstruction Type: _____

Authorization Number: _____

Alternative Decomm. Method? No

Authorization Date: _____

Method Used _____

ATTACHMENTS: _____

Appendix G

Weekly Air Monitoring Reports

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	November 1-5, 2010
Date Submitted:	November 29, 2010
Submitted by:	Ed Pearl

Operations Summary

Driving sheets in area 2. Materials being delivered to site. Workers cutting/ welding sheets. Ed Pearl working on site.

Day 1	No Monitoring
Day 2	Four stations in Area 2
Day 3	Four stations in area 2
Day 4	No monitoring due to heavy rain.
Day 5	Four stations in area 2

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	N/A	0 - 94	14 - 36	N/A	9 - 38
Station-2		4 - 43	17 - 68		0 - 58
Station-3		12 - 98	12 - 35		0 - 17
Station-4		0 - 156	1 - 21		3 - 25

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	N/A	0 - 0	0 - 0	N/A	0 - 0
Station-2		0 - 0	0 - 0		0 - 0
Station-3		0 - 0	0 - 0		0 - 0
Station-4		0 - 0	0 - 0		0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	N/A	35 - 50	42 - 55	N/A	46.2 - 55.5
Rel. Humidity		41.5 - 75.2	47.8 - 86		57.2 - 90.9
Bar. Pressure		1.0311	1.0237		1.0023
Prevailing Wind Direction		NNW	SSW		SSW
Wind Speed		2.4 - 5.3	1.7 - 6		1.1 - 8.7
Comments					

Exceedences

None to report.

Date/Time	Station/Location	Measured Value	Response/Explanation

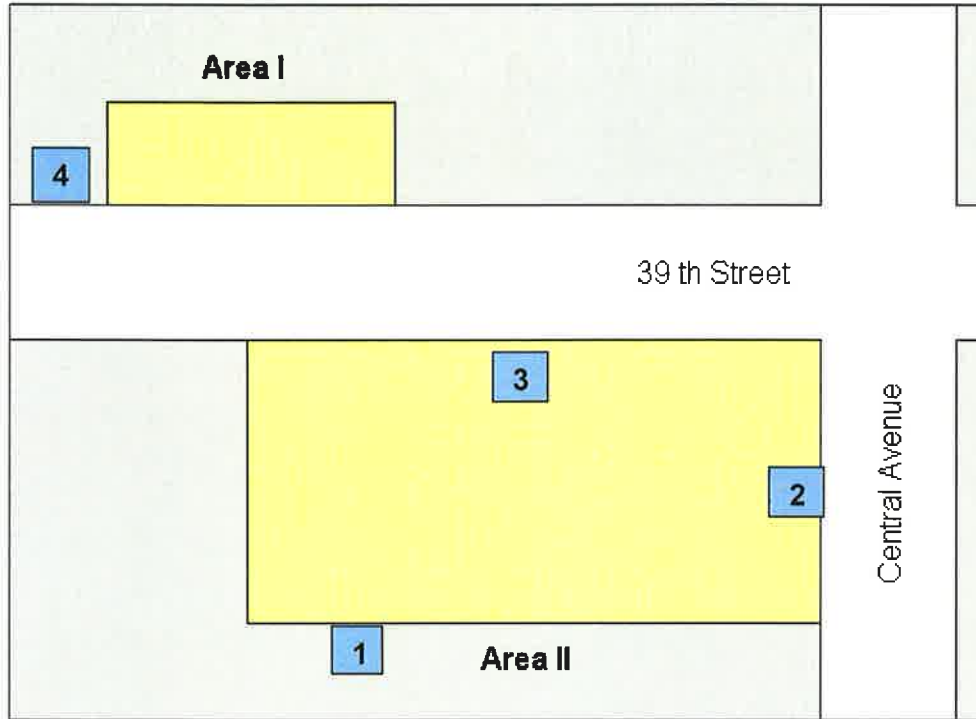
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – November 1-5, 2010



Comments:

Driving sheets Area #2.

**Weekly Report
 Perimeter Air Monitoring**

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	November 8-12, 2010
Date Submitted:	November 29, 2010
Submitted by:	Ed Pearl

Operations Summary

Driving sheets in area 2. Materials being delivered to site. Workers cutting/ welding sheets. Ed Pearl working on site day 1,4,5. Wendell Clark on site Day 2,3.

Day 1	Four stations in area 2
Day 2	Four stations in Area 2
Day 3	Four stations in area 2
Day 4	Four stations in area 2
Day 5	Four stations in area 2

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 70	16 - 659	7 - 123	13 - 58	0 - 323
Station-2	0 - 608	12 - 37	15 - 297	0 - 114	0 - 792
Station-3	0 - 102	0 - 201	0 - 640	0 - 424	28 - 286
Station-4	22 - 305	0 - 49	22 - 104	14 - 548	13 - 193

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	- .4 - 0	0 - 0	0 - 0
Station-2	0 - 0	0 - 0	- .5 - 0	0 - 0	0 - 0
Station-3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	40 - 55	42 - 58	48 - 55	39.3 - 49.8	38.6 - 56.6
Rel. Humidity	35.4 - 62.7	43 - 71.8	60.6 - 76.6	59 - 72.4	43.1 - 65.8
Bar. Pressure	1.0049	1.0095	1.0164	1.0267	1.0270
Prevailing Wind Direction	WSW	NW	NNW	N	NNW
Wind Speed	4.2 - 24	4.6 - 10.8	1.9 - 12.7	4.8 - 11.6	1 - 10.9
Comments					

Exceedences

None to report.

Date/Time	Station/Location	Measured Value	Response/Explanation

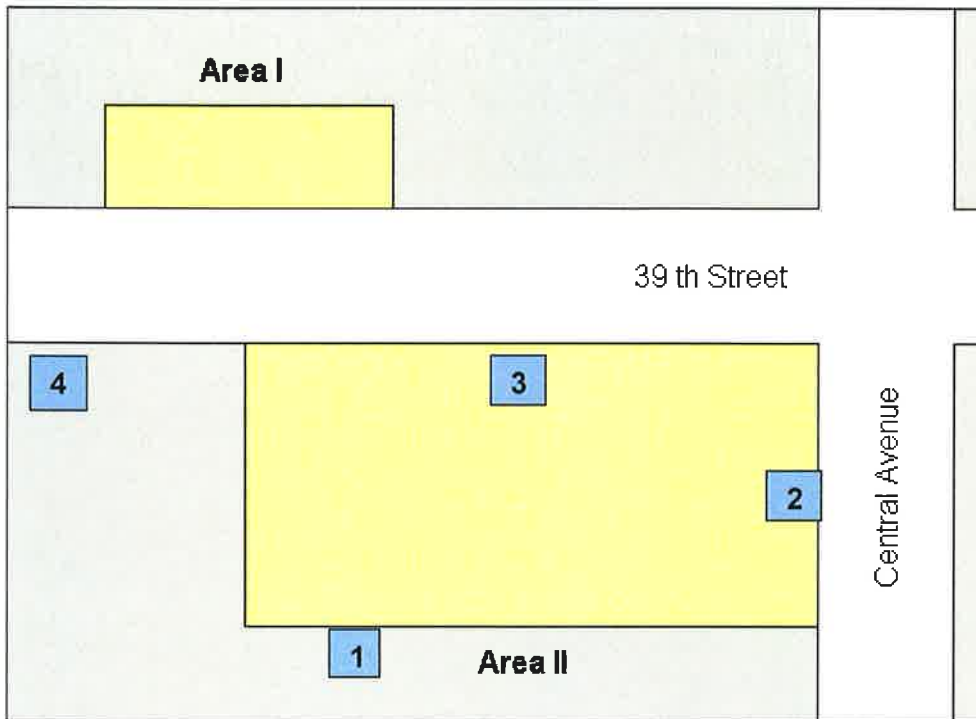
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.
Day 3 VOC monitor reading negative #, recalibrated, everything running OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – November 8-12, 2010



Comments:

Driving sheets Area #2.

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	November 15-19, 2010
Date Submitted:	December 1, 2010
Submitted by:	Ed Pearl

Operations Summary

Driving sheets in area 2 and area 1. More trench drilling and setting wells. Cutting/welding sheets. Receiving deliveries. Electricians on site. Verizon moving lines at 213.

Day 1	Four stations in area 2
Day 2	Four stations in Area 2
Day 3	Four stations in area 2
Day 4	Two stations in area 2, Two stations in area 1.
Day 5	Two stations in area 2, Two stations in area 1.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	20 - 334	0 - 188	0 - 34	0 - 189	20 - 37
Station-2	17 - 129	0 - 44	0 - 773	0 - 518	0 - 683
Station-3	13 - 435	0 - 97	18 - 133	37 - 307	0 - 342
Station-4	0 - 541	0 - 27	0 - 147	0 - 234	14 - 190

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 89 *
Station-3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	-.2 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	49.6 - 53.7	52.8 - 57.5	56.4 - 61.5	45.4 - 58.1	38.4 - 49.5
Rel. Humidity	86.3- 94.4	79.9 - 89.9	41.8 - 83.7	44.4 - 72.7	43.8 - 81.9
Bar. Pressure	1.0145	1.0167	1.0012	1.0183	1.0239
Prevailing Wind Direction	SSE	NNW	WSW	WNW	WNW
Wind Speed	7.4 - 20.5	2.5 - 18.7	3.1 - 9.4	1.4 - 8.4	2.2- 15.5
Comments					

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
11/19/10 7:20 AM	Station 2	89 PPM	VOC monitor needed recalibration. Not caused by intrusive activities.

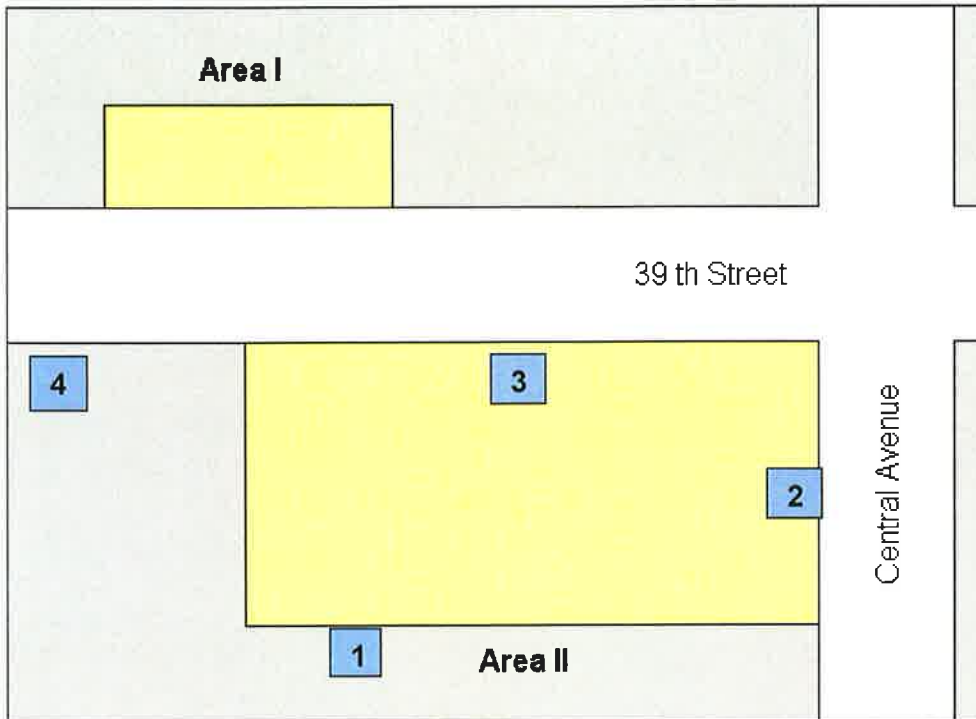
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.
Day 2, station #4 reading neg. VOC, recalibrated monitor everything OK.

Air Monitoring Locations

See maps below

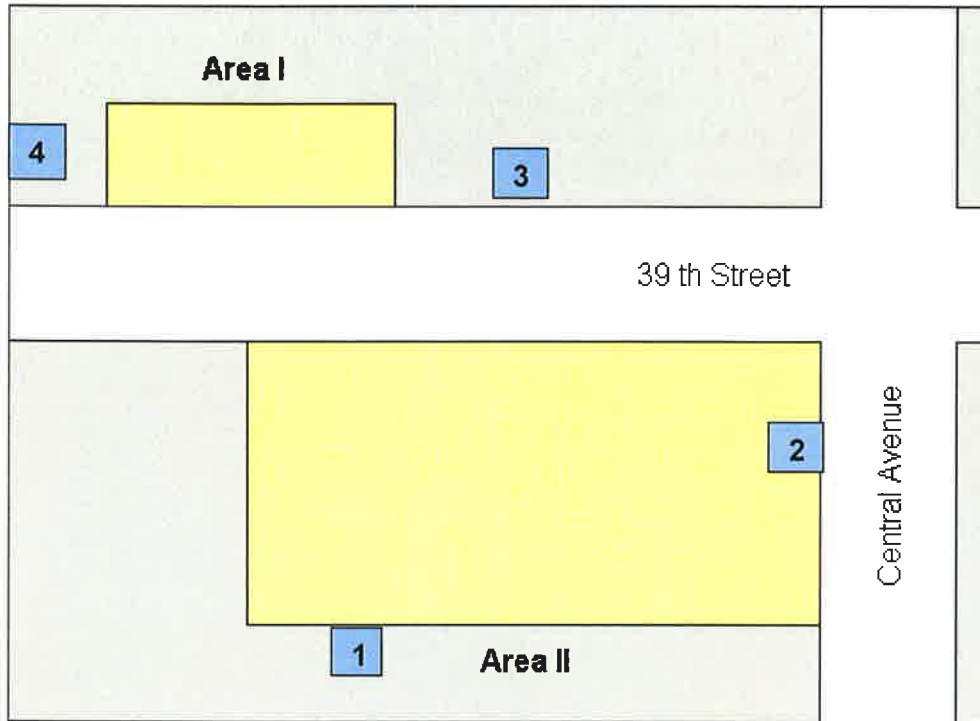
Sea Isle City – Air Monitoring Locations – November 15-17, 2010



Comments:

Driving sheets Area #2, Mon. through Wed.

Sea Isle City – Air Monitoring Locations – November 18-19, 2010



Comments:

Driving sheets Area #1, Thurs. and Fri.

**Weekly Report
 Perimeter Air Monitoring**

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	November 22-26, 2010
Date Submitted:	December 1, 2010
Submitted by:	Ed Pearl

Operations Summary

Driving sheets in area 1. More trench drilling, setting wells. Receiving deliveries. Electricians on site. Welding/cutting sheets. Ed Pearl on site.

Day 1	Two stations in area 2, Two stations in area 1.
Day 2	Two stations in Area 2, Two stations in area 1.
Day 3	Two stations in area 2, Two stations in area 1.
Day 4	Holiday, No work.
Day 5	Holiday, No work.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 98	0 - 116	6 - 72	NA	NA
Station-2	0 - 277	0 - 166	5 - 258		
Station-3	35 - 273	44 - 292	3 - 154		
Station-4	0 - 132	35 - 206	1 - 53		

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 0	NA	NA
Station-2	0 - 0	0 - 0	0 - 0		
Station-3	0 - 0	0 - 0	0 - 0		
Station-4	0 - 0	0 - 0	0 - 0		

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	52.5 – 63.1	53.9 – 66.5	41.5 – 49.8	NA	NA
Rel. Humidity	64 – 93.3	61.1 – 87.5	32.6 – 60.1		
Bar. Pressure	1.0251	1.0126	1.0215		
Prevailing Wind Direction	WSW	WSW	WNW		
Wind Speed	2 – 9.4	1.2 – 5.1	4.7 – 11.3		
Comments	Partly sunny, Breezy	Sunny	Sunny, Breezy		

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
11/22/10 8:15 AM	Station #4	113.4 ug/m3	Smoke from welding sheets caused elevated readings.
11/23/10 7:50 AM	Station #4	116.7 ug/m3	Smoke from welding sheets caused elevated readings.

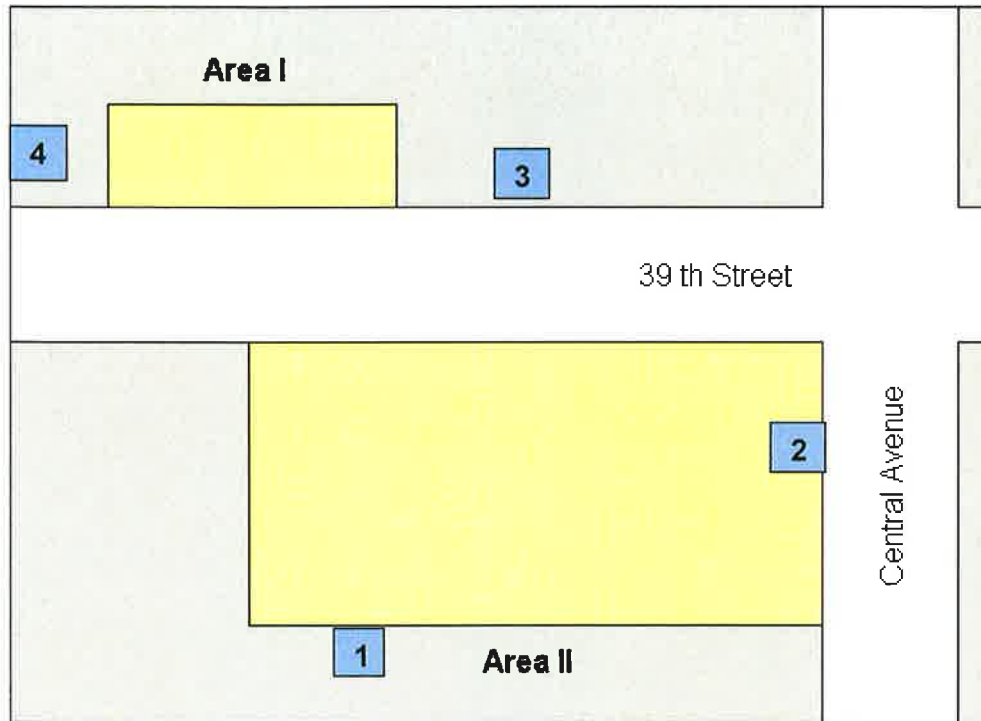
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – November 22-26, 2010



Comments:

Driving sheets Area #1.

**Weekly Report
 Perimeter Air Monitoring**

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	November 29-December 3, 2010
Date Submitted:	December 7, 2010
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Driving sheets in area #1. Receiving deliveries of equipment. Erecting temporary building. Welding pipe off site. No intrusive work Day #2 through Day #5.

Day 1	Two stations in area 2, Two stations in area 1.
Day 2	One station in Area 2, One station in area 1.
Day 3	No monitoring due to heavy rain.
Day 4	Two stations area 2. One station area 1.
Day 5	Two stations area 2. One station area 1.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 75	0 - 58	NA	1 - 21	0 - 93
Station-2	0 - 158	NA		0 - 81	1 - 66
Station-3	0 - 45	NA		NA	NA
Station-4	0 - 29	0 - 32		0 - 38	1 - 66

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	NA	0 - 0	0 - 0
Station-2	0 - 65*	NA		0 - 0	0 - 0
Station-3	0 - 0	NA		NA	NA
Station-4	0 - 0	0 - 0		0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	33.4 - 48.7	53.6 - 56.3	42.9 - 60.4	33.6 - 42.9	33.8 - 41.1
Rel. Humidity	52.6 - 86.6	80.7 - 86.9	74.9 - 93.7	43.5 - 69.8	42.2 - 65.3
Bar. Pressure	1.0326	1.0247	1.0049	1.0193	1.0157
Prevailing Wind Direction	NNW	SE	SSW	W	W
Wind Speed	1.4 - 8	4.3 - 9.9	4.1 - 17.6	3.1 - 11.9	3.5 - 10.2
Comments	Clear, Sunny	Cloudy, Windy	Heavy rain and wind.	Sunny, Cold	Partly Cloudy, Breezy.

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
11/29/10 11:15 AM	Station #2	65 PPM VOC	Workers cleaning and gluing PVC conduit in area of monitor. No intrusive activity.

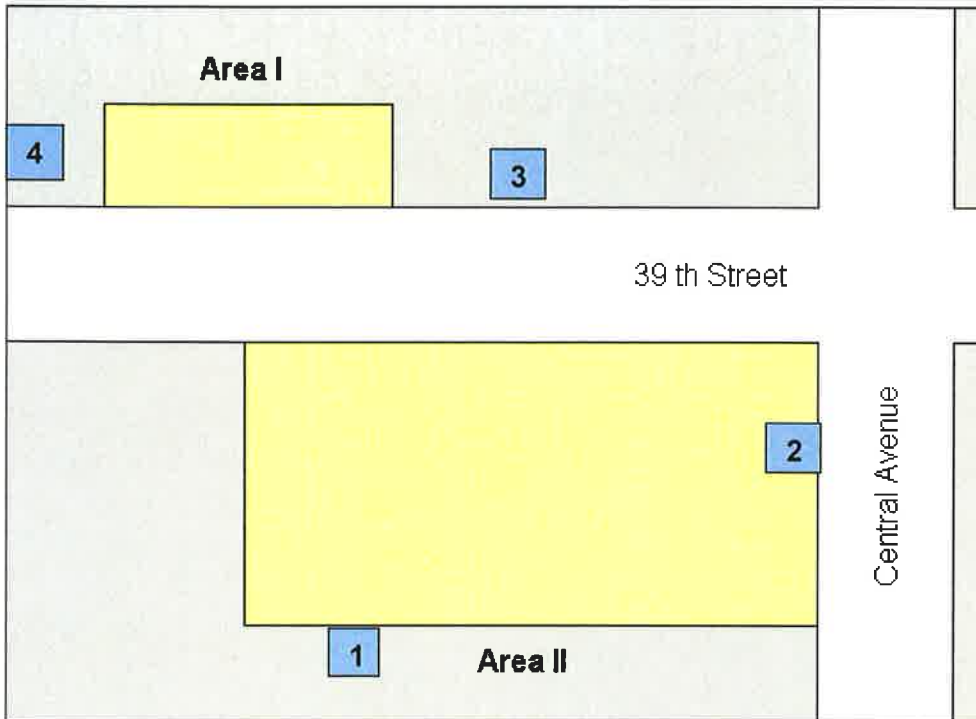
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.
Ran tests on all equipment, functioning properly.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – November 29 - December 3, 2010



Comments:

Driving sheets Area #1. No intrusive work Tues. through Fri.

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	December 6 – 10,2010
Date Submitted:	December 15, 2010
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Erecting temporary building. Excavating area#1. Welding pipe. Receiving and positioning frac tanks. Setting up generator. Loading out excavated soil.

Day 1	Two stations in area 2, Two stations in area 1.
Day 2	Two stations in Area 2, Two stations in area1.
Day 3	Two stations in area 2, Two stations in area 1.
Day 4	Two stations in area 2.Two stations in area 1.
Day 5	Two stations in area 2.Two stations in area 1.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	1 - 29	12 - 69	9 - 44	0 - 149	12 - 123
Station-2	0 - 102	0 - 86	1 - 161	0 - 78	0 - 82
Station-3	0 - 220	15 - 131	0 - 126	0 - 118	0 - 219
Station-4	0 - 52	0 - 121	0 - 258	0 - 70	0 - 262

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 0	0 - 90*	0 - 0
Station-2	0 - 0	0 - 0	0 - 0	0 - 46*	0 - 0
Station-3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	31.7 - 38.6	29 - 36.1	26.3 - 36.3	23.8 - 34.1	32.1 - 40.1
Rel. Humidity	39.6 - 60	42.1 - 59.9	35.2 - 62.4	37.9 - 73.7	47.1 - 66.3
Bar. Pressure	1.0024	1.0036	1.0142	1.0246	1.0268
Prevailing Wind Direction	W	W	WNW	WNW	NW
Wind Speed	4.6 - 14.5	4 - 12.3	3.5 - 12.4	2.5 - 11.5	3.3 - 9.5
Comments	Clear, Windy	Clear, Windy	Clear, Windy	Clear, Cold	Cloudy, Cold.

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
12/9/10 7:15AM	Station #1	90 PPM VOC	Monitor needed recalibration. Not caused by intrusive activity. Due to cold weather.
12/9/10 7:15 AM	Station #2	46 PPM VOC	Monitor needed recalibration. Not caused by intrusive activity. Due to cold weather.

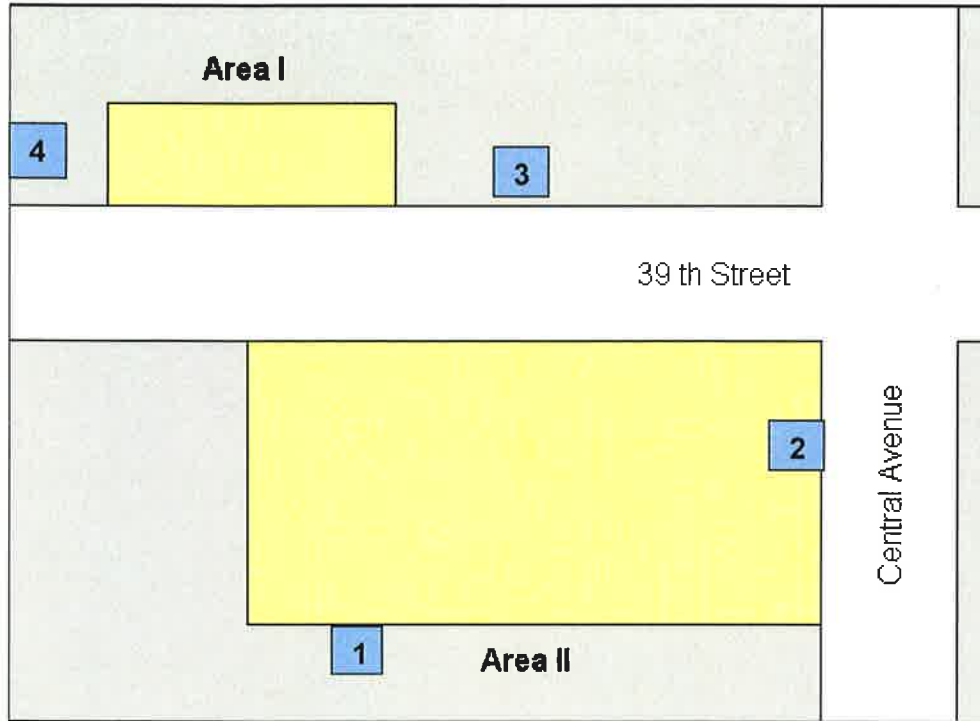
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – December 6-10, 2010



Comments:

Excavating and loading out material Area #1.

**Weekly Report
 Perimeter Air Monitoring**

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	December 13 – 17, 2010
Date Submitted:	December 22, 2010
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Excavating in area#1. Running pipe down 39th st. Setting up water treatment system. Loading out stockpiled material. Backfilling in area #1.

Day 1	Two stations in area 2, Two stations in area 1.
Day 2	Two stations in Area 2, Two stations in area1.
Day 3	Two stations in area 2, Two stations in area 1.
Day 4	Two stations in area 2. Two stations in area 1.
Day 5	Two stations in area 2. Two stations in area 1.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 60	0 - 24	9 - 71	0 - 117	12 - 123
Station-2	0 - 62	0 - 48	0 - 45	0 - 81	0 - 82
Station-3	0 - 54	0 - 101	0 - 476	0 - 4460*	0 - 219
Station-4	0 - 134	4 - 23	0 - 179	0 - 145	0 - 262

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 – 146*	0 - 0	0 - 0	0 – 210*	0 - 0
Station-2	0 – 0	0 - 0	0 - 0	0 – 0	0 - 0
Station-3	0 - 0	0 - 0	0 – 41*	0 - 0	0 - 0
Station-4	0 - -1	0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	32.1– 38.1	19.8 – 27	22.1 – 30.6	21– 29	20 – 34
Rel. Humidity	48.3 – 82.6	40.2 – 56	37.4 – 61		
Bar. Pressure	.9899	1.0017	1.0088		
Prevailing Wind Direction	WNW	WNW	WNW		
Wind Speed	2.6 – 13.6	3.6 – 16.6	4.1 – 14.2		
Comments	Cloudy	Cloudy, windy	Sunny, Windy	Clear, Cold PM Snow	Sunny, Cold.

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
12/13/10, 12/16/10 7:15AM 12/15/10 7:05 AM	Station #1 Station #1 Station #3	146 PPM VOC 210 PPM VOC 41 PPM VOC	Monitor needed recalibration. Not caused by intrusive activity. Due to cold, damp weather.
12/16/10 8:05 AM	Station #3	4460 ug/m3	Unsustained spike due to worker sweeping street, trucks setting parking breaks.

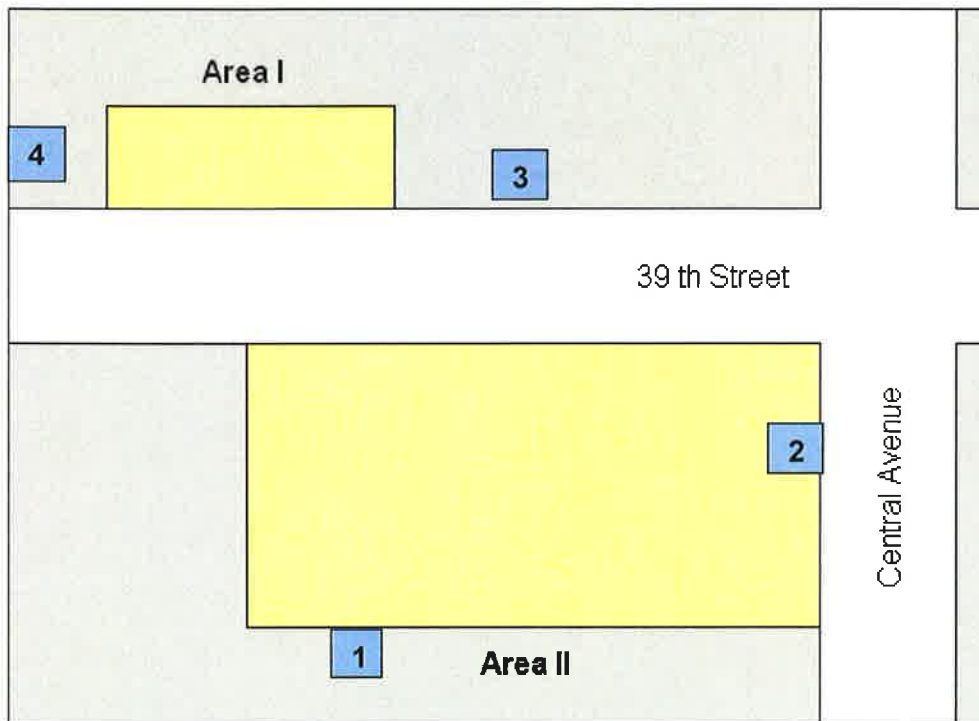
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.
Weather station down 12/16, 12/17.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – December 13-17, 2010



Comments:

Excavating and loading out material Area #1.

**Weekly Report
 Perimeter Air Monitoring**

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	December 20 – 24, 2010
Date Submitted:	December 28, 2010
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Wendell Clark on site 12/21. Backfilling area #1. Setting up pipe/water treatment system. Digging outfall at end of 39th st. Loading out stockpiled material.

Day 1	Two stations in area 2, Two stations in area 1.
Day 2	Two stations in Area 2, Two stations in area 1.
Day 3	Two stations in area 2, Two stations in area 1.
Day 4	Two stations in area 2. Two stations in area 1.
Day 5	Holiday.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 72	0 - 138	0 - 146	2 - 63	NA
Station-2	0 - 115	1 - 256	0 - 59	0 - 167	
Station-3	1 - 146	0 - 547	0 - 408	0 - 393	
Station-4	0 - 107	0 - 142	1 - 125	0 - 111	

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 – 0	0 - 0	0 - 0	0 – 0	NA
Station-2	0 – 0	0 - 0	0 - 0	0 – 0	
Station-3	0 - 0	0 - 0	0 – 0	0 - 0	
Station-4	0 - 0	0 - 0	0 - 0	0 - 0	

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	25.4– 36.6	28.4 – 40.1	26.6 – 37.7	31.1– 38.6	NA
Rel. Humidity	49.4 – 70.3	41.1 – 67	60.1 – 77.3	41.9 – 58.6	
Bar. Pressure	1.0117	1.0108	1.0091	1.0104	
Prevailing Wind Direction	NW	NNW	W	NW	
Wind Speed	4.5 – 14.8	3.8 – 14.6	2.9 – 8.9	6.1 – 19.8	
Comments	Sunny, breezy	Sunny, breezy	Sunny	Sunny, windy	

Exceedences

None to report

Date/Time	Station/Location	Measured Value	Response/Explanation

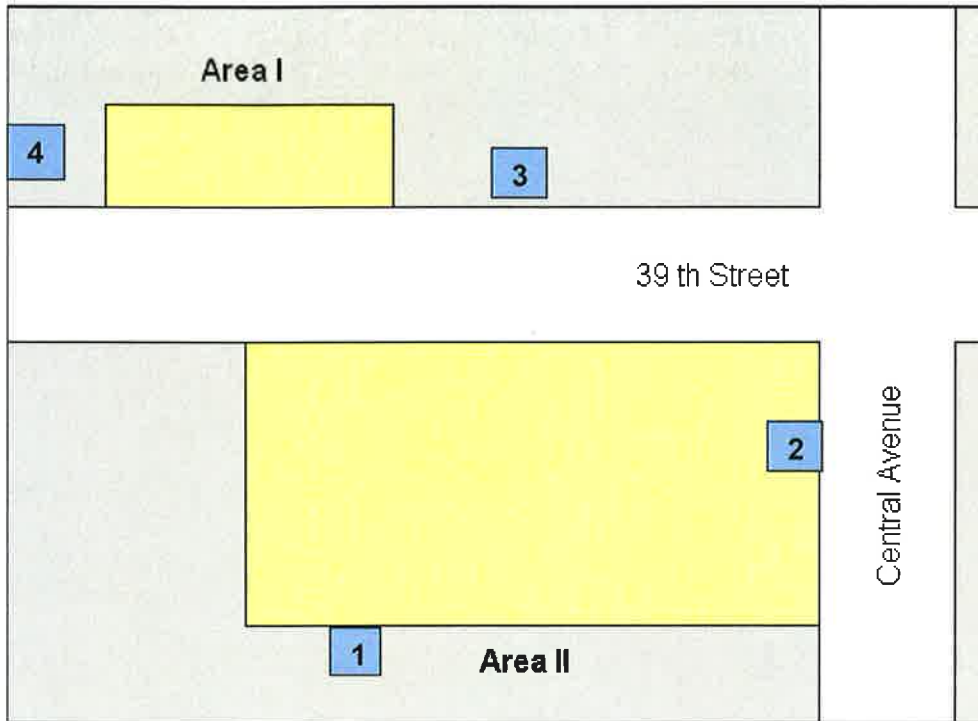
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – December 20-24, 2010



Comments:

Loading out stockpiled material, backfilling area#1.

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	December 27 - 31, 2010
Date Submitted:	January 4, 2011
Submitted by:	Ed Pearl

Operations Summary

No monitoring being conducted. No intrusive work being performed on site.

Day 1	Shut down for holiday.
Day 2	
Day 3	
Day 4	
Day 5	

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	N/A				
Station-2					
Station-3					
Station-4					

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	N/A				
Station-2					
Station-3					
Station-4					

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	N/A				
Rel. Humidity					
Bar. Pressure					
Prevailing Wind Direction					
Wind Speed					
Comments					

Exceedences

None to report

Date/Time	Station/Location	Measured Value	Response/Explanation

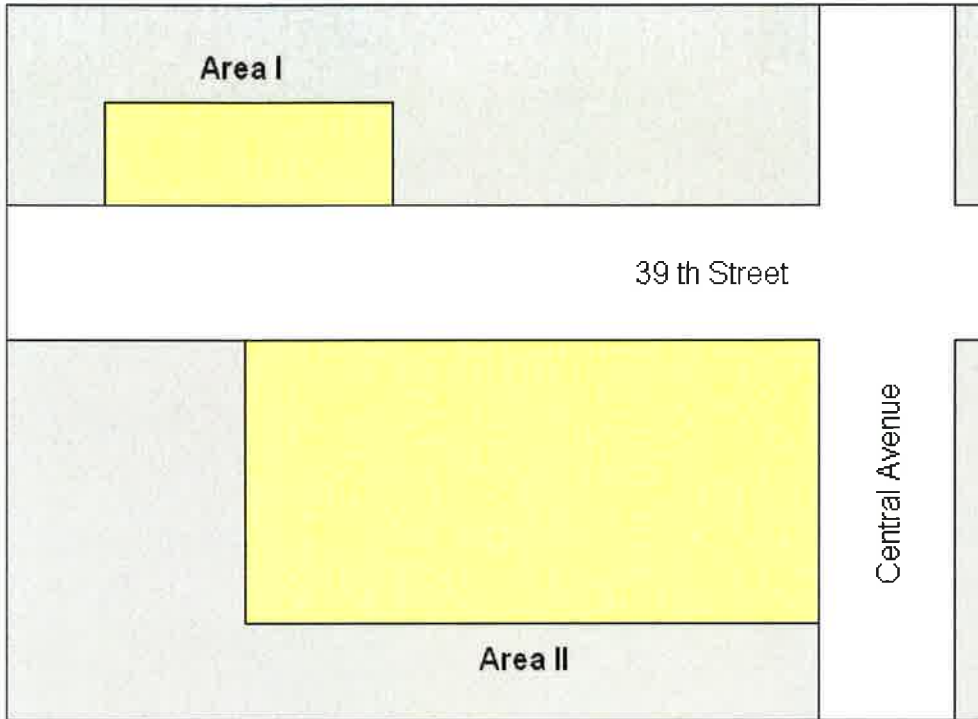
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – December 27-31, 2010



Comments:

No air monitoring performed.

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	January 24 – 28, 2011
Date Submitted:	February 1 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Loading trucks. Excavating, and scraping sheets in area 2. Discharging water. Shut down depressurization system 1-27. Removing pipe from 39th St. Backfilling.

Day 1	Four stations Area 2.
Day 2	Four stations Area 2.
Day 3	Three stations Area 2. No particulate monitoring due to rain.
Day 4	Four stations Area 2. AM snow.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 227	21 - 91	N/A	0 - 73	24 - 87
Station-2	0 - 56	0 - 81		0 - 112	0 - 97
Station-3	0 - 874*	0 - 47		0 - 33	0 - 85
Station-4	0 - 203	0 - 258		0 - 66	0 - 167

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-2	0 - 42*	0 - 0	0 - 0	-6.2 - 0	0 - 0
Station-3	0 - 0	0 - 0		0 - 0	0 - 0
Station-4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	11.2 - 26.8	30.6 - 44.7	33.9 - 37.5	30.4 - 37	31.5 - 38.6
Rel. Humidity	38.3 - 63.6	54.1 - 80.1	91 - 94.5	63.5 - 86.3	60.2 - 94.3
Bar. Pressure	1.0307	1.0199	1.0060	1.0107	1.0093
Prevailing Wind Direction	NW	NNW	N	W	NW
Wind Speed	3.8 - 8.9	1.9 - 10.1	5 - 35.3	2.6 - 23.3	2.2 - 14.3
Comments	Sunny, cold.	Mostly cloudy.	AM rain, Windy	AM snow, mostly cloudy.	Cloudy, late day snow.

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
1/24/11 11:25 AM	Station #3.	874 * ug/m3	Worker sweeping street in proximity of monitor location.
1/24/11 3:30 PM	Station #2.	42 PPM *	Unsustained spike caused by workers fueling up equipment in area.

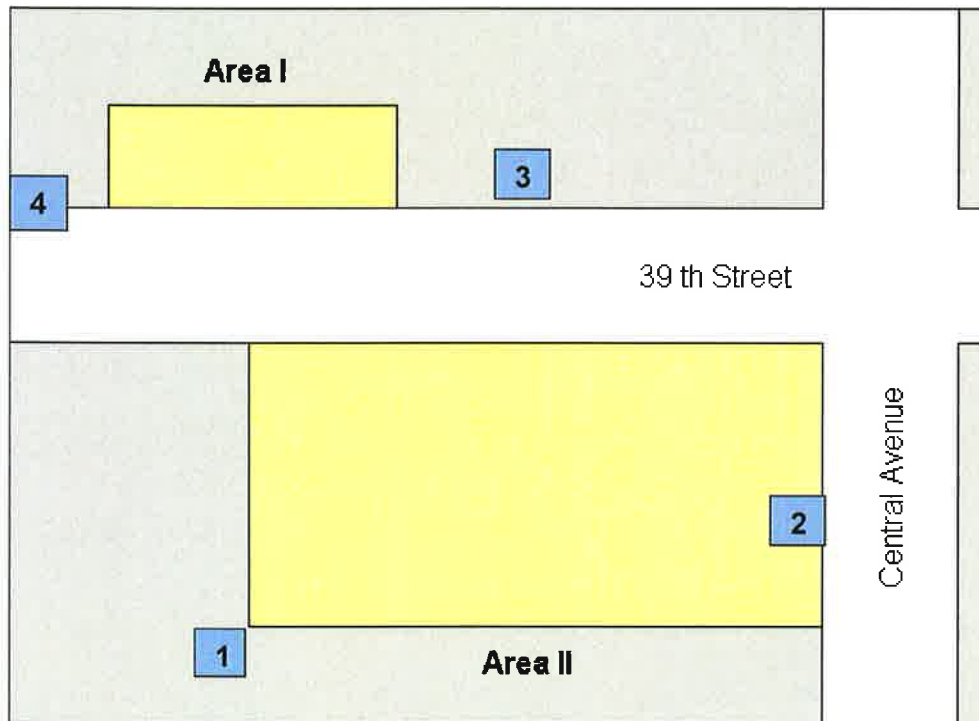
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – January 24 - 28, 2011



Comments: Excavating area#2. Loading out trucks. Scraping sheets. Discharging water. Shut down depressurization system.

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	January 3 – 7, 2011
Date Submitted:	January 10, 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Working on water treatment and air systems. Pulling sheets in area #1. Excavating in area #2 on 1-7-11.

Day 1	Two stations in area 2, Two stations in area 1.
Day 2	Two stations in Area 2, Two stations in area1.
Day 3	Two stations in area 2, Two stations in area 1.
Day 4	Two stations in area 2. Two stations in area 1.
Day 5	Two stations in area 2. Two stations in area 1.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	16 - 45	16 - 112	20 - 53	0 - 308	13 - 93
Station-2	0 - 57	0 - 92	0 - 63	0 - 155	0 - 62
Station-3	1 - 210	0 - 3720*	0 - 815	0 - 640	0 - 769
Station-4	0 - 34	0 - 441	1 - 279	0 - 799	0 - 95

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	27.9- 36.3	29 - 43.1	29.5 - 41.7	24.5- 38.1	31 - 36.8
Rel. Humidity	40.7 - 63.3	46.3 - 80.9	38.6 - 70.1	38.3 - 75.3	43.8 - 90
Bar. Pressure	1.0219	1.0144	1.0117	1.0044	0.9956
Prevailing Wind Direction	W	WSW	W	WNW	W
Wind Speed	2.7 - 10.8	3.1 - 8.6	2 - 9.9	2.2 - 7.9	3.5 - 26.1
Comments	Sunny, breezy	Partly sunny, breezy	Clear, cold	Sunny, Cold	Windy, Light snow

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
1/4/11 11:30 AM	Station #3.	3720 ug/m3 *	Spike caused by exhaust from loader in area of monitor. Not sustained.

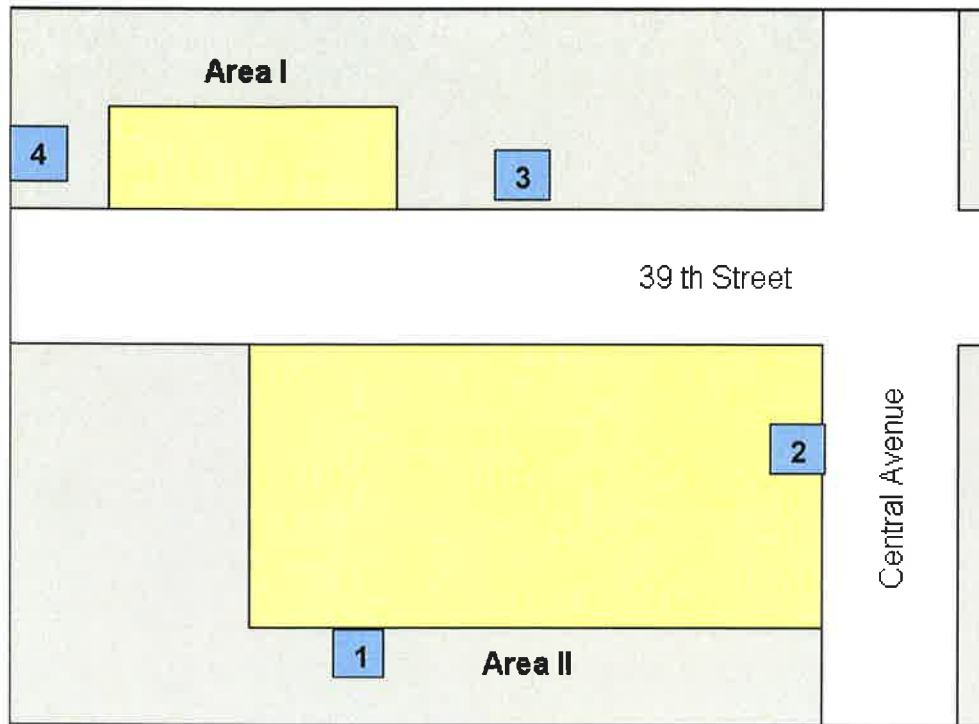
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – January 3 - 7, 2011



Comments:

Removing sheets area#1. Excavating in area #2 on 1-7-11.

**Weekly Report
 Perimeter Air Monitoring**

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	January 10 – 14, 2011
Date Submitted:	January 19, 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Working on Depressurization system. Excavating in Area#2, loading out trucks, scraping sheets, setting whalers. Shipped ABI machine off site.

Day 1	Four stations Area 2.
Day 2	Four stations Area 2.
Day 3	No monitoring due to weather. (Snow)
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 28	16 - 41	N/A	0 - 176	12 - 61
Station-2	0 - 22	0 - 41		0 - 39	0 - 161
Station-3	0 - 14	0 - 136		0 - 514	0 - 265
Station-4	0 - 26	0 - 19		0 - 109	0 - 43

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	-0.1 - 0	N/A	0 - 0	-.1 - 49*
Station-2	0 - 0	0 - 0		0 - 0	0 - 0
Station-3	0 - 0	0 - 0		0 - 0	0 - 0
Station-4	0 - 0	-0.6 - 0		0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	23- 34.3	22.5 - 34.8	29.9 - 32	22.7- 30.2	19.8 - 32.5
Rel. Humidity	43.8 - 69.4	71.8 - 87.9	60.9 - 78.6	49.5 - 67.8	46.9 - 73.6
Bar. Pressure	1.0236	1.0210	1.0068	1.0217	1.0266
Prevailing Wind Direction	NW	NNW	WNW	NNW	WNW
Wind Speed	3.9 - 10.8	2.3 - 9.2	6 - 19.1	4.6 - 13.1	2.2 - 9.9
Comments	Partly sunny, cold.	Cloudy, late PM snow.	Windy, Snow.	Clear, windy.	Partly cloudy, breezy.

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
1/14/11 1:05 PM	Station #1	49 PPM *	Spike caused by lamp error in monitor. Switched out monitor, and recalibrated.

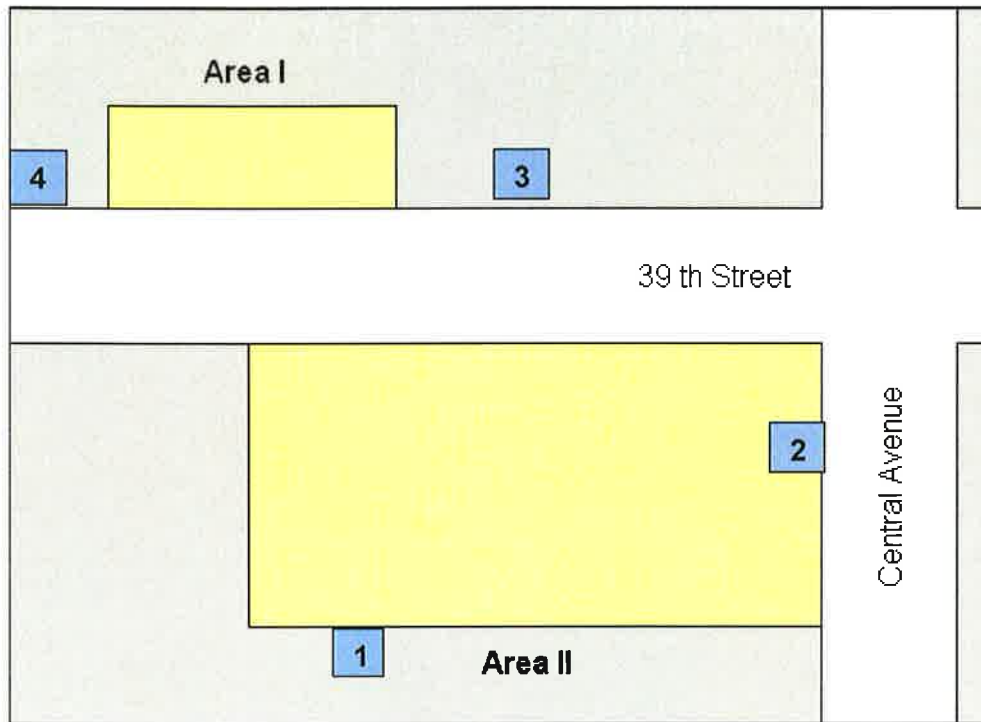
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – January 10 - 14, 2011



Comments: Excavating area#2. Loading out trucks. Scraping sheets.

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	January 17 – 21, 2011
Date Submitted:	January 25, 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Started Depressurization system. Excavating in Area#2, loading out trucks, scraping sheets, setting whalers. Discharging water.

Day 1	Four stations Area 2.
Day 2	No monitoring in AM due to rain, Four stations in Area 2 in PM. VOC only.
Day 3	Four stations Area 2. Particulate monitors started at 12:00 PM due to AM rain.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 43	N/A	0 - 139	0 - 102	0 - 144
Station-2	0 - 68		0 - 64	0 - 471	0 - 89
Station-3	0 - 167		0 - 188	0 - 170	0 - 90
Station-4	0 - 26		0 - 56	0 - 28	0 - 36

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 19*	0 - 0	0 - 0	0 - 0
Station-2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-3	0 - 0	0 - 0	0 - 0.06	0 - 0	0 - 37.2*
Station-4	0 - 0	0 - 55*	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	26.8 - 32	36.5 - 50	34.5 - 46.9	30.2 - 42	28.3 - 35.6
Rel. Humidity	57.5 - 74.6	94 - 95.2	69 - 93.2	41.7 - 80.9	36.2 - 80.9
Bar. Pressure	1.0252	1.0041	1.0066	1.0169	1.0045
Prevailing Wind Direction	NNW	SSW	WW	WNW	WNW
Wind Speed	3.3 - 8.8	2.2 - 21.9	1.1 - 14.6	2.5 - 10.4	4.9 - 24.8
Comments	Cloudy, cold.	Cloudy, Rain.	AM rain, PM partly cloudy.	Clear, Breezy.	AM rain, PM sunny, windy.

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
1/18/11 12:00 PM	Station #1. Station #4.	19 PPM * 55 PPM *	Unsustained spike caused by rain, foggy conditions at start up.
1/21/11 7:05 AM	Station #2.	37.2 PPM *	Unsustained spike caused by restart of monitor.

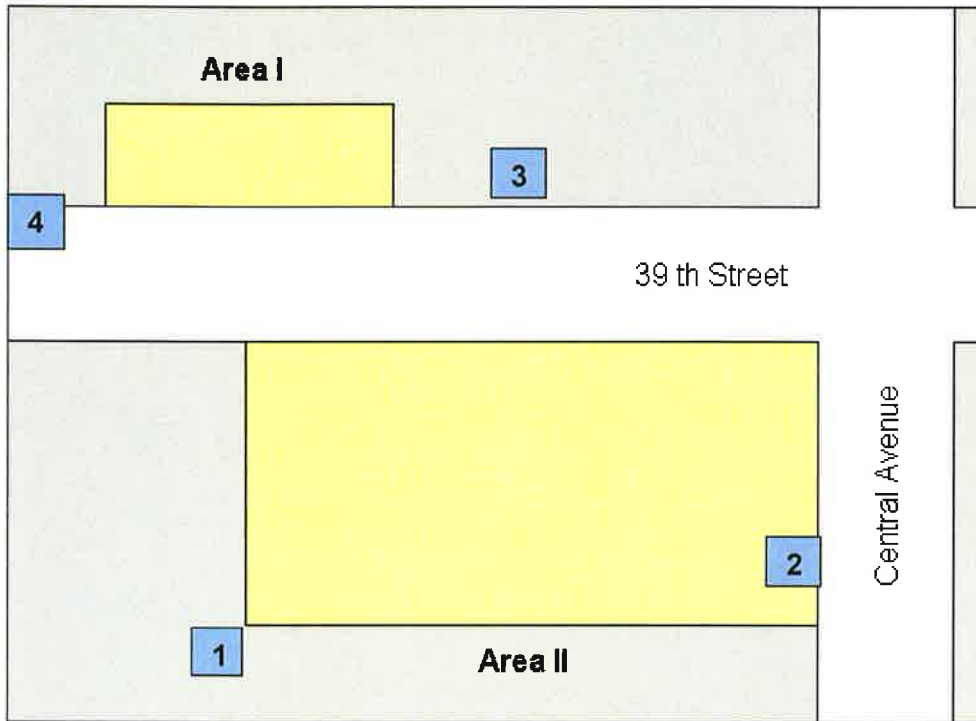
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – January 17 - 21, 2011



Comments: Excavating area#2. Loading out trucks. Scraping sheets. Discharging water.

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	January 31 – February 4, 2011
Date Submitted:	February 9, 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Loading trucks. Excavating, and scraping sheets. Backfilling. Removing pipe along 39th st. Cutting pilings. Removing water treatment system. Breaking concrete. Jacking up house at 213 39th. St. for structure repairs.

Day 1	Four stations Area 2.
Day 2	Four stations Area 2. AM Rain.
Day 3	Four stations Area 2. No particulate monitoring due to rain.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	17 - 146	0 - 319	N/A	0 - 288	16 - 21
Station-2	0 - 98	0 - 105		0 - 170	0 - 375
Station-3	0 - 172	0 - 297		0 - 680	0 - 12400*
Station-4	0 - 25	0 - 63		0 - 34	0 - 281

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 0	-0.1 - 0	0 - 0
Station-2	0 - 0	-0.1 - 0	0 - 46*	0 - 0	0 - 0
Station-3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	0 - 0	0 - 300*	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	24.5 - 31.7	36.1 - 42.2	42 - 58.1	28.8 - 33.9	27.4 - 38.3
Rel. Humidity	50.3 - 74.4	88.3 - 94.9	74.3 - 95.7	42.4 - 57.8	39.8 - 77.3
Bar. Pressure	1.0304	1.0209	1.0050	1.0263	1.0248
Prevailing Wind Direction	NNW	NNW	WSW	WNW	W
Wind Speed	2.9 - 11	2.6 - 45.4	2.3 - 21.4	4.4 - 12.5	2.4 - 9.9
Comments	AM Sunny, PM Cloudy	AM Rain, cloudy.	Rain, Foggy, Windy	Sunny, Windy, Cold.	Partly sunny.

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
2/2/11 10:15 AM	Station #4.	300 PPM*	* Power failure/restart caused spike in monitor.
2/2/11 11:55 AM	Station #2.	46 PPM**	** Recalibration in field caused elevated readings.
2/4/11 9:15 AM	Station #3.	12400*	*Street sweeper running on 39 th . St. with no water. Stopped operation.

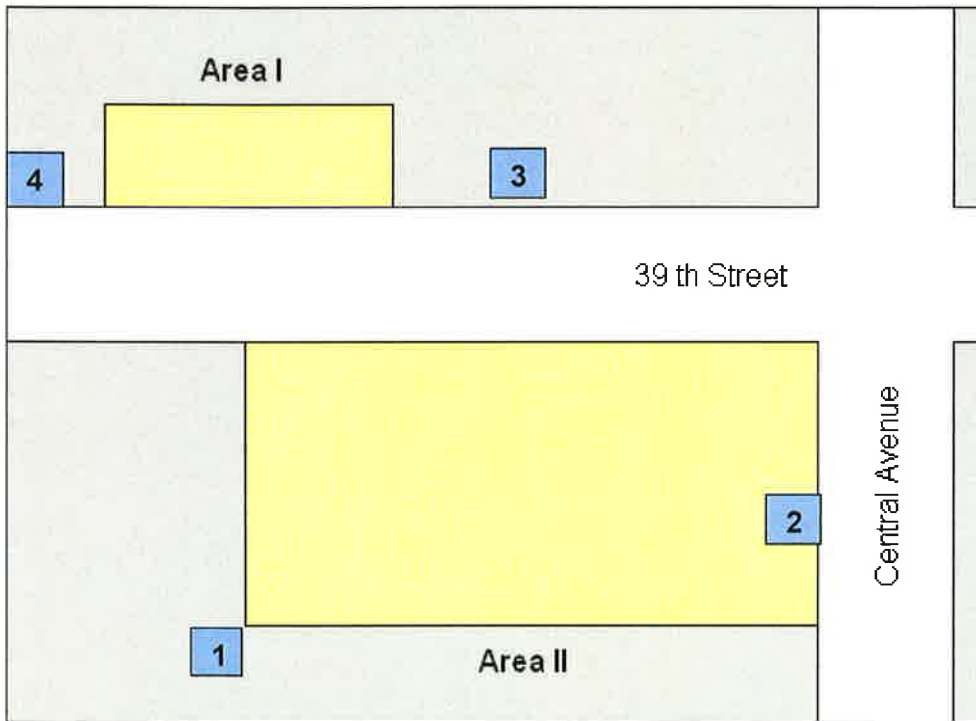
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – January 31 – February 4, 2011



Comments: Excavating area#2. Loading out trucks. Scraping sheets. Excavating. Removing depressurization system. Breaking concrete.

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	February 7 – 11, 2011
Date Submitted:	February 22 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Loading trucks. Excavating, cleaning sheets, breaking down water treatment system, setting whalers, cutting sheets. Running street sweeper.

Day 1	Four stations Area 2.
Day 2	Four stations Area 2.
Day 3	Four stations Area 2.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 453	0 - 208	0 - 147	0 - 903	11 - 40
Station-2	0 – 1010*	0 - 107	0 - 331	0 - 933	0 - 252
Station-3	0 – 4490**	0 - 630	0 - 752	0 – 117	0 – 208
Station-4	0 - 399	0 - 273	0 - 540	0 – 26	0 - 420

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 28**	0 - 0	0 - 0
Station-2	0 - 40*	0 - 0	0 - 0	0 - 0	0 - 0
Station-3	-2 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	31.3 - 43.8	33.6 - 41.7	17.3 - 31.9	27.2 - 31.9	23.2 - 39.5
Rel. Humidity	62.8 - 93.3	37.5 - 92.1	34.1 - 55.4	28.4 - 78	38.9 - 76.6
Bar. Pressure	1.0147	1.0076	1.0241	1.0166	1.0212
Prevailing Wind Direction	WSW	WNW	W	WNW	WSW
Wind Speed	1.9 - 8.4	4.2 - 18.1	2.6 - 8.3	3.1 - 11.6	2.8 - 9.1
Comments	AM Fog, PM Sunny	Cloudy, windy	Sunny, cold	AM Snow, cloudy	Sunny, cold.

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
2/7/11 2:00 PM	Station #2.	1010 ug/m ³ *	* Street sweeper on Central Ave. caused spike.
2/7/11 1:15 PM	Station #3.	4490 ug/m ³ **	** Street sweeper on 39 th St. caused spike.
2/7/11 8:30 AM	Station #2.	40 PPM*	* Lamp error caused spike, recalibrated monitor.
2/9/11 1:05 PM	Station #1.	28 PPM**	** Workers torch cutting in proximity of monitor location. Spike unsustained.

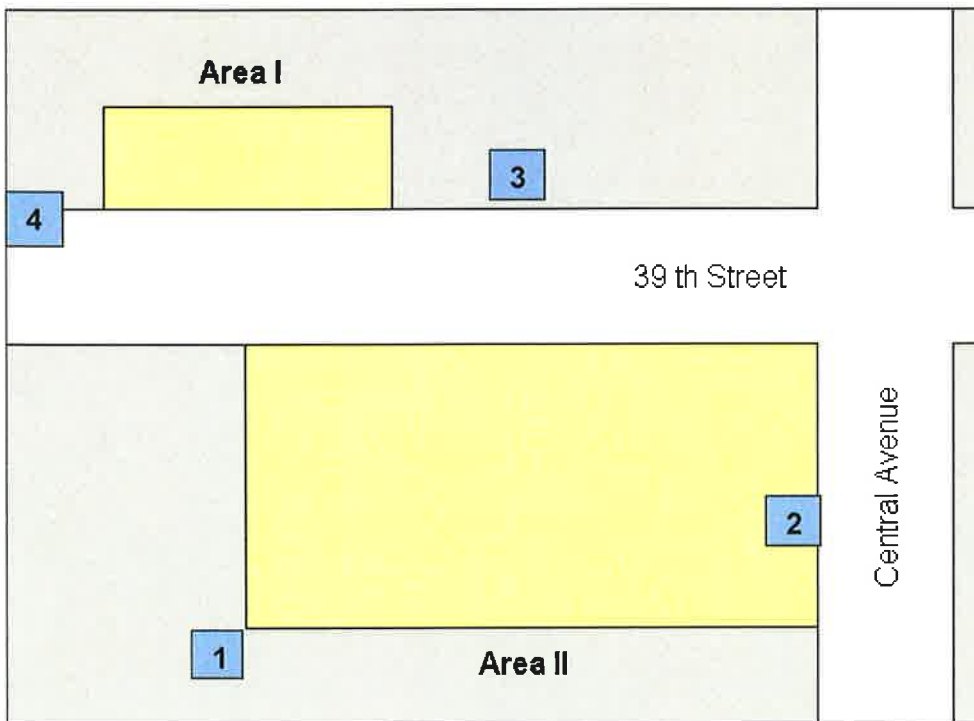
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

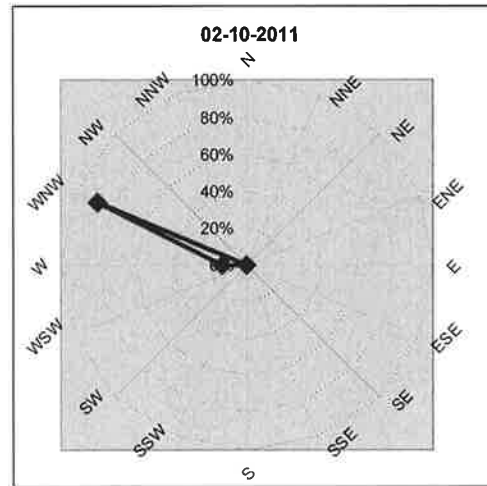
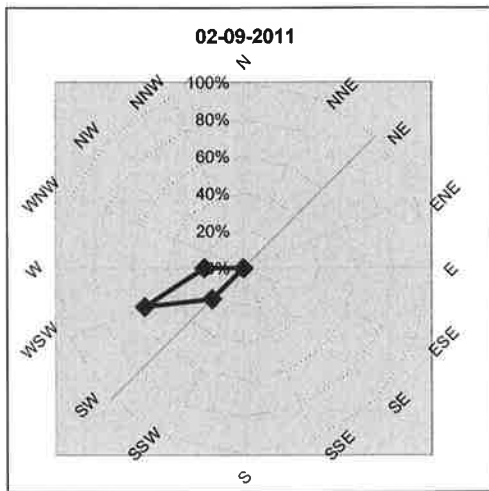
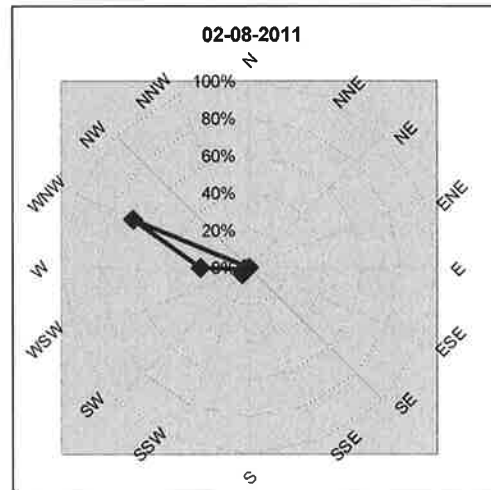
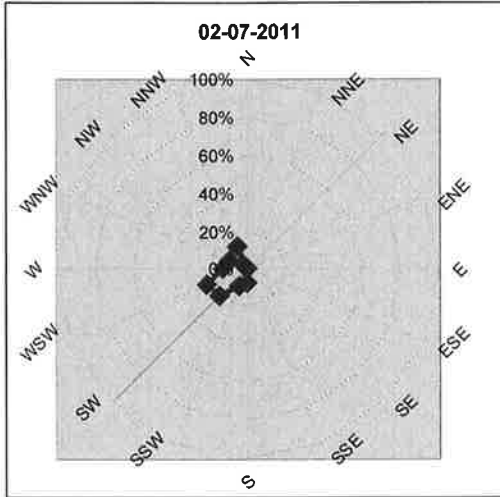
Sea Isle City – Air Monitoring Locations – February 7 – 11, 2011



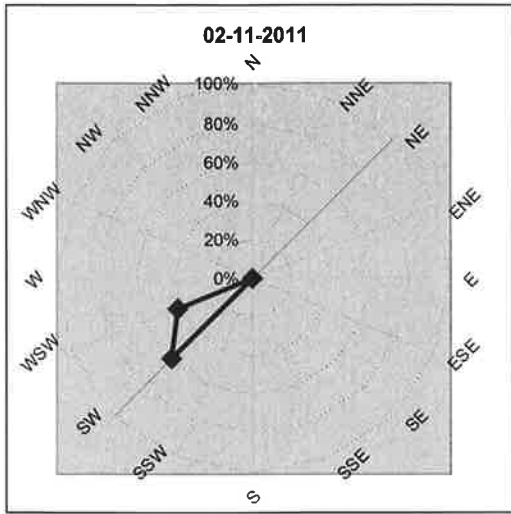
Comments: Excavating area #2. Loading out trucks. Scraping sheets. Removing depressurization system. Running street sweeper.

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Diagrams continued next page...



Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	February 14 – 18, 2011
Date Submitted:	February 22 , 2011
Submitted by:	Ed Pearl

Operations Summary

Dave Tomsey on site 2/14/11. Ed Pearl on site 2/17-2/18. Backfilling, cutting sheets, setting whalers, prepping for and moving temp. structure, cleaning and securing site for holiday weekend.

Day 1	Four stations Area 2.
Day 2	No perimeter monitoring performed.
Day 3	No perimeter monitoring performed.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 67	N/A	N/A	19 - 78	23 - 103
Station-2	0 – 15			18 - 60	21 - 67
Station-3	0 – 444			23 – 428	25– 1710*
Station-4	0 - 215			19 – 613	21- 148

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	N/A	N/A	0 - 0	0 - 48*
Station-2	0 - 0			0 - 0	0 - 0
Station-3	0 - 0			0 - 0	-0.7 - 0
Station-4	0 - 0			0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	42.6 - 64	31.5 - 41.5	33.4 - 46.7	44.2 - 58.4	43.8 - 69.9
Rel. Humidity	24.5 - 58.7	20.3 - 48.9	39.2 - 71.2	40.4 - 71	43.7 - 92
Bar. Pressure	1.0009	1.0259	1.0266	1.0201	1.0098
Prevailing Wind Direction	WSW	WNW	WSW	WSW	WSW
Wind Speed	2.7 - 15.2	4.3 - 13.6	3.5 - 9.4	1.3 - 10.4	1.3 - 6.8
Comments	Clear			Cloudy	Sunny, warm.

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
2/18/11 2:05 PM	Station #3.	1710 ug/m3*	* Loader stacking equipment, street sweeper on 39 th St. caused spike in particulates.
2/18/11 1:10 PM	Station #1.	48 PPM*	* Monitor overheated, causing a lamp error. Recalibrated monitor, everything OK.

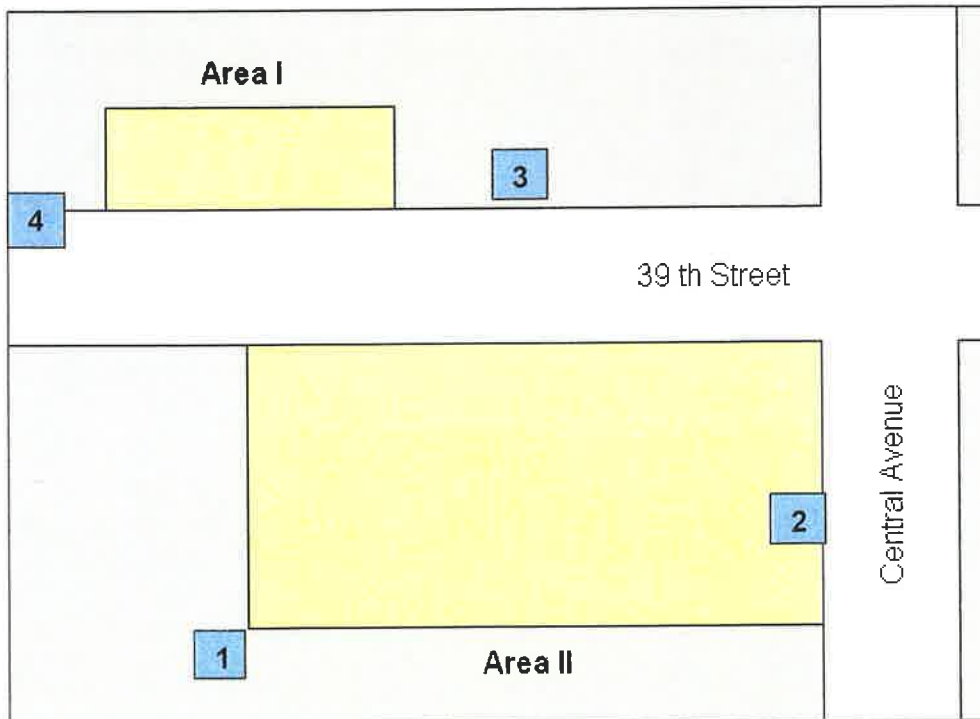
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

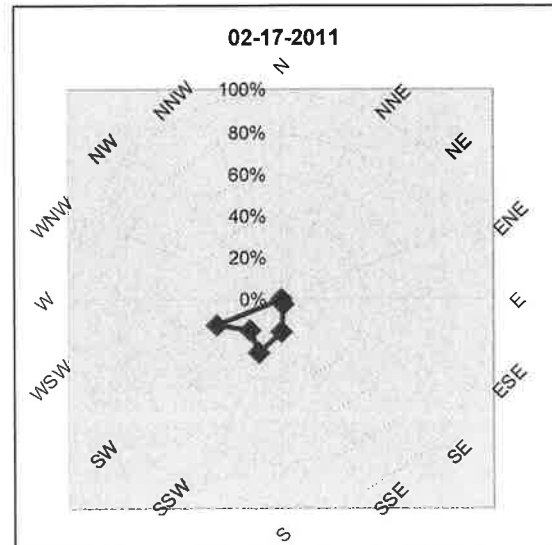
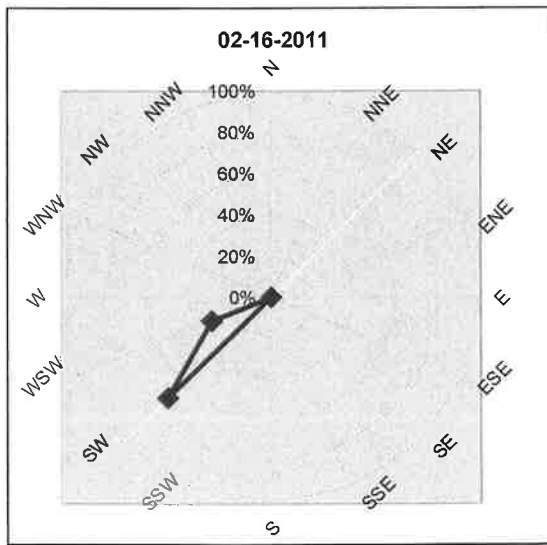
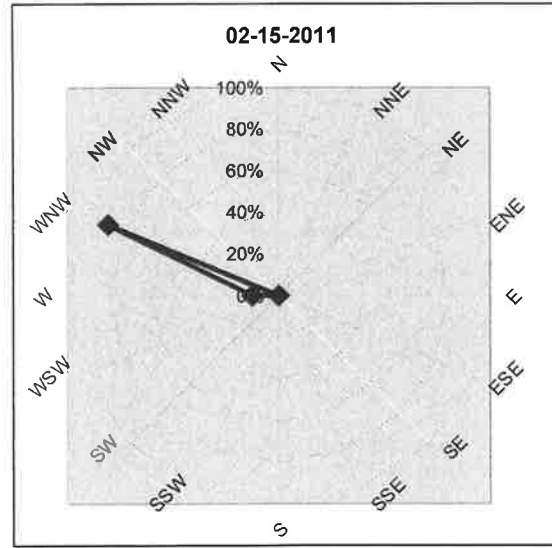
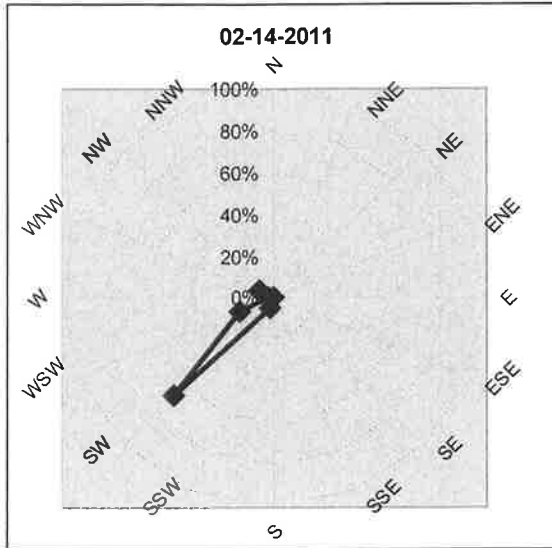
Sea Isle City – Air Monitoring Locations – February 14 – 18, 2011



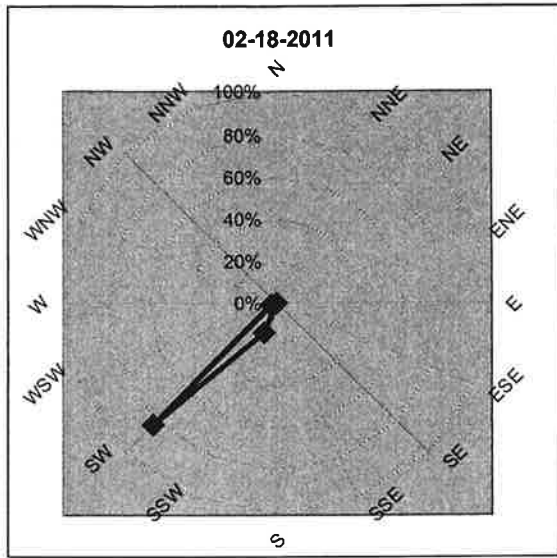
Comments: Excavating area #2. Back filling. Cutting sheets. Setting whalers. Moving temp. structure. Cleaning/prepping site for weekend.

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Diagrams continued next page...



Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	February 21 – 25, 2011
Date Submitted:	March 2 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Setting whalers/supports for sheeting. Excavating/loading out trucks. Cleaning sheets. Breaking up, loading out foundation 213 39th St. Clearing snow/salting sidewalks. Running street sweeper.

Day 1	No work. Holiday.
Day 2	Four stations area 2.
Day 3	Four stations area 2.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.VOC only due to weather conditions. Shut down early.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	N/A	4 - 84	6 - 169	5 - 58	N/A
Station-2		2 - 66	5 - 143	6 - 91	
Station-3		4 - 27	6 – 5570*	6 – 9770**	
Station-4		4 - 19	6 – 1710*	6 – 3569**	

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	N/A	0 - 0	0 - 0	0 - 0	0 - 0
Station-2		-10 - 0	0 - 0	0 - 0	0 - 0
Station-3		0 - 0	0 - 0	0 - 0	0 - 0
Station-4		0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	N/A	23.6 – 37.2	22.9 – 40.4	30.8 – 44.4	45.3 – 56.3
Rel. Humidity		42 – 83.2	36.7 – 67.2	68.2 – 92.1	50.7 – 94.9
Bar. Pressure		1.0179	1.0261	1.0217	.9955
Prevailing Wind Direction		NNW	W	WSW	WSW
Wind Speed		4.1 – 11.6	2.7 – 10.8	2.9 – 9.2	2.7 – 64.2*
Comments		AM snow, windy, cloudy	Sunny, cold	Sunny	Heavy rains, gusty winds

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
2/23/11 2:20 PM	Station #3. Station #4.	5570 ug/m3* 1710 ug/m3*	* Loader moving equipment, causing spikes at both monitoring locations.
2/24/11 2:55 PM	Station #3. Station #4.	9770 ug/m3** 3569 ug/m3**	** Loading out block/concrete at 213 39 th St. caused spikes at both monitoring locations.

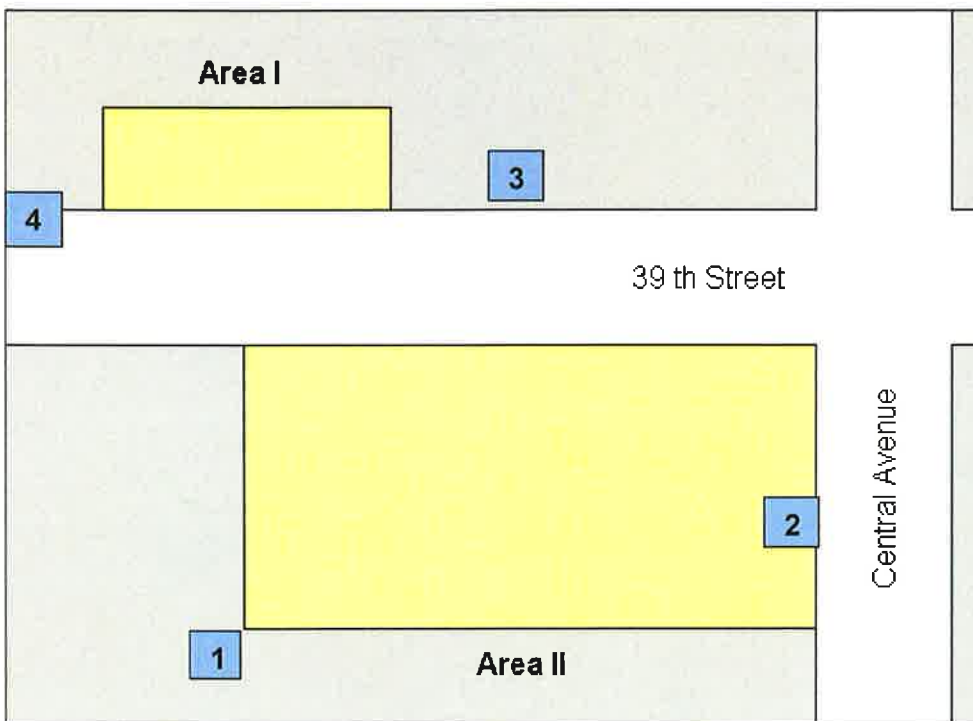
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – February 21 – 25, 2011

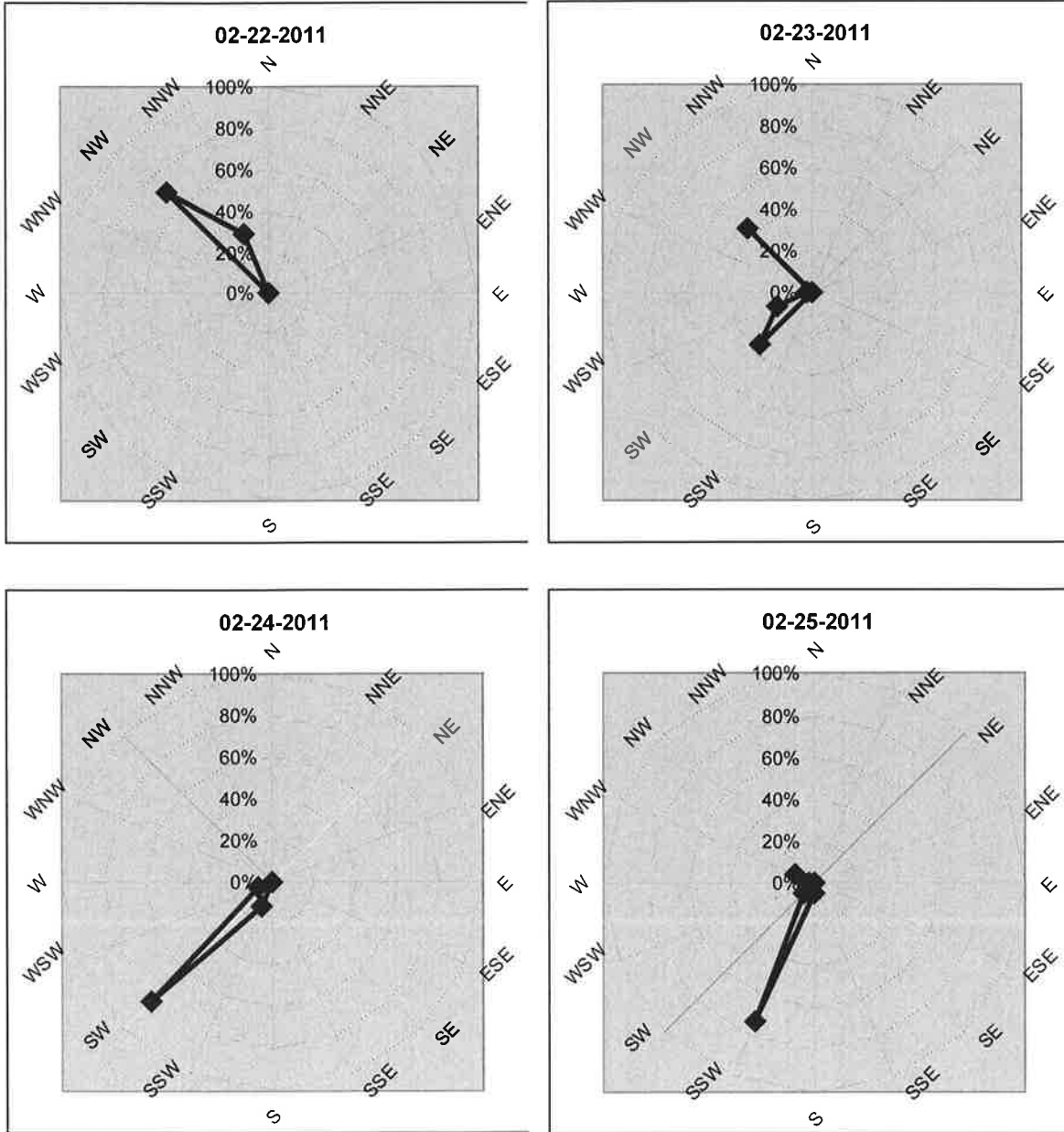


Comments: Excavating area #2. Loading out trucks. Setting whalers/supports. Foundation work 213 39th St.

Shut down monitoring equipment 9:00AM Fri. 2-25-11 due to severe weather conditions.

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	February 28 – March 4, 2011
Date Submitted:	March 10 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Loading out trucks. Setting cross supports on sheeting. Receiving fill/backfilling. Houck working at 213 39th St.

Day 1	Four stations area 2. 9:15 AM VOC only due to rain.
Day 2	Four stations area 2.
Day 3	Four stations area 2.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	42 - 64	6 - 401	10 - 46	4 - 138	4 - 231
Station-2	41 - 58	4 - 151	8 - 109	1 - 347	2 – 2090**
Station-3	24 - 54	6 - 106	7 – 107	4 – 968	3 - 202
Station-4	-	4 - 261	10 – 12900*	5 – 435	4 – 2050***

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	-0.1 - 0	0 - 0	0 - 0	-0.1 - 0
Station-2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	45.3 - 63.6	33 - 43.1	38.1 - 55.7	23.6 - 33.8	33 - 43.5
Rel. Humidity	61.5 - 93.1	37.4 - 61.2	31.7 - 75.2	32.9 - 49.7	52.9 - 78.1
Bar. Pressure	1.0042	1.0240	1.0191	1.0366	1.0375
Prevailing Wind Direction	WSW	NW	WSW	NW	NNW
Wind Speed	0.8 - 14.3	3 - 25.5	2 - 8.7	4 - 13.4	3.1 - 8.9
Comments	Windy, Rain	Sunny, windy, cold	Sunny, cold	Sunny, Breezy	Sunny, Cold

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
3/2/11 12:06 PM	Station #3.	12900 ug/m3*	* Backfill truck on 39 th St. caused unsustained spike.
3/4/11 10:50 AM	Station #2.	2090 ug/m3**	**Roller driving on stone caused spike.
3/4/11 12:00 PM	Station #4.	2050 ug/m3***	*** skid steerer at 213 39 th St. caused spike.

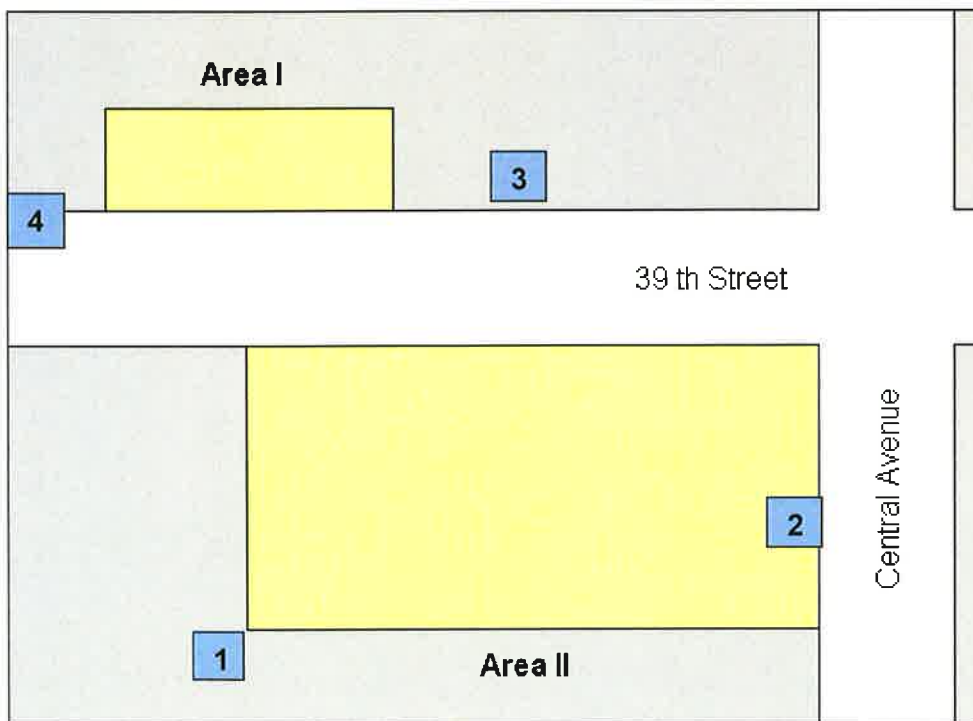
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – February 28 – March 4, 2011

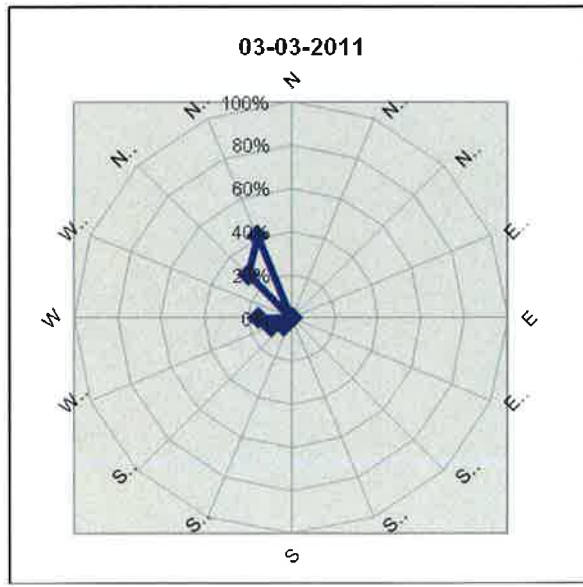
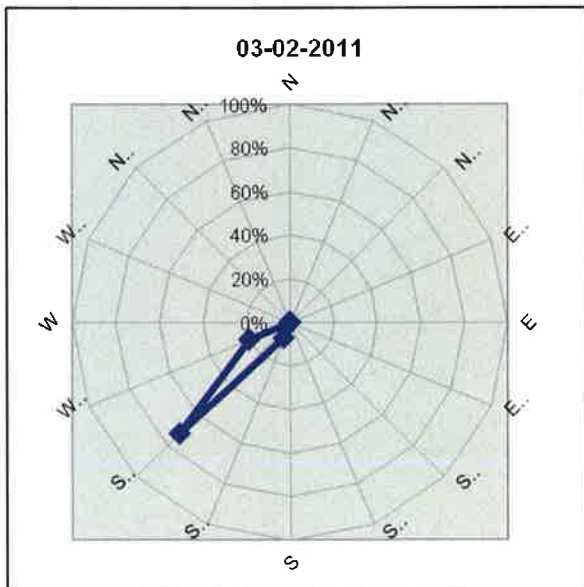
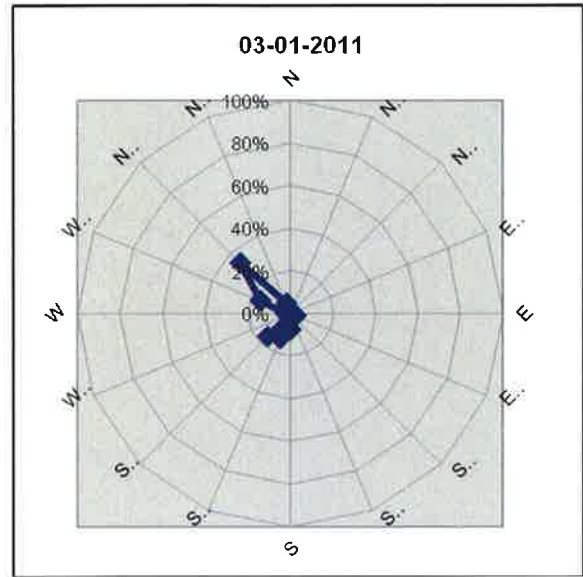
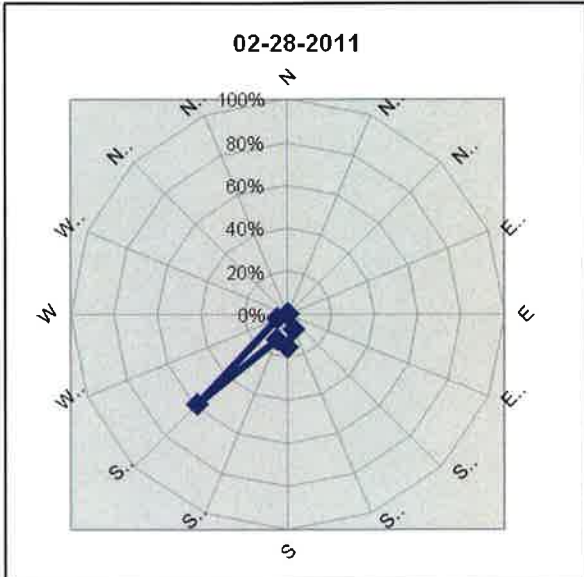


Comments: Excavating area #2. Loading out trucks. Setting whalers/supports. Foundation work 213 39th St.

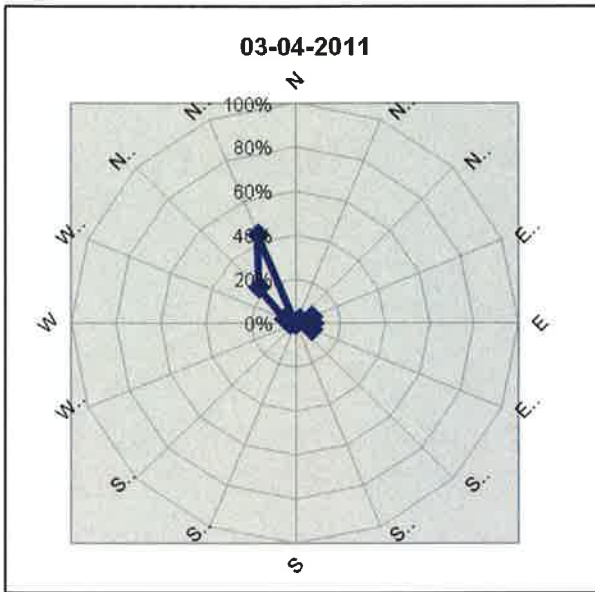
2/28/11: No particulate data from station #4 due to communication problem. Shut down particulate monitoring at 9:15 Am due to weather conditions.

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Diagrams continued next page...



Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	March 7 – 11, 2011
Date Submitted:	March 21 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Loading out trucks. Setting cross supports on sheeting. Receiving fill/backfilling. Houck working at 213 39th St. Moved temp enclosure.

Day 1	Four stations area 2.
Day 2	Four stations area 2.
Day 3	Four stations area 2.
Day 4	Four stations Area 2. Weather issues. (Rain, wind).
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	1 - 32	4 - 68	7 - 193	21 - 61	1 - 20
Station-2	0 - 30	3 - 329	5 - 92	16 - 35	0 - 28
Station-3	5 - 88	4 - 67	7 - 187	13 - 125	5 - 105
Station-4	2 - 526	5- 74	6 - 637	24 - 41	1 - 1210***

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 0	0 - 9*	0 - 29**
Station-2	0 - 0	0 - 0	0 - 0	0 - 13*	0 - 0
Station-3	0 - 0	-1 - 0	0 - 0	0 - 119*	0 - 0
Station-4	-0.4 - 0	-0.3 - 0	-0.2 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	34.8 - 49.6	31.3 - 40.4	40.1 - 43.1	46 - 48.9	44.7 - 56.1
Rel. Humidity	33.7 - 80.3	50.3 - 70.4	69.8 - 85.1	86.4 - 92.5	46 - 93.9
Bar. Pressure	1.0143	1.0323	1.0324	1.0159	1.0084
Prevailing Wind Direction	NW	NNE	NNE	ESE	N
Wind Speed	4.3 - 17.4	5.1 - 12.2	6.9 - 16.9	4.3 - 16	1.5 - 39.3
Comments	Sunny, Windy	Sunny, windy, cold	Sunny, Windy	Cloudy, windy, Rain	AM Rain PM Sunny, windy

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
3/11/11 1:10 PM	Station #4.	1210 ug/m3***	*** Backfill truck on 39 th St. caused unsustained spike.
3/10/11 11:17- 11:24 AM 3/11/11 7:30 AM	Station #1,2,3. Station #1.	119,13,9 PPM.* 29 PPM**	*Weather issues caused VOC spikes. (Lamp errors). ** Lamp error caused spike to monitor.

Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

Sea Isle City – Air Monitoring Locations – March 7 – 11, 2011

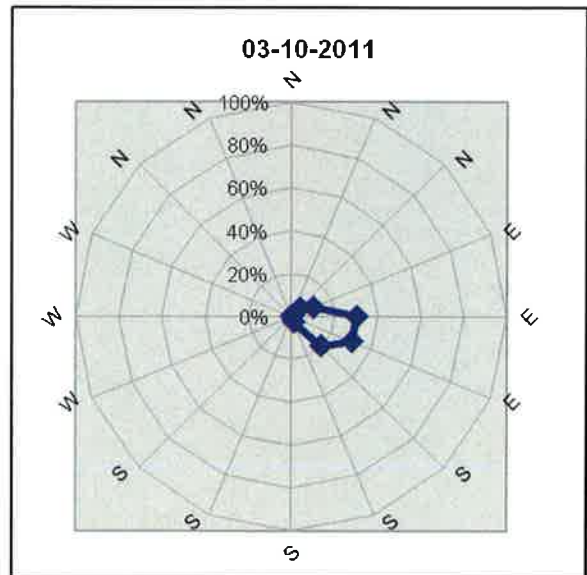
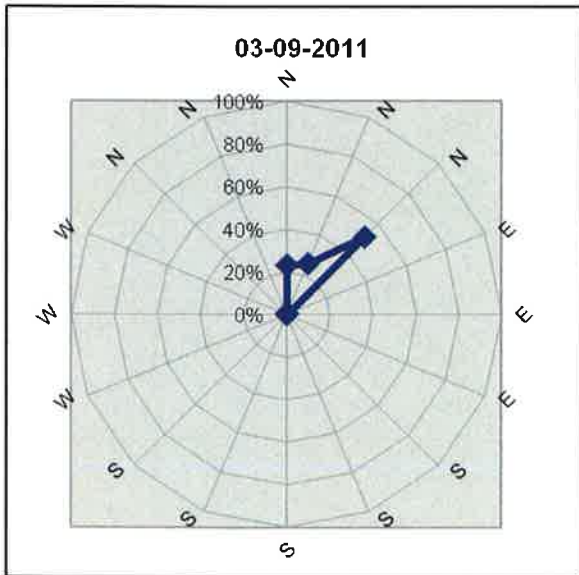
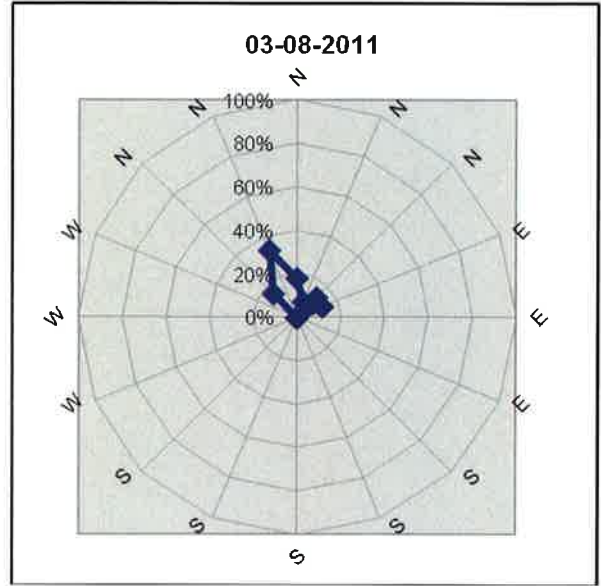
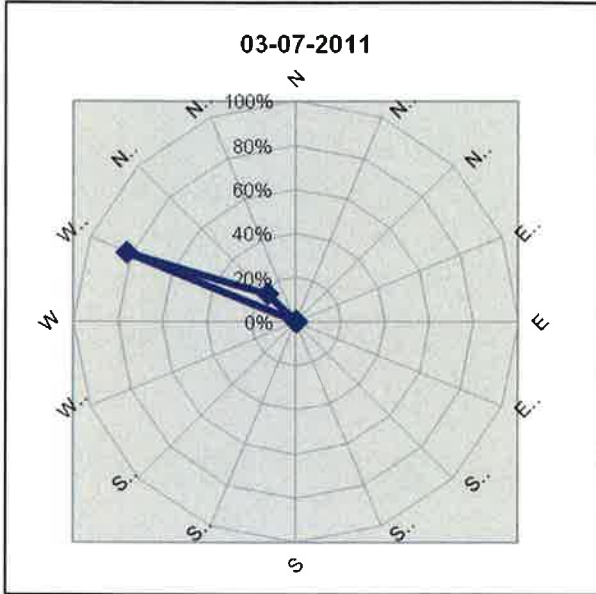


Comments: Excavating area #2. Loading out trucks. Setting whalers/supports. Foundation work 213 39th St. Moved temp enclosure. Backfilling.

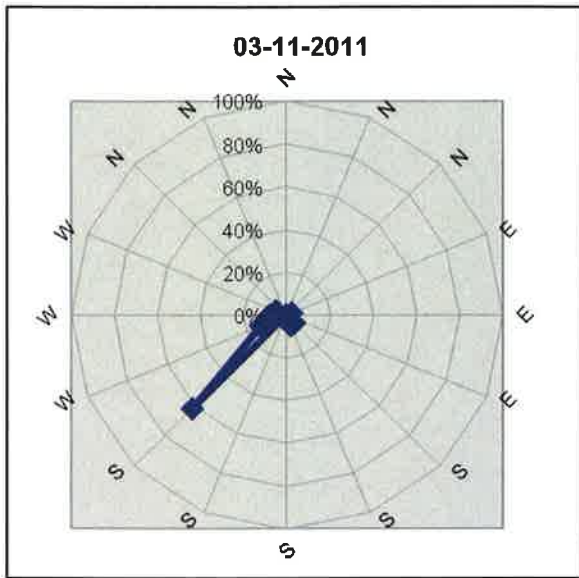
3/10/11: Weather conditions caused reading spikes in VOC monitors.(Lamp errors)

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Diagrams continued next page...



Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	March 14 – 18, 2011
Date Submitted:	March 25 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Loading out trucks. Receiving fill/ backfilling. Houck working at 213 39th St. Removing wells. Work at 217 39th. St. Loading out equipment.

Day 1	Four stations area 2.
Day 2	Four stations area 2.
Day 3	Four stations area 2.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	5 - 45	6 - 635	5 - 32	11 - 221	16 - 113
Station-2	4 - 54	4 - 120	4 - 66	10 – 1440**	13 – 151
Station-3	7 - 97	6 - 78	6 – 118	10 – 134	15 - 105
Station-4	7 - 372	7 – 3360*	5 – 476	0 – 666	14 – 55

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	34.1 – 49.1	33.4 – 46.5	46 – 59	45.1 – 62.4	48 – 76.2
Rel. Humidity	38.9 – 80.5	60 – 86.4	55.4 – 93.4	31.5 – 75.4	36.2 – 79.2
Bar. Pressure	1.0257	1.0306	1.0169	1.0221	1.0126
Prevailing Wind Direction	WNW	NE	WSW	W	WSW
Wind Speed	2.8 – 13.5	3.2 – 12.3	1.1 – 9.5	1.2 – 10.9	1.4 – 6.4
Comments	Sunny, Breezy	Sunny, Breezy	Early rain PM Partly sunny	Sunny, Breezy	Mostly sunny, warm

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
3/15/11 9:30 AM	Station #4.	3360 ug/m3*	* Concrete work at 217 39 th St. caused particulate spike.
3/17/11 12:50 AM	Station #2.	1440 ug/m3**	** Street sweeper caused unsustained particulate spike.

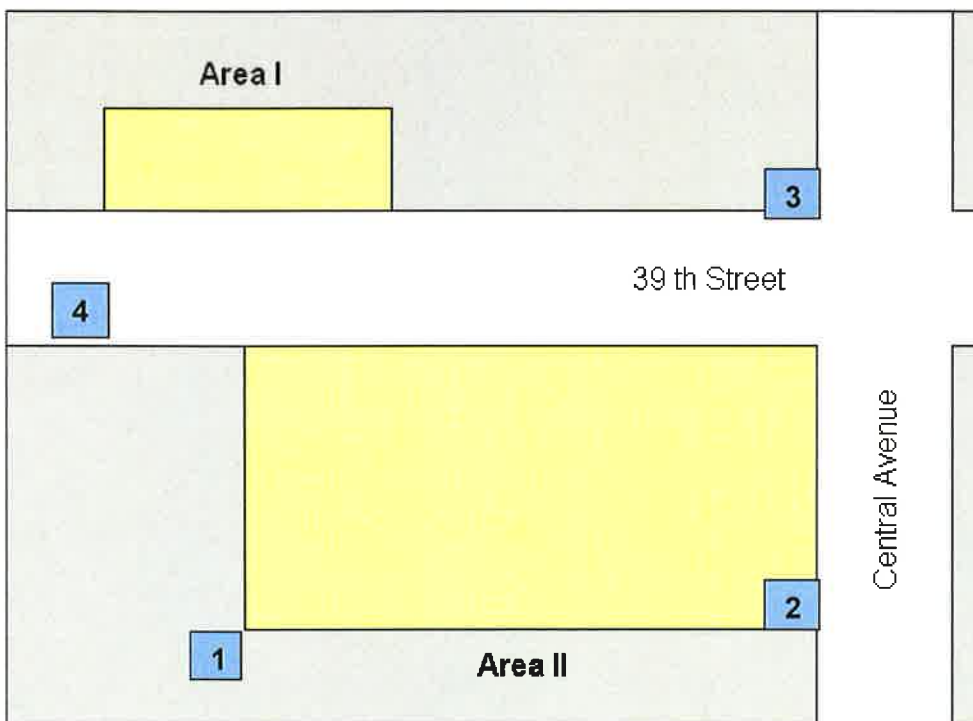
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

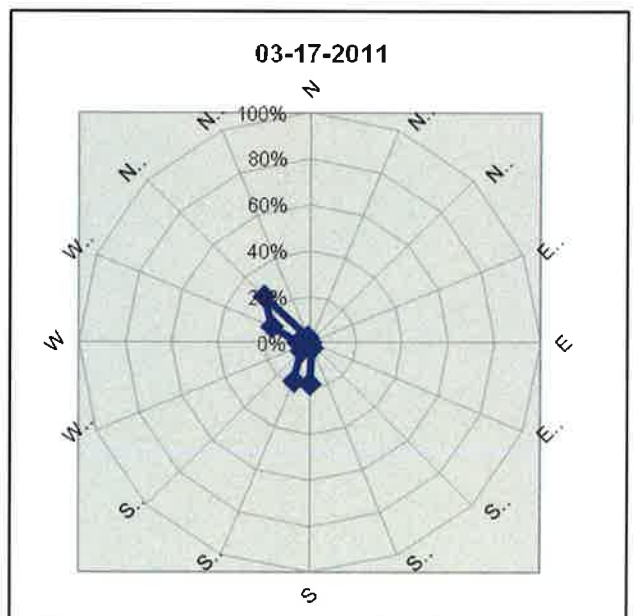
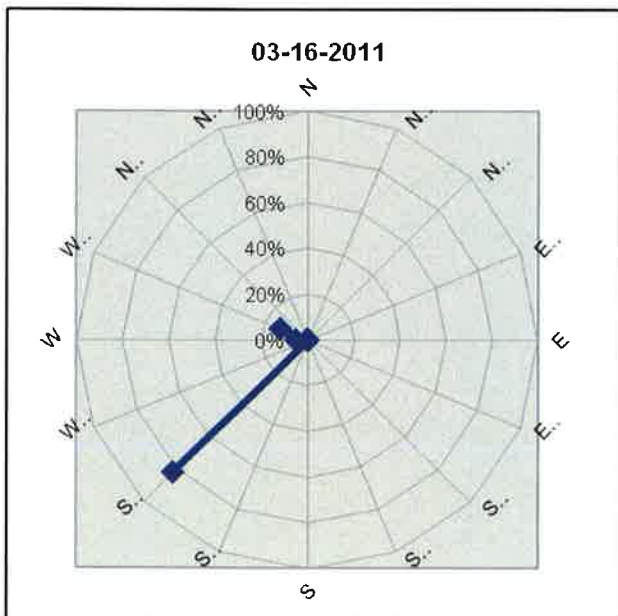
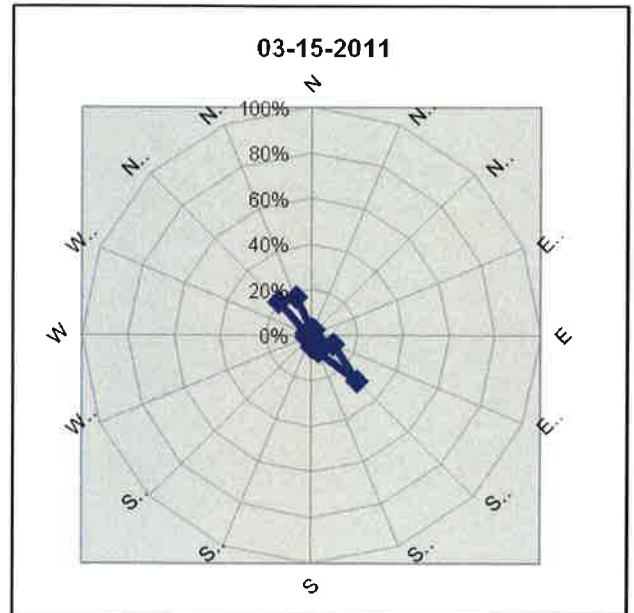
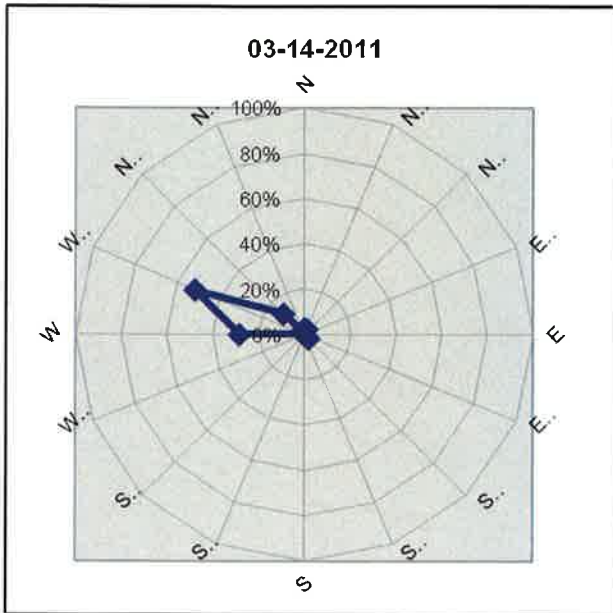
Sea Isle City – Air Monitoring Locations – March 14 – 18, 2011



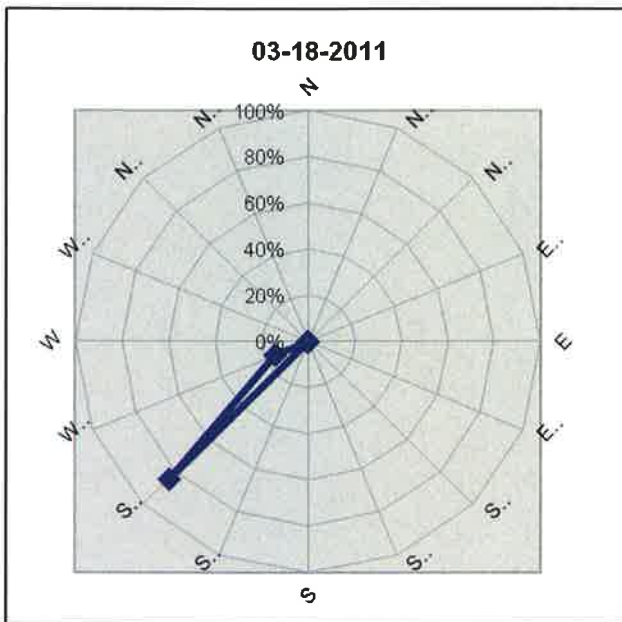
Comments: Excavating area #2. Loading out trucks. Setting walers/supports. Foundation work 213 39th St. Receiving fill/ backfilling. Concrete work at 217 39th St. Loading out equipment.

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Diagrams continued next page...



**Weekly Report
 Perimeter Air Monitoring**

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	March 21 – 25, 2011
Date Submitted:	March 30 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Loading out trucks. Receiving fill/ backfilling. Disconnected air exchange unit. Removing whalers. Loading out equipment. Installed contamination barrier. Foundation work at 213 39th St.

Day 1	Four stations area 2.
Day 2	Four stations area 2.
Day 3	Four stations area 2.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	7 - 44	7 - 131	10- 170	6 - 55	7 - 71
Station-2	5 - 79	4 – 1060*	7 - 61	5 – 836	5 – 98
Station-3	5 - 133	9 - 110	4 – 210	6 – 94	7 - 84
Station-4	10 - 524	7 – 92	5 – 369	5 – 31	7 – 186

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-2	0 - 0	0 - 0	0 - 0	-0.09 - 0	0 - 0
Station-3	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	-0.05 - 0	-0.15 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	43.7 - 60.2	44.7 - 57.5	41.1 - 42.4	35.6 - 40.8	27.4 - 43.5
Rel. Humidity	64.4 - 89.9	41.5 - 85.3	71.9 - 93.3	62.3 - 89	33.3 - 73.8
Bar. Pressure	1.0176	1.0129	1.0073	1.0044	1.0145
Prevailing Wind Direction	SW	NNW	NNE	NNW	WNW
Wind Speed	1.4 - 11.9	1.5 - 12.8	2.9 - 21.4	4.7 - 12.2	2.3 - 10.3
Comments	AM Rain, PM Sunny	Sunny, Breezy	Cloudy, Windy	Cloudy, Breezy	Sunny, Cold, Breezy

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
3/22/11 10:00 AM	Station #2.	1060 ug/m3*	* Backfill truck caused unsustained particulate spike.

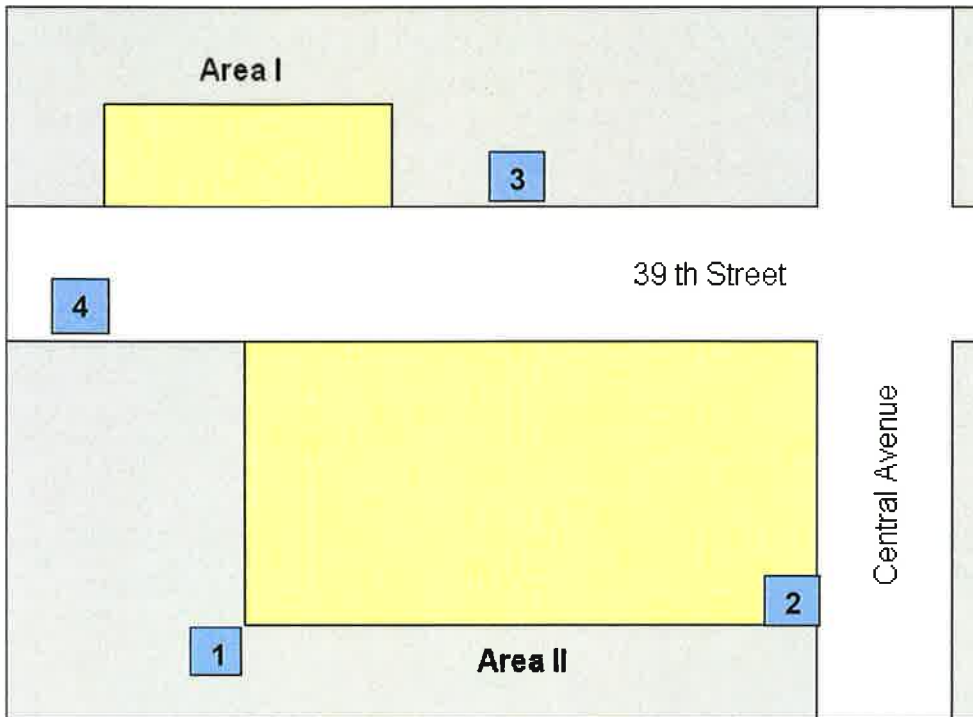
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

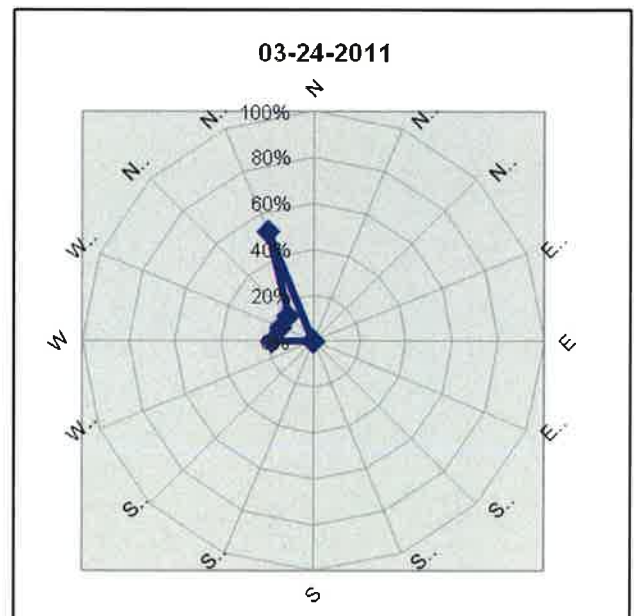
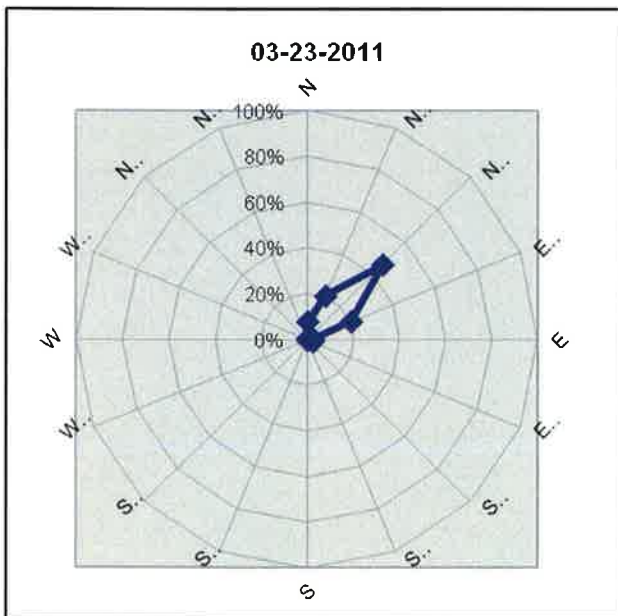
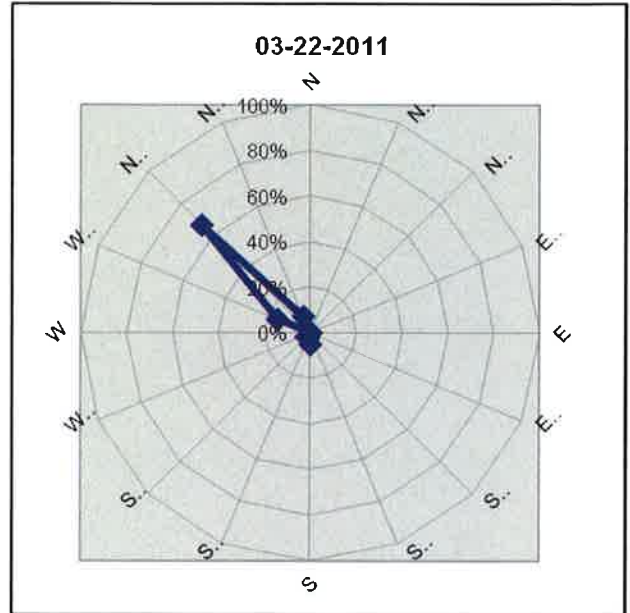
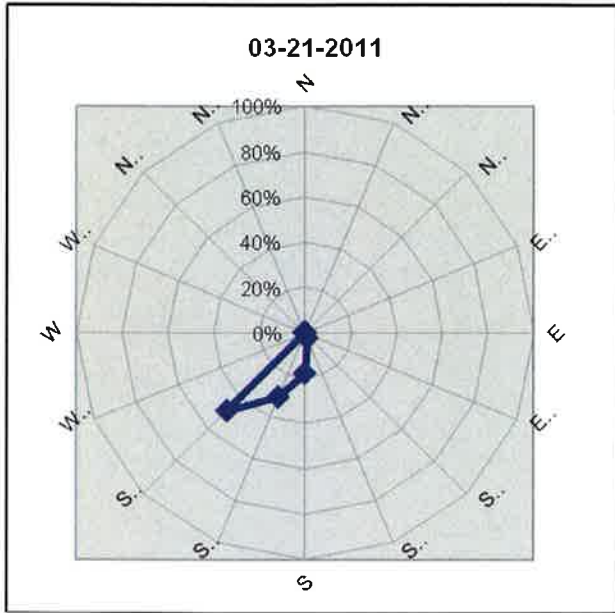
Sea Isle City – Air Monitoring Locations – March 21 – 25, 2011



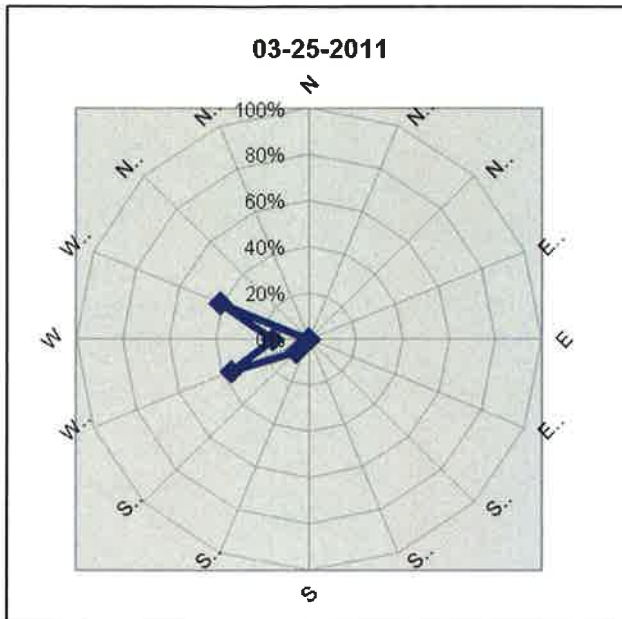
Comments: Excavating area #2. Loading out trucks. Removing whalers/supports. Foundation work 213 39th St. Receiving fill/ backfilling. Loading out equipment. Installed contamination barrier.

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Diagrams continued next page...



Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	March 28 – April 1, 2011
Date Submitted:	April 13 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Receiving fill/ backfilling. Removing temporary structure. Removing air system, water treatment system. Loading out whalers/ equipment. Removing and cleaning sheets.

Day 1	Four stations area 2.
Day 2	Four stations area 2.
Day 3	Four stations area 2.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	6 - 108	6 - 108	4- 455	6 - 69	1 - 15
Station-2	6 - 75	4 - 185	3 - 241	3 - 65	1 - 50
Station-3	2 - 78	4 - 104	6 - 192	5 - 95	0 - 167
Station-4	7 - 304	6 - 6720*	4 - 1750**	4 - 28	1 - 44

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	-0.19 - 0	0 - 0	0 - 0	0 - 0
Station-2	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0
Station-3	0 - 0	-0.2 - 0	0 - 0	0 - 0	0 - 0
Station-4	0 - 0	0 - 0	0 - 0	-0.1 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	27.9 - 45.3	31.7 - 50.5	36.8 - 43.5	39.9 - 41.5	37.4 - 45.3
Rel. Humidity	21.8 - 50.5	20.1 - 46.8	50.9 - 68.2	86.4 - 92.2	68.5 - 92.9
Bar. Pressure	1.0161	1.0196	1.0198	1.0073	0.9959
Prevailing Wind Direction	WNW	WNW	NNW	NNE	NW
Wind Speed	3.6 - 13.8	2.4 - 11.1	4.3 - 9	5 - 22	3.5 - 22.1
Comments	Sunny, Cold	Sunny, Breezy	Sunny, Breezy	Cloudy, Rain, Windy	Light rain, cloudy, windy

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
3/29/11 3:20 PM	Station #4.	6720 ug/m3*	* Spike occurred after work activities. Caused by wind gust in street.
3/30/11 2:50 PM	Station #4.	1750 ug/m3**	** Spike caused by street sweeper. Unsustained.

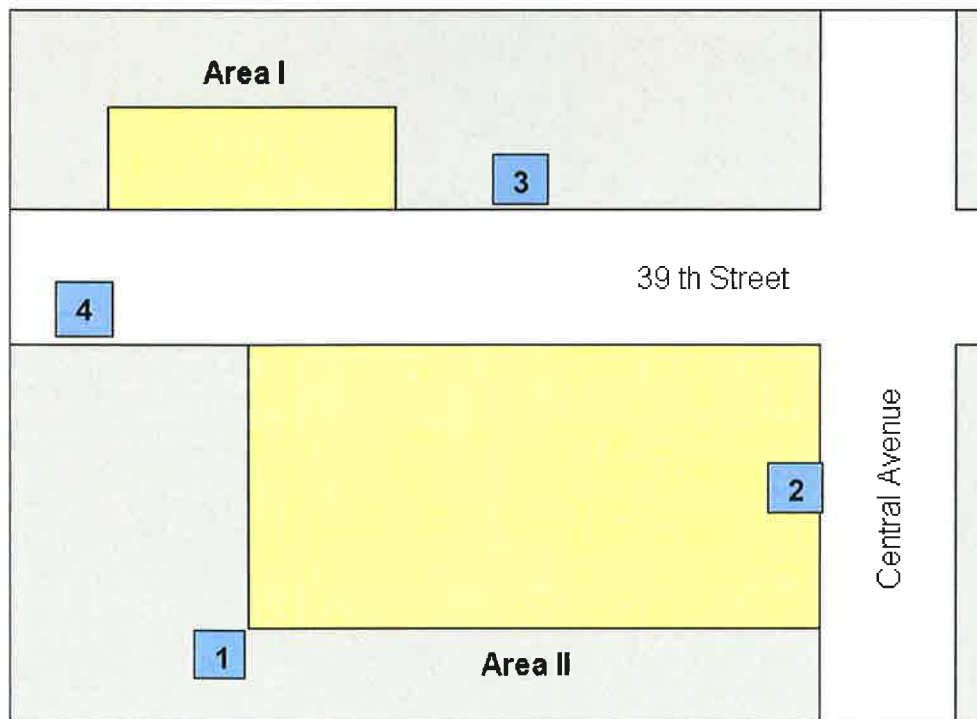
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

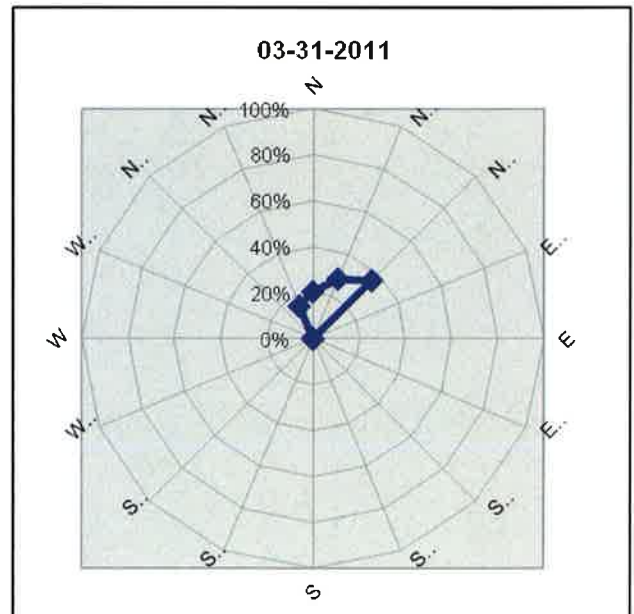
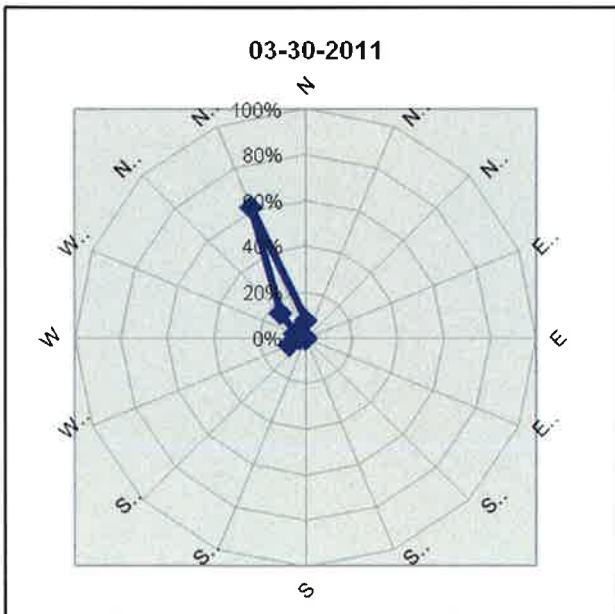
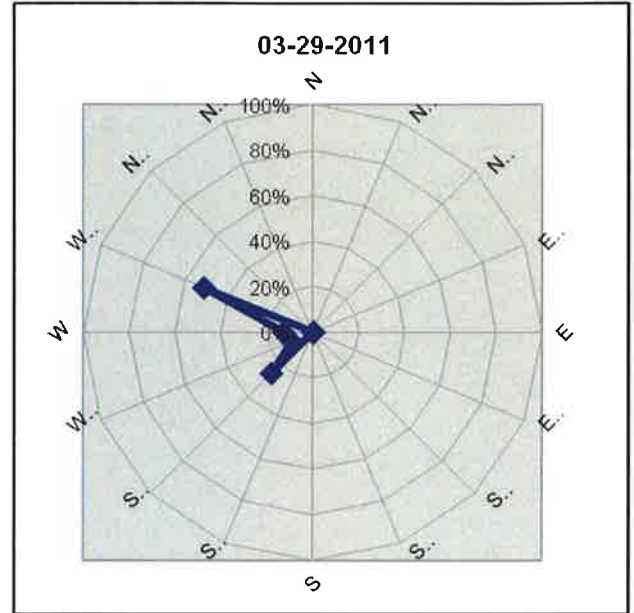
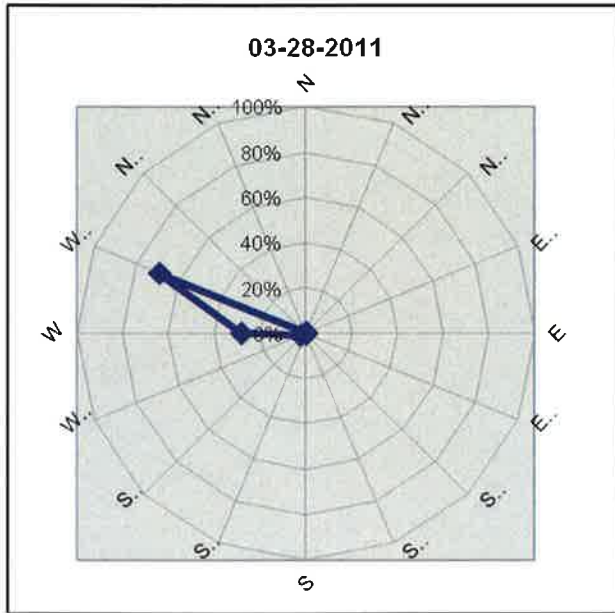
Sea Isle City – Air Monitoring Locations – March 28 – April 1, 2011



Comments: Removing whalers/supports. Receiving fill/ backfilling. Loading out equipment. Removing/cleaning sheets. Removing air and water treatment systems.

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Diagrams continued next page...

Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	April 4 – April 8, 2011
Date Submitted:	April 13 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Grading. Loading out whalers/Sheets/equipment. Removing and cleaning sheets .Leveling porch at 209 39th St.

Day 1	Four stations area 2.
Day 2	Four stations area 2.
Day 3	Four stations area 2.
Day 4	Four stations Area 2.
Day 5	Four stations Area 2.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	16 - 47	0 - 39	7- 211	17 - 314	17 - 340
Station-2	14 - 111	0 – 103	5 - 116	13 – 48	13 – 297
Station-3	16 - 125	19 - 91	9 – 76	16 – 715	17 - 34
Station-4	17 - 502	2 – 91	6 – 437	15 – 1550***	14 – 163

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 – 70*	0 - 0	0 - 0	0 – 0	0 – 0
Station-2	0 – 19**	0 - 4	0 - 0	0 – 0	0 - 0
Station-3	0 - 0	0 - 0	-0.3 - 0	0 – 0	0 – 0
Station-4	0 - 0	0 - 0	0 - 0	0 - 0	0 - 0

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	47.6 – 66.7	46 – 56.3	38.8 – 56.1	44.6 – 48.7	42 – 44.9
Rel. Humidity	50.7 – 81.7	56.5 – 94	25.1 – 68.9	71.4 – 85.8	65.2 – 91.7
Bar. Pressure	1.0057	0.9950	1.0170	1.0168	1.0215
Prevailing Wind Direction	WSW	WSW	WSW	NE	N
Wind Speed	2.5 – 9.7	4.1 – 24.4	2.3 – 9.4	5.2 – 15	3.7 – 20.2
Comments	Cloudy, Windy	Windy, Rain, T-storms	Sunny, Breezy	Sunny, Breezy	Rain, Windy, cloudy

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
4/4/11 8:00 AM	Station #1.	70 PPM*	*Lamp errors caused spike. Recalibrated/zeroed monitor.
4/4/11 9:30 AM	Station #2.	19 PPM**	**Lamp errors causing spikes. Recalibrated/zeroed monitor.
4/7/11 1:45 PM	Station #4.	1550 ug/m3***	*** Spike caused by workers sweeping on 39 th St.

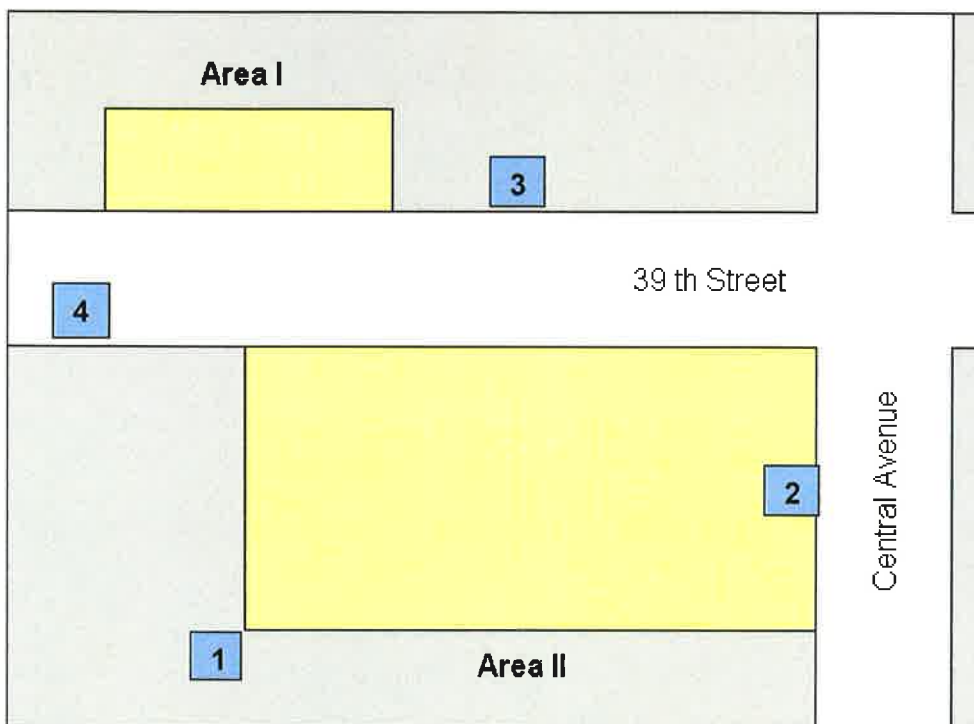
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

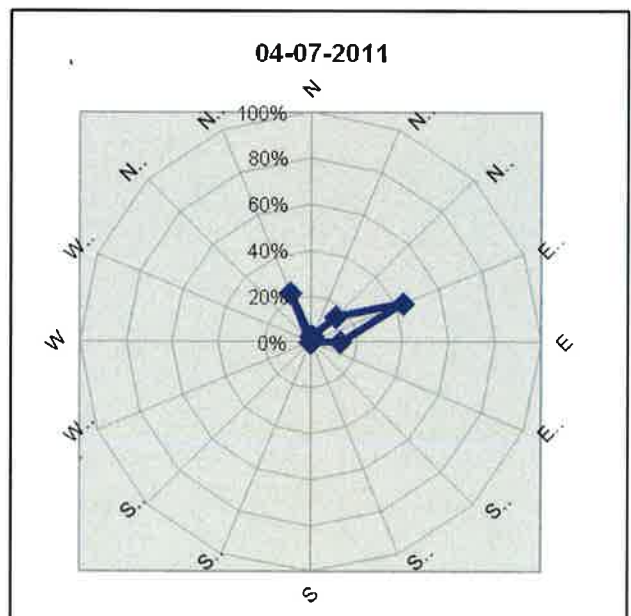
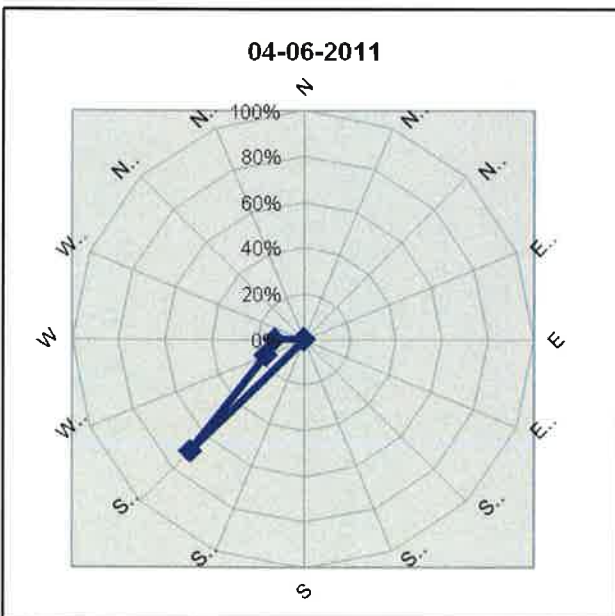
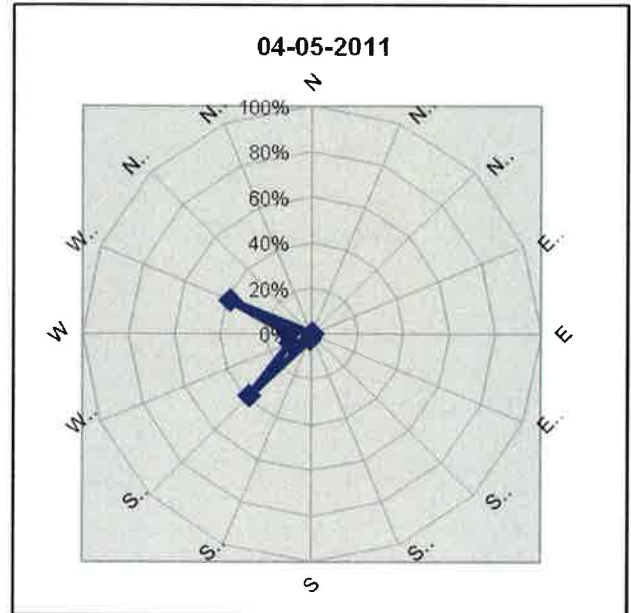
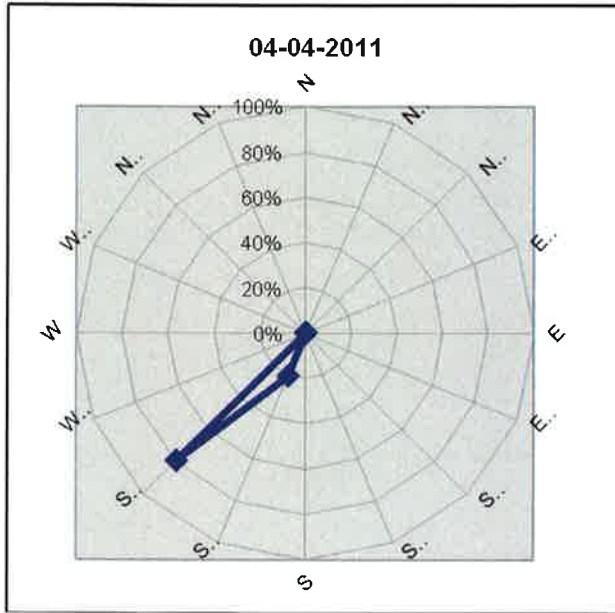
Sea Isle City – Air Monitoring Locations – April 4 – April 8, 2011



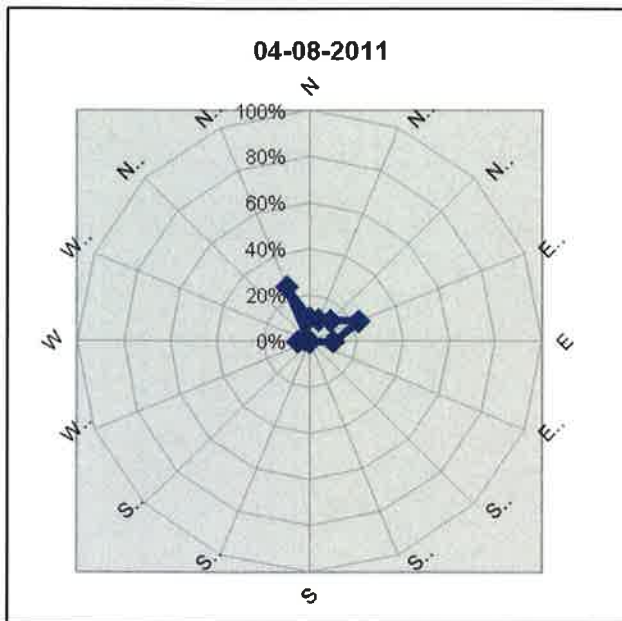
Comments: Grading. Loading out equipment. Removing/cleaning sheets. Porch work 209 39th st.

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Diagrams continued next page...



Weekly Report Perimeter Air Monitoring

Customer:	FirstEnergy / JCP&L
Project Name:	Sea Isle City, Former MGP Soil Remediation
Project Site:	Sea Isle City,
Period Covered:	April 11 – April 15, 2011
Date Submitted:	April 13 , 2011
Submitted by:	Ed Pearl

Operations Summary

Ed Pearl on site. Grading. Loading out Sheets. Removing and cleaning sheets .

Day 1	Four stations area 2.
Day 2	Four stations area 2.
Day 3	Three stations area 2.
Day 4	No Monitoring.
Day 5	No Monitoring.

Air Monitoring Overview

Particulate: PM-10: Min-Max (ug/m3):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	14 - 78	17 – 904*	8- 21	N/A	N/A
Station-2	12 - 96	14 – 168	10 - 249		
Station-3	11 - 47	18 - 78	8 – 36		
Station-4	13 - 183	16 – 161			

Volatiles: TVOC: Min-Max (ppm):

Station	Day-1	Day-2	Day-3	Day-4	Day-5
Station-1	0 - 0	-8 - 0	0 - 0	N/A	N/A
Station-2	0 - 0	0 - 29491**	0 - 0		
Station-3	0 - 0	0 - 0.2	0 - 0		
Station-4	0 - 0	0 - 0			

Weather: Min-Max values, as noted:

Item	Day-1	Day-2	Day-3	Day-4	Day-5
Temperature	52.8 - 64.5	50 - 61.3	47.3 - 49.6	N/A	N/A
Rel. Humidity	67.7 - 94.1	64.1 - 91.4	94.4 - 94.9		
Bar. Pressure	1.0077	1.0086	1.0095		
Prevailing Wind Direction	WSW	ENE	ENE		
Wind Speed	1.8 - 8.5	0.7 - 17.2	4 - 20.3		
Comments	AM Fog - PM Sunny, Breezy	Partly sunny, Windy	Partly cloudy, AM Fog		

Exceedences

Date/Time	Station/Location	Measured Value	Response/Explanation
4/12/11 3:35 PM	Station #1.	904 ug/m3*	*Equipment exhaust caused spike in particulates.
4/12/11 2:45 PM	Station #2.	29491 PPM**	** Spike caused by monitor malfunction. Switched out unit.

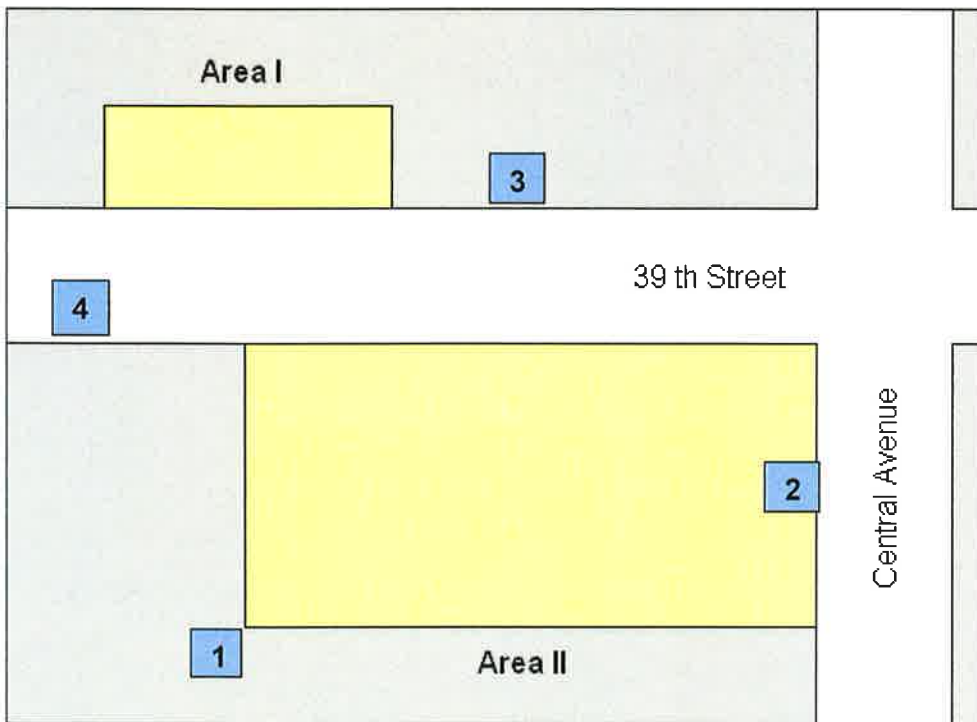
Air Monitoring Equipment Status

Zeroed dust monitors. Zeroed and calibrated VOC monitors. Zeroing and Calibrating in field as needed. Everything functioning OK.

Air Monitoring Locations

See map below

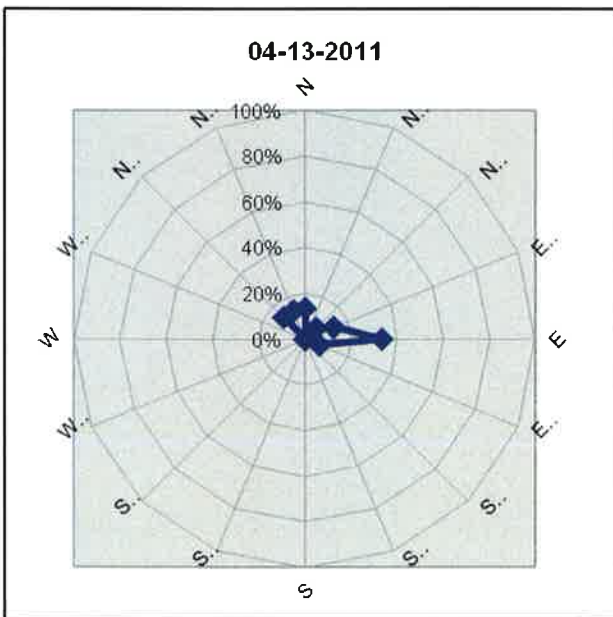
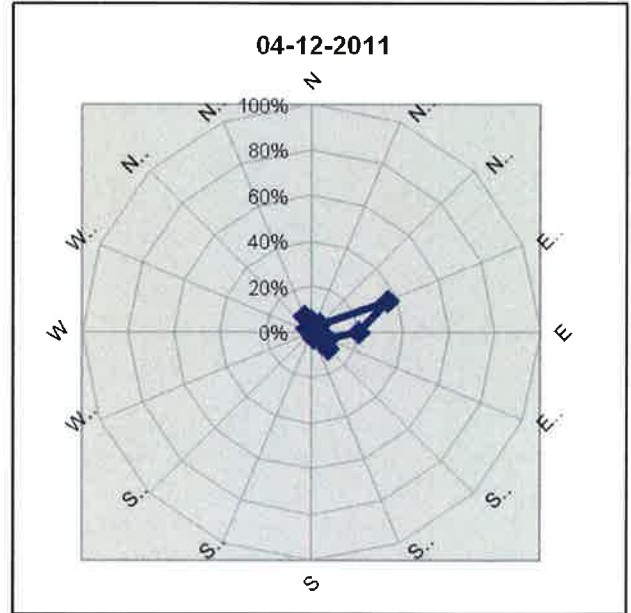
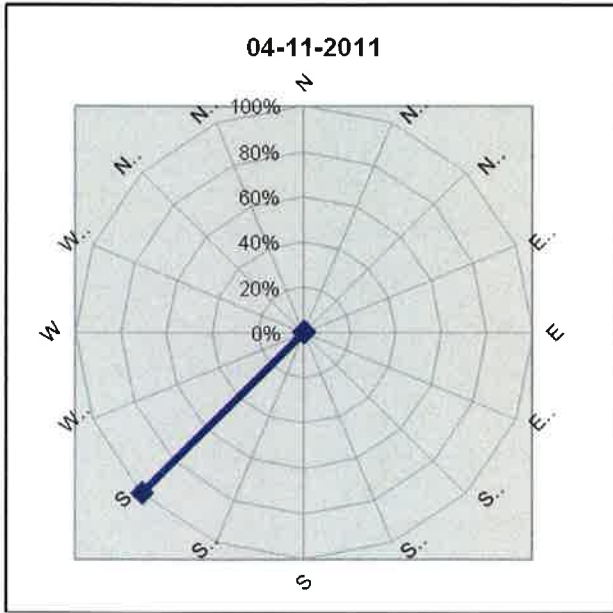
Sea Isle City – Air Monitoring Locations – April 11 – April 15, 2011



Comments: Grading. Loading out equipment. Removing/cleaning sheets.

Daily Wind Rose Diagrams

Wind direction vs. percentage of time during the work shift
(15-minute averages of prevailing wind direction for 16 compass directions)



Appendix H

Data Usability Summary Report

Site: Sea Isle City
Laboratory: Integrated Analytical Laboratories, Randolph, NJ
Report Nos.: E11-01114, E11-01701, E11-01786, E11-02290, E11-02450, E1102518 and E1102598
Reviewer: Lisa McDonagh/GEI Consultants
Date: July 1, 2011

Samples Reviewed and Evaluation Summary

FIELD ID	LAB ID	FRACTIONS VALIDATED
16(12-12.5)	E11-01114-01	BTEX, PAH
I-1	E11-01701-01	PAH
I-2	E11-01701-02	PAH
H2(12-12.5)	E11-01786-01	PAH
H1(12-12.5)	E11-01786-02	PAH
G3(12-12.5)	E11-02290-01	PAH
G1	E11-02450-01	PAH
G2	E11-02450-02	PAH
F2	E11-02450-03	PAH
F1	E11-02518-01	PAH
SPA-1	E11-02518-02	PAH
G-2A	E11-02598-01	PAH

Associated QC Samples(s): Field Blanks: None associated
Field Duplicate pair: None associated

The above-listed soil samples and field blank samples were collected on February 8, 25, March 1, 14, 17, 18 and 21, 2011 and were analyzed for volatile organic compounds (BTEX) by SW-846 method 8260 and polynuclear aromatic hydrocarbon (PAH) semivolatile organic compounds (SVOC) by SW-846 method 8270. The data validation was performed in accordance with the *NJDEP Standard Operating Procedures for the Quality Assurance Data Validation of Analytical Deliverables*, TCL Organics, and October 2001.

The data were evaluated based on the following parameters:

- * • Data Completeness
- * • Holding Times and Sample Preservation
- * • Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- * • Initial and Continuing Calibrations
- * • Blanks
- * • Surrogate Recoveries
- * • Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results

Sea Isle City, Project 013660-*-2000

- * • Internal Standards
- NA • Laboratory Control Sample (LCS) Results
- NA • Field Duplicate Results
- * • Moisture Content
- Quantitation Limits
- * • Sample Quantitation and Compound Identification

- * - All criteria were met.

All target compound results were found to be usable for project objectives.

Qualifications were not applied to the data as a result of sampling error.

Qualifications applied to the data as a result of analytical error are summarized below.

- Potential uncertainty exists for select PAH results which were below the lowest calibration standard. These results were qualified as estimated (J). These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

The validation recommendations were based on the following information.

Data Completeness

The package was complete for the BTEX and PAH analyses for reduced NJDEP deliverable reporting requirements.

Holding Times and Sample Preservation

All criteria were met for the BTEX and PAH analyses.

GC/MS Tunes

All criteria were met for the BTEX and PAH analyses.

Initial and Continuing Calibrations

All criteria were met for the BTEX and PAH analyses.

Blanks

Target compounds were not detected in the associated BTEX and PAH method blank samples.

Surrogate Recoveries

All criteria were met for the BTEX and PAH analyses.

MS/MSD Results

BTEX and PAH MS/MSD analyses were performed on non-project samples. All criteria were met in these analyses.

PAH MS/MSD analyses were performed on project samples I-1 and SPA-1. All criteria were met in these analyses.

Internal Standards

All criteria were met for the BTEX and PAH analyses.

LCS Results

LCS results were not reported in this reduced deliverable package. Validation actions were not taken as MS/MSDs were associated with each preparation batch and all MS/MSD recovery and precision criteria were met in these analyses.

Field Duplicate Results

Field duplicate samples were not submitted with the data package.

Moisture Content

All criteria were met for the BTEX and PAH analyses.

Quantitation Limits

Results were reported which were below the reporting limit (RL) and above the method detection limit (MDL) in the PAH. These results were estimated (J) by the laboratory.

The following table lists the sample dilutions, which were performed.

Sample	BTEX Analysis Reported	PAH Analysis Reported
16(12-12.5)	NR	1:2 dilution.
H2(12-12.5)	NA	1:2 dilution.
G2	NA	1:2 dilution.

NR- Not required.

Sea Isle City, Project 013660-*-2000

All other PAH samples were analyzed at a 1:1 dilution.

Sample Quantitation and Compound Identification

Calculations were spot-checked; no discrepancies were noted in the BTEX and PAH analyses.

Appendix I

Laboratory Analysis Results (CD)