From: "Mark Lahr" <mlahr@keyenvir.com>
To: "'John Spellman, PE'" <jtspellm@gw.dec.state.ny.us>, "'Greg Rys'" <gar02...
CC: "'Mike Slenska'" <Mike.Slenska@hanson.biz>, "'Kopach, Donna (Pittsburgh)...
Date: 12/4/2009 3:47 PM
Subject: NYTEP Final Engineering Report Submittal
Attachments: FER Report- Dec 04-09.pdf

Good Afternoon John:

Please find attached the Final Engineering Report for the Beazer East Site in Utica, NY, which has been revised to address your comments. Note that two hardcopies have been sent via Fedex to your attention.

If you have any questions regarding this email, please call me.

Key Environmental, Inc.

Mark Lahr

Sr. Project Manager / Engineer

200 Third Avenue

Carnegie, PA 15106

(412) 279-3363 Fax: (412) 279-4332

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Beazer

BEAZER EAST, INC. C/O THREE RIVERS MANAGEMENT, INC.
ONE OXFORD CENTRE, SUITE 3000, PITTSBURGH, PA 15219-6401

December 4, 2009

John T. Spellman, P.E.
Environmental Engineer
Bureau of Construction Services
Division of Hazardous Waste Remediation
New York State Department of Environmental Conservation
Bureau of Western Remedial Action
625 Broadway, Room 352
Albany, NY 12233-7017

Re: New York Tar Emulsion Products Site
Utica, New York

Subject: Transmittal of Final Engineering Report - Revised

Dear Mr. Spellman:

Beazer East, Inc. (Beazer) hereby provides the New York State Department of Environmental Conservation (Department) with two (2) copies of the *Final Engineering Report* (FER) for the New York Tar Emulsion Products (NYTEP) Site in Utica, New York (Site). The FER has been revised in accordance with the comments and responses discussed with the Department. Beazer looks forward to the Department's approval of the FER and to receiving Exhibit E of the Order.

If you have any questions or need additional information regarding this transmittal, please do not hesitate to contact me at 412-208-8867.

Sincerely,

Michael Slenska / MRL for

Michael Slenska, P.E.
Environmental Manager

Enclosure

cc: Mr. Greg Rys - NYSDOH (via PDF)
Mr. Paul Kline – Beazer (via PDF)
Mr. Eric T. Dadd, Esq. – Dadd & Nelson
Mr. Richard Schutz – Suit-Kote Corporation
Mr. Mark Lahr – Key Environmental, Inc.

FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

Prepared for:

Beazer East, Inc.

***Prepared by*:**

Key Environmental, Inc.
200 Third Avenue
Carnegie, PA 15106

December 2009

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ABBREVIATIONS AND ACRONYMS

Beazer	Beazer East, Inc.
bgs	Below ground surface
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes
Certification Report	Soil Remedy Certification Report
Consent Order	Order on Consent
Department	New York State Department of Environmental Conservation
FER	Final Engineering Report
FS	Feasibility Study
HASP	Health and Safety Plan
KEY	Key Environmental, Inc.
MGP	Manufactured gas plant
NAPL	Non-aqueous phase liquid
NMPC	Niagara Mohawk Power Corporation
NYTEP	New York Tar Emulsion Products
PAHs	Polycyclic aromatic hydrocarbons
PVC	Polyvinylchloride
ppm	Parts per million
Respondents	Beazer and Suit-Kote
RI	Remedial Investigation
ROD	Record of Decision
Site	New York Tar Emulsion Products site
SMP	Site Management Plan
Suit-Kote	Suit-Kote Corporation
TCLP	Toxicity Characteristic Leaching Procedure
ug/l	Micrograms per liter

PROFESSIONAL ENGINEER SIGNATURE PAGE

FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE

I, Mark R. Lahr, certify that I am currently a registered professional engineer, and I certify that the Remedial Work Plan was implemented and that all construction activities were completed in substantial conformance with the Department-approved Remedial Work Plans.

KE Engineering Services, PC
Authorization Certificate Number: 0003232

Mark R. Lahr — 12/4/09

Mark R. Lahr, P.E. — Date
State of New York
License Number: 074012

WARNING: *It is a violation of New York State Education Law, Article 145, Engineering and Land Surveying, Section 7209, for any person, unless acting under the direction of a licensed professional engineer, to alter any item in any way in this report.*

1.0 INTRODUCTION

Key Environmental, Inc. (KEY) has prepared this Final Engineering Report (FER) on behalf of Beazer East, Inc. (Beazer) and Suit-Kote Corporation (Suit-Kote), collectively known as the Respondents, for the New York Tar Emulsion Products (NYTEP) site (Site) located in Utica, New York. The FER has been prepared in accordance with Section I.C.2 of the Order on Consent (Consent Order) entered into between Beazer, Suit-Kote, and the New York State Department of Environmental Conservation (Department, July 10, 1998). The Consent Order incorporates the Record of Decision (ROD) (Department, March 30, 2002) that was issued by the Department to document its selected remedy for the Site, along with the adjacent Harbor Point Property and Mohawk Valley Oil Site. This document only relates to implementation of the remedies required at the Site.

The introductory information necessary to understand the FER context is provided in the following sections:

- Section 1.1 provides a brief Site description and overview of the Site history;
- Section 1.2 reviews the Consent Order requirements;
- Section 1.3 explains the purpose of this Final Engineering Report; and,
- Section 1.4 describes the organization of this report.

1.1 SITE DESCRIPTION AND HISTORY

The Site is located in the central southeastern part of the Harbor Point area in the City of Utica, Oneida County, New York (Figure 1-1). The approximately 70-acre Harbor Point area geographically forms a peninsula. The Harbor Point area is bounded on the west and north by the Mohawk River, on the east by the New York State Barge Canal and the Utica Harbor Terminal, and on the south by a railroad corridor. The Site is a 2.96-acre parcel surrounded by former industrial sites of the Harbor Point area. The Site's eastern border is located along Washington Street, which is adjacent to the former Mohawk Valley Oil Site (Figure 1-2). National Grid (formerly Niagara Mohawk Power Corporation) properties are located along the southern, western, and northern borders of the Site.

NYTEP started operating in 1926 and continued until 1983. A variety of road coal tars and asphalt emulsion products were processed at the Site on a seasonal basis. Basic raw materials included coal tar, asphalt, and stone. The primary source of crude tar for NYTEP was the adjacent manufactured gas plant (MGP) operated by National Grid.

1.2 CONSENT ORDER OVERVIEW

The Consent Order provided the framework for completion of the response actions to address potential threats to the environment posed by contamination at the Site. Figure 1-3 provides a flowchart of the steps required to comply with the Consent Order. Following completion of the ROD, the Consent Order describes those activities required to move the Site through the remedial action phase and into the post-remedial operations phase.

The remedial action phase consisted of the remedial design activities, including Department review and approval of applicable plans, and remedial construction activities. The remedial action phase culminates in the submittal of this FER. Once the Department approves the FER, the Department will issue *Exhibit E - Release and Covenant Not to Sue* of the Consent Order to the Responding Parties.

The post-remedial operations phase consists of operating and maintaining the remedial action components. The post-remedial activities are defined in the Site Management Plan (SMP). The SMP provides the framework for operation, reporting, and termination of the remedial action components. As specified in the Department's March 10, 2008 letter, the termination criteria for the non-aqueous phase liquid (NAPL) recovery remedial action has been deferred from the remedial action phase to the post-remedial operations phase.

1.3 REPORT PURPOSE

The purpose of the report is to demonstrate that the remedial actions have been implemented in accordance with the requirements of the ROD, as modified and approved by the Department. In addition, the FER is to provide and summarize project information as required by the Department. Table 1-1 provides the Department's checklist for an FER and cross-references where the relevant information is provided.

1.4 REPORT CONTENTS

This *Final Engineering Report* is organized into the following six (6) sections:

- **Section 1.0: Introduction** – presents background information regarding the Site and report contents;
- **Section 2.0: Overview of Remediation requirements** – presents the Record of Decision requirements for the remedial actions required at the Site;
- **Section 3.0: Soil Remedial Action Construction Overview** – provides a detailed review of the soil remedial action;
- **Section 4.0: NAPL Recovery Overview** – discusses the components of the NAPL recovery remedial action;
- **Section 5.0: Groundwater Monitoring Overview** – describes the groundwater monitoring program implemented for the Site; and,
- **Section 6.0: References** – provides the listed references cited in the FER.

This report is supported by three tables, nine figures, and three attachments.

2.0 OVERVIEW OF REMEDIATION REQUIREMENTS

The process of investigation and evaluation of the Site, as required by the Consent Order, culminates in the development of remediation requirements. This section provides the following:

- Section 2.1 reviews the regulatory program at the Site;
- Section 2.2 identifies the Department-specified remedial action components; and,
- Section 2.3 summarizes the goals and cleanup levels established for the Site.

2.1 REVIEW OF REGULATORY PROGRAM

The Consent Order required the Respondents to prepare a focused Feasibility Study (FS) to present the remedial action to address Site conditions. The Department subsequently waived the Respondent's obligation to prepare the FS. The Department developed and selected the remedial actions in the ROD (Department March 30, 2002). As previously discussed, the ROD encompasses not only the Site, but two adjacent properties as well. Therefore, the ROD must be carefully reviewed to determine the components of the selected remedy that apply to the Site, which is discussed in Section 2.2.

2.2 REMEDY COMPONENTS

The ROD presented a summary of the goals, discussion of various alternatives, an evaluation of the alternatives, and the selected alternative. The Department-selected remedy (Alternative 3A), which expanded upon Alternative 2, consisted of the following:

- Remove and treat soil piles from the Site;
- Excavate and treat soils up to a depth of 6 feet below ground surface (bgs) that contain total polycyclic aromatic hydrocarbons (PAHs) > 1,000 parts per million (ppm), visual tar, or NAPL;
- Soil piles and excavated soils will be treated on-site by a low temperature thermal desorption unit;
- A minimum two-foot thick soil cover would be placed over the entire Site. The upper six inches will be of sufficient quality to support vegetation;
- A filter fabric would be installed beneath the soil cover as a demarcation layer;
- Groundwater quality would be monitored annually;
- Institutional controls would be established: deed restrictions, long-term monitoring, routine maintenance such as fence repairs and lawn mowing. Site monitoring will include a periodic survey of groundwater use in the area and efforts for early identification of any future threats to drinking water wells. An annual certification will be required to ensure the effectiveness of the engineering controls; and,

- A series of NAPL recovery wells or trenches would be provided in the area of monitoring well MW-505I. The remedial design will determine the areal extent of NAPL recovery along with criteria for determining when recovery efforts can be terminated. This will be a passive system, with the ability to upgrade the system to an active or partially active system should tar production by individual collection wells or trenches warrant such an upgrade during the recovery period.

The components of the remedial actions were to be developed in a Remedial Design to be prepared by the Respondents and submitted for Department approval. The Remedial Design provided the final details of the remedial actions and could result in modification of the remedial actions, if approved by the Department.

2.3 SUMMARY OF GOALS AND CLEANUP LEVELS

The ROD-stated remedial goals for the sites are as follows:

- Eliminate, to the extent practicable, the environmental threat associated with the migration of contamination in soil, including coal tar/NAPL, into adjacent Class C surface water bodies;
- Eliminate, to the extent practicable, the potential human health and environmental impacts associated with contamination in the groundwater resource from leaching of contaminants in soil and NAPL and the migration of NAPL;
- Return groundwater to Department, Class GA Water Quality Criteria to the extent practicable;
- Eliminate the potential human health and environmental impacts associated with human and terrestrial biota exposure to contaminated surface and subsurface soil, including NAPL, to the extent practicable;
- Eliminate, to the extent practicable, ingestion of groundwater, which does not attain Part 5, public drinking water standards, of New York State Sanitary Code; and,
- Eliminate, to the extent practicable, the threat to the environment posed by the presence of contaminants within the regulatory floodway.

The soil cleanup level presented in the ROD, applicable to the Site, follows:

- Soils >1,000 ppm total PAHs or visual tar or NAPL in the top six feet of the Site would be removed.

3.0 SOIL REMEDIAL ACTION CONSTRUCTION OVERVIEW

This section presents a summary of the soil remedial activities conducted at the Site. The 100% Soil Remedial Design Report was submitted to the Department on April 28, 2004, and approved on May 19, 2004. Subsequently, the Remedial Design was begun in November 2004. During implementation, hazardous materials were encountered, so the preparation of an addendum to the Materials Management Plan was approved via teleconference on March 8, 2005. The remedial action was essentially complete in April 2005, followed by final grading, seeding, and installation of a security fence, which were completed when weather conditions were more favorable. These activities are documented in detail in the Soil Remedy Certification Report (KEY, June 24, 2005) and the Soil Remedy Certification Report Addendum (KEY, November 4, 2005).

Information on the soil remedy is summarized in the following sections:

- Section 3.1 discusses the remediation activities conducted to date at the Site, and contains information on the cleanup levels and documentation of their attainment, the limits of excavation, the quantities of soil removed, and particulars on the soil disposal;
- Section 3.2 presents an overview of the Department, approvals of the work conducted; and,
- Section 3.3 contains information from the SMP regarding the clean soil cover and the methods used to ensure that the soil remains undisturbed.

3.1 DESCRIPTION OF REMEDIAL ACTIVITIES

3.1.1 Background Information

The requirements of the ROD for the Site were met through the completion of several tasks including soil excavation, off-site soil disposal, backfilling, emplacement of a clean soil cover, and implementation of institutional controls. The activities conducted at the Site also included health and safety monitoring of workers, community air monitoring, and a citizen participation component. These tasks were completed in accordance with the approved 100% Soil Remedial Design Report (KEY, April 28, 2005).

The objectives of the soil remedy were to meet the remedial goals outlined in the ROD. These objectives are summarized below:

- Eliminate, to the extent practicable, the environmental threat associated with the migration of contamination in the soil (including coal tar and NAPL) into the adjacent surface waters;
- Eliminate, to the extent practicable, the potential human health and environmental impacts associated with leaching of soil contaminants into the groundwater and the presence/migration of NAPL; and,

- Eliminate, to the extent practicable, the potential for human health and environmental impacts associated with human and terrestrial biota exposure to contaminated surface and subsurface soil, including NAPL.

Prior to the onset of construction, the appropriate permits and approvals were obtained from several entities. Discharge of treated water into Utica Harbor was achieved by permit from New York State Canals Corporation. An access agreement was negotiated with Niagara Mohawk Power Corporation (NMPC) to facilitate installation of construction trailers, stockpiling materials and fence installation. Also, the Department approved effluent limitations for surface water discharges.

A fact sheet was distributed to local media outlets, adjacent property owners, and state, county and local governments. The local information repositories were also updated.

Contractor equipment and personnel were mobilized to the Site, and began preparation work such as clearing and grubbing, fence removal, and installation of erosion and sedimentation controls. An excavation grid was surveyed, and truck scales and a temporary water treatment system were installed.

The excavation work was performed by Sevenson Environmental Services, which was also responsible for operation of the water treatment system, personnel safety, and air monitoring. KEY prepared the Remedial Design documents and provided oversight to ensure that the 100% Remedial Design criteria were met. KE Engineering Services, PC provided project engineering certification and conducted independent Site inspections during construction, with the authority to make modifications to address any deficiencies.

Weekly conference calls kept the Department apprised of project progress, issues encountered, and resolutions implemented. In addition, a photographic log of Site activities was compiled and included in the Soil Remedy Certification Report (KEY, June 24, 2005).

3.1.2 Record of Decision Remedial Goals

The ROD was issued by the Department on March 30, 2002, and applied not only to the Site but also to the adjacent properties owned by Harbor Point and Mohawk Valley Oil. Several soil remedial alternatives were presented in the ROD, and of them, the Department selected Alternative 3A, which consisted of source removal (excavation of all soil containing greater than 1000 ppm total PAHs, or visible tar or NAPL-contaminated soil to a depth of six feet) and treatment using on-site, low temperature thermal desorption, backfilling, and a two-foot-thick final soil cover. Of the options presented in the ROD, Beazer evaluated both excavation/offsite disposal and the recommended alternative of excavation/treatment using low-temperature thermal desorption. Another alternative technology (solidification/stabilization), which was not included in the ROD, was also evaluated. The Department agreed that Beazer could proceed with the excavation/offsite disposal option for the Site.

The goal of the excavation was to remove all surface and subsurface soils containing total concentrations of PAHs greater than 1,000 ppm, as well as any visible tar or NAPL in the top six feet of the property, and extending to the property boundaries. If the excavated soil failed the paint filter test, conditioning would be required. Excavated materials would be transported to a non-hazardous waste facility for ultimate disposal. Any soil that did not require removal per the 2002 Record of Decision (ROD) could be used as backfill, followed by imported clean fill used to complete the backfilling. A clean soil cover at least two feet thick was required, with suitable soil for maintaining vegetative growth at the surface. Finally, institutional controls including fencing, well installation, and deed restrictions were required.

The following sections provide details of the individual tasks undertaken during this project.

3.1.3 Well Abandonment

Prior to beginning the excavation, it was necessary to abandon eight onsite groundwater monitoring wells located within the property boundary. Abandonment was conducted in accordance with New York State requirements by a New York-licensed subcontractor (SJB Services, Hamburg, New York). Well casings and screens were removed, and stockpiled onsite until their ultimate disposal with the excavated soil. The boreholes were grouted with a cement/bentonite mixture.

3.1.4 Site Preparation

Prior to the onset of construction, the Site was cleared of all vegetation and an existing fence was removed. A silt fence was installed approximately 10 feet beyond the property line along three sides of the site, allowing the Washington Street side open to facilitate equipment access and egress.

An access road was graded and a gravel access ramp was built to a truck scale. Areas for lining the truck beds and loading of soil were constructed of stone as well. A water treatment plant was installed and insulated so that drainage of excavated areas could proceed.

The final step of Site preparation was the surveying of a 50-foot by 50-foot excavation grid by a New York licensed surveyor (Parker Land Surveying, PC). The grid locations were marked with stakes indicating the ground surface elevation, the anticipated depth of excavation, and the 6-foot maximum excavation depth.

3.1.5 Limits of Excavation

The horizontal limits of excavation were defined in the ROD, and included all areas within the property boundaries of the Site. Because excavation was required all the way to the property boundary, it was necessary to excavate a small portion of the adjacent properties in order to provide stable sidewalls along the perimeter. This additional excavation was not required to meet any remediation goals, as its only purpose was to provide sidewall stability and personnel safety.

The vertical limits of excavation, also defined by the ROD, were to include all soils to a depth of 6 feet below ground surface that contained visible tar or NAPL, or that contained total PAHs at concentrations in excess of 1,000 ppm. Delineation work indicated that there were approximately 8,500 square feet of surface soils (0 to 2 foot depth) that were considered "clean" by these standards, and could be stockpiled for use as backfill. In addition, the delineation work established the presence of a silty-clay layer at a depth of between 3.5 and 7 feet below ground surface that also met the cleanup criteria, and was used to demarcate the vertical limit of excavation.

Excavation began in the northeastern corner of the Site, and ended in the southwestern corner, with the work area gradually approaching the truck scale located near grid marker C-1. Figure 3-1 presents the as-built excavation plan for the Site. Excavation was conducted to the depths marked on the stakes, however, if visibly impacted soil was noted at the proposed final depth, excavation continued automatically to the 6-foot depth. Figure 3-1 also includes the depths of excavation at each grid node.

Any building foundations encountered above the vertical excavation limits were removed, resized as required, and disposed of with the soil. Any foundations that were encountered that continued below the vertical limits were cleaned of soil and left in-place. The location of these foundations are included in Figure 3-1.

3.1.6 Confirmation Sampling

The excavation was straightforward in that the vast majority of the Site was excavated to a depth of six feet. The silty-clay layer that was initially considered to demarcate the lower limits of excavation was found to contain gravel pockets and visible tar/NAPL, and was therefore excavated to the full six-foot depth. Only one area, approximately 40-feet by 40-feet in the vicinity of grid nodes K-3, K-4, L-3 and L-4 was free of visible tar/NAPL, and was therefore excavated only to a depth of about 5.5 feet.

A confirmation sample (number 11N) was collected from within the boundaries of this area. It was used to demonstrate that this area complied with the cleanup goal of 1,000 ppm total PAHs. A second confirmation sample was collected from near the southeastern property line (number 12S). The analytical results for this sample indicated that PAHs were present at concentrations above the cleanup goal and therefore excavation continued to the full six-foot depth.

The locations of the confirmatory samples are shown on Figure 3-1. Analytical results are presented in Table 3-1. Additional confirmatory samples were not collected, because as per the 100% Soil Remedial Design Report, samples were only to be collected if the excavation was halted before the 6-foot maximum depth required. So while 16 confirmatory samples were originally planned for, only two were required once the field decisions were made to continue to the full six-foot depths throughout the Site.

3.1.7 Non-Hazardous Material Management

All excavated soil and resized foundation material was placed in an onsite stockpile area located adjacent to the truck scale on Washington Street. If materials contained excessive moisture, Portland cement or lime kiln dust was added, and the mixture was blended with other stockpiled material. The material was then considered ready for loading. A total of 586 tons of Portland cement and 375 tons of lime kiln dust were used during this activity.

Upon arrival at the Site, the truck beds were lined with polyethylene then the truck was moved to the scale for weighing. The weight of each truck was recorded prior to and after loading to determine the final amount of material removed from the Site, as well as to ensure that the trucks did not exceed road limitations between the NYTEP property and the final disposal areas.

Soil on the outside of the trucks was brushed off, and the truck beds were covered with tarpaulins. Once the trucks pulled away, any material spilled on the loading areas was replaced into the stockpile for future loading. Non-hazardous waste manifests were completed for each truckload, and were included in the Soil Remedy Certification Report (KEY, June 24, 2005).

Excavated soil and debris were disposed at two landfills operated by Waste Management, Inc. (Mill Seat Landfill in Bergen, New York and High Acres Landfill in Fairport, New York). The waste profile included: soil; PAHs; gravel, rock, and concrete; railroad ties and wood debris; plastic; and construction debris. A total of 52,088.8 tons of non-hazardous wastes were disposed offsite.

3.1.8 Hazardous Material Management

During the excavation activities, tar-like materials were encountered in two abandoned pipes and in a below-ground concrete vault. Three samples were collected and sent for extraction using the Toxicity Characteristic Leaching Procedure (TCLP) characteristic waste analysis. It was determined that these materials contained amounts of benzene that qualified them as hazardous wastes. Therefore, this material was managed as a D018 characteristic waste in accordance with Title 40 of the Code of Federal Regulations Part 261, Section 261.24.

The vault contents were solidified in-situ using Portland cement, and along with the pipes and the tar-like material contained within them, were loaded into lined roll-off boxes. Additional soil from the area surrounding the vault was also placed in the roll-off boxes. Once the roll-offs were full, the outsides were dry decontaminated, and the boxes were covered with tarpaulins to await removal. A total of 56 tons of D018 wastes were transported to Clean Harbors (Sarnia), Ontario, Canada for disposal in a Subtitle C Landfill. Trucks carrying this material were provided with appropriate shipping documents (hazardous waste manifests, Land Disposal Restriction forms, and trans-boundary agreements). The hazardous wastes were shipped under USEPA #NYD 982270308. These manifests were also included in the Soil Remedy Certification Report (KEY, June 24, 2005).

After removal of the stabilized materials, the concrete vault was decontaminated using dry methods (i.e., scraping, brushing) to remove any residual materials. The vault was then dismantled and managed as a non-hazardous waste with the excavated soil.

3.1.9 Temporary Water Treatment System Operation

During excavation activities, any groundwater or surface water encountered was managed in an on-site, temporary treatment system. The initial design of the system involved pumping water to a 20,000 gallon weir tank, from which water was pumped to a second sedimentation tank. From there, the water was pumped through three parallel 25-micron bag filters, then through a series of three 1,500-pound activated carbon filters, producing a final effluent for discharge to Utica Harbor. Effluent samples were collected weekly for analysis of arsenic, lead, cyanide, total phenolics and total suspended sediments, BTEX (benzene, toluene, ethylbenzene and xylenes), PAHs and pH. Sample results were provided in the Soil Remedy Certification Report (KEY, June 24, 2005).

The treatment system was modified in January 2005 to enhance solids removal prior to filtration and carbon treatment. The modifications included adding a chemical flocculant to the influent water stream, installing a primary and secondary settling tank to increase settling time, replacing the 25-micron pre-carbon bag filters with 10-micron bags, and installing a 1-micron post-carbon bag filter to remove finer particulates prior to discharge. At the same time, the activated carbon in the first treatment unit was also replaced. An additional modification was subsequently made to address arsenic in the effluent. This involved adding a granular ferric hydroxide filter media component, which successfully reduced arsenic concentrations to below detectable levels.

One final changeout of the three activated carbon units was required in February 2005 because of some exceedances of phenolics. After March 2, 2005, no additional operational issues were encountered. The treatment plant was decommissioned and removed upon completion of the excavation and backfilling.

3.1.10 Fill Placement

Following excavation and materials removal, a non-woven geotextile was placed on the bottom of the excavation and along the full height of the sidewalls to mark the limits of excavation. Work on the backfilling actually commenced before all areas were fully excavated in a manner such that the filling activities would not interfere with the excavation. The excavation was backfilled first with the segregated soil that contained less than 1,000 ppm total PAHs. After that, imported overburden material from the Hanson Aggregate Oriskany Falls, New York location was used to fill the remainder of the excavation. The clean fill was compacted if weather conditions were amenable; otherwise the excavation was filled slightly above the original Site grade to allow for settling prior to the installation of the topsoil layer and re-seeding in the summer of 2005.

At that time, the Site was re-surveyed to facilitate subgrade and final grading activities. Settling had not occurred to any significant degree, so the subgrade elevation was approximately 4 inches

above the final grades proposed in the 100% Soil Remedial Design Report (KEY, April 28, 2004). Therefore, an attempt was made to grade and compact the subgrade soil using conventional earthmoving equipment such as a bulldozer and sheepsfoot roller. The subgrade soils were very wet, and the desired compaction was not achieved. This fact resulted in a slightly modified grading plan to promote sheet flow drainage to the Site perimeter, rather than to match pre-existing grades as originally planned.

Approximately 3,003 tons of topsoil meeting the requirements of the 100% Soil Remedial Design Report were brought to the SiteTopsoil was provided by Dupont Trucking, Newport, New York. It was spread in four- to six-inch lifts over the subgrade, and was compacted using low-ground pressure equipment. The topsoil was graded to minimize ponding and to promote sheet flow runoff to the Site perimeter.

The Site was subsequently seeded and mulched, and photo documentation included in the Soil Remedy Certification Report and Addendum (KEY, June 24, 2005 and KEY, November 4, 2005) provide assurance that the goals of the 100% Soil Remedial Design Report were met. The Site was surveyed, and a final, as-built drawing is provided in Figure 3-2.

3.1.11 Fence Installation

A six-foot tall security fence topped with barbed wire was installed upon completion of all other work. The gate is locked to limit uncontrolled access. The fence is shown on Figure 3-2.

3.1.12 Community Participation

A final fact sheet was distributed on October 19, 2005 to the contacts used previously.

3.2 OVERVIEW OF REPORTS AND APPROVALS

The soil remedy at the Site involved a series of tasks documented in a number of reports, and approved by the Department. This section provides a brief historical summary of these documents.

3.2.1 Administrative Order on Consent (Department July 10, 1998)

On July 10, 1998, Department entered into an agreement with Beazer and Suit-Kote Corporation to investigate environmental conditions at the NYTEP property and to develop one or more appropriate remedial alternatives to protect human health and the environment from residual materials found in the soil and groundwater of the property.

3.2.2 Remedial Investigation Work Plan (KEY, May 11, 1998)

The Remedial Investigation (RI) Work Plan included revisions to an earlier draft, which were agreed to at a meeting in May 1998. The work plan outlined the details of the soil and groundwater investigations to be conducted at the Site. It also included a description of the risk

assessment that would be included and the Feasibility Study that would evaluate appropriate remedial actions. This document laid out reporting requirements, a project schedule, and the community participation goals.

3.2.3 Remedial Investigation Report (KEY, September 10, 1999)

This document presented the results of the soil and groundwater investigations. The intent of the investigation was to delineate the nature and extent (both lateral and vertical) of environmental impacts from Site operations. A human health and ecological risk assessment was also prepared. Data were also collected to support the evaluation of potentially applicable remedial alternatives.

The RI included the installation of four new groundwater monitoring wells in the shallow and intermediate aquifers. These wells supplemented five wells installed in 1990. Soil samples were collected during well installation and analyzed for volatiles, semi-volatiles, pesticides, PCBs, and inorganics. The groundwater sampling and analysis activities included results from samples collected from six additional offsite wells and the nine onsite wells. Groundwater samples were analyzed for the parameters listed above. Test pits were dug to physically examine the extent of visible soil impacts. Soil samples were collected from each pit or trench for chemical analysis, as well as from a number of surface locations.

PAHs and BTEX were identified as constituents of concern in the soil and shallow groundwater, while a few chlorinated volatile organics were identified in samples collected from the intermediate aquifer.

3.2.4 Record of Decision (Department, March 30, 2002)

The purpose of the ROD was to document the Department's selected remedy for the Site, as well as for the adjacent properties. Several soil remedial options were presented, including 1) no further action; 2) limited consolidation and soil cover; 3A) source removal to 1000 mg/kg total PAHs with on-site thermal desorption; 3B) source removal to 500 mg/kg total PAHs with on-site thermal desorption; and 4) remove all soil containing contaminants greater than TAGM 4046 values with on-site thermal desorption. It was determined that Alternative 3A would remove the greatest hazardous substance mass per amount of soil excavated. Alternative 3A was considered to be protective of human health and the environment, comply with applicable or relevant and appropriate State and Federal regulations, to be cost-effective, and to provide a permanent solution to reduce toxicity, mobility, and/or volume.

3.2.5 Soil Remedy Assessment Report (KEY, May 5, 2003)

Following issuance of the ROD, Beazer performed an evaluation of the Department's selected soil remedy (excavation/on-site thermal desorption treatment), as well as two alternate technologies (excavation/stabilization and excavation/off-site disposal). Beazer's contractors performed extensive soil sampling and treatability studies, and determined that excavation and either stabilization or off-site disposal would be preferable alternatives based on cost and

efficacy, and would still meet the ROD goals. The Department and Beazer agreed to proceed with the excavation and off-site disposal option for the Site, and this decision was discussed in a conference call in September 2003. Following the call, Beazer notified the Department of its intention to proceed with the full-scale remedial design for the excavation/off-site disposal option (Beazer East, Inc., October 9, 2003).

3.2.6 100% Soil Remedial Design Report (KEY, April 28, 2004)

The 100% Design Report provided the final design of the components of the soil remedy that would ultimately meet the remediation goals established in the ROD. The final remedy would consist of excavation/off-site disposal/backfilling of soils containing 1000 ppm of total PAHs or visible tar/NAPL in the top six feet of the site. The soil would be conditioned as necessary, removed to an approved non-hazardous waste facility, and the Site would be backfilled with any native soil or fill removed that contained less than 1000 ppm total PAHs as well as supplemental, clean fill brought from off site. A final layer of clean soil suitable to support vegetative cover would be emplaced, and a deed restriction would be recorded to limit future excavation, well installation and development alternatives. In addition, it was planned to install a perimeter fence to limit trespassing.

The final report was submitted on April 28, 2004. The final report incorporated the Department's comments on an earlier draft that was dated December 31, 2003.

3.2.7 Soil Remedy Certification Report (KEY, June 24, 2005/KEY, November 4, 2005)

This report presented the final results of the remediation conducted at the Site. The certification report was submitted in two parts because certain activities could not be completed until weather conditions were suitable for final cover emplacement and establishment of vegetation. The first part, submitted in June 2005, contained all the details on the soil removal and disposal, placement of backfill, and operation of the temporary groundwater treatment plant. The addendum, submitted in November 2005, contained descriptions of the final grading and seeding, the fence installation, and a final community participation activity. The report included responses to the Department's comments dated August 16, 2005. A final as-built survey was included as well.

Beazer received a final approval letter dated November 23, 2005. The approval letter marked the completion of the soil investigation and remediation activities at the Site.

3.2.8 Site Management Plan (KEY, June 2009)

The SMP was developed to address all of the remaining project requirements comprehensively, including the long-term post-remedial action operations and maintenance, Site monitoring, required certifications, and reporting.

3.3 REVIEW OF SITE MANAGEMENT PLAN ACTIVITIES

There are several tasks described in the SMP that pertain to the soil remedial action. These tasks are summarized in this section.

3.3.1 Deed Notice

A deed restriction has been completed to restrict future land and groundwater use. A copy of the recorded deed restriction is included in Attachment A. The deed notice has been properly filed and recorded, and will continue in perpetuity. Future use of the Site is restricted such that there is to be no disturbance or excavation of the soil cover, that there can be no development other than restricted commercial use, and the onsite use of groundwater is prohibited. Fencing has been installed around the Site to control unauthorized access.

If the Site is redeveloped and the existing vegetated soil cover is recovered with soil or paving, then the annual report will indicate that the security fence is no longer needed. The deed notice, however, will remain in effect.

3.3.2 Inspection

Semi-annual inspections of the soil cover, established vegetation, and the perimeter fence are conducted. The soil cover is inspected for signs of erosion and settlement. The vegetation is examined for signs of disease and/or damage. The fence and gate are examined for signs of deterioration and/or damage. The inspections are documented on a form presented in Attachment B which is provided to the Department. Annual reports are submitted to document any remedies undertaken to address inspection deficiencies.

If the Site is redeveloped and hard surfaces such as roads or buildings are constructed, then inspection and maintenance of the soil cover may no longer be necessary. At that time, the annual report would present recommendations for modifying the inspection report or eliminating inspections, as appropriate.

3.3.3 Reporting

Information collected during the semi-annual inspections will be assembled (with other information) into an annual evaluation report. The report will provide the Department with the detailed information used to verify that the remedial actions remain effective. The ROD requires an annual certification to ensure the effectiveness of the institutional (deed notice) and engineering controls. In addition, annual reports will provide recommendations for improvements and/or cessation of monitoring and inspections.

4.0 NAPL RECOVERY OVERVIEW

This section presents a summary of information relating to the recovery of NAPL at the Site. NAPL recovery at the Site was initiated in 2006 with installation of the shallow recovery sumps following completion of the soil remedial actions. A series of intermediate zone NAPL recovery wells were installed in 2008. Information on the NAPL remedy is summarized in the following sections:

- Section 4.1 discusses the remediation activities conducted to date at the Site, and contains information on the cleanup objectives for NAPL and the documentation of recovery performance;
- Section 4.2 presents an overview of the reports submitted to date and the Department approvals of the work conducted;
- Section 4.3 contains information from the SMP relevant to the NAPL recovery system; and,
- Section 4.4 contains information regarding the development of termination criteria to determine when the remedy is complete and no further action is necessary.

4.1 DESCRIPTION OF REMEDIAL ACTIVITIES

Remediation of NAPL at the Site has been conducted in two distinct phases. The first phase involved a surface expression of NAPL in 2006, which precipitated an independent investigation and remediation activity outside the scope of the ROD. The second phase was conducted in 2008, and was associated with the mandate in the ROD, which was to define the extent of, and then to undertake passive recovery of, NAPL along the southern Site boundary. The construction of both phases is complete, but the passive recovery of NAPL is ongoing.

4.1.1 Background Information

NAPL remedial activities are being conducted at the Site in accordance with the requirements of the ROD. Passive NAPL recovery was specifically identified as the selected remedial alternative for subsurface NAPL in the southern portion of the Site. An additional task, however, was determined to be necessary upon completion of the soil remediation. This section contains information on the remedial activities conducted to date for NAPL, an overview of the reports submitted that document these activities, the requirements of the SMP that pertain to NAPL recovery, and the development of criteria to determine when it is appropriate to terminate NAPL management.

Previous subsurface investigations indicated that the shallow aquitard contains horizontal silt seams and vertical desiccation partings, some of which contain tar or NAPL staining. It appears that an interconnected network of vertical desiccation partings and horizontal silt seams is a

possible pathway for the migration of NAPL from the historic fill layer to the intermediate confined aquifer.

Tar, NAPL staining, or NAPL was observed during drilling in the upper portions of the intermediate confined aquifer layer at every location except SB-104. Figure 4-1 depicts the current extent of free NAPL based on the observations at the passive recovery wells.

4.1.2 Record of Decision Remedial Goals (Department, March 2002)

The ROD presented a selected alternative for the Site. Recovery wells or trenches were recommended for the area near monitoring well MW-505I, which is located just south of the NYTEP property line.

4.1.3 NAPL Recovery Sumps

Upon completion of the soil remediation effort, NAPL was observed at the ground surface in a small area on the eastern side of the Site. This area seemed to be associated with an underground concrete vault that was removed during the soil excavation activities. In June 2006, test pits were installed and from them, it was determined that an isolated seam of tar was present at a depth of approximately 9 feet below ground surface in a zone of construction debris that was below the 6-foot depth of soil removal. Outlying test pits did not contain the tar or debris, and therefore, the affected area was assumed to be limited to an area of approximately 12-feet by 10-feet.

The first step was the removal of soil material to a depth of six feet below ground surface. Visibly clean material was stockpiled for later re-use as backfill. Visibly contaminated material was segregated for later disposal. An additional 1.5 to 2 feet of soil was then removed to facilitate installation of the NAPL recovery system. The unexpected encounter of subsurface concrete structures required minor modifications to the initial plan, with the end result being the installation of three riser sumps approximately 11 feet deep. The sumps were connected to each other using slotted collection pipes. After emplacement of a drainage stone layer, a plastic sheet was then installed. The sheet was to keep the overlying cement-solidified soil from encroaching into the drainage layer.

The riser sumps were capped and locked, and are monitored on a monthly basis to check for the presence of accumulated NAPL. Any NAPL collected in the sumps will be removed. To date, no NAPL has collected in the sumps. Recovery well gauging forms (presented in Attachment C) are filled out monthly and retained for submittal in the annual report. Figure 4-1 shows the locations of the three NAPL recovery sumps. Figure 4-2 is the as-built drawing of the recovery sumps.

4.1.4 Passive NAPL Recovery Wells

A series of borings were completed over the southern portion of the Site to determine the extent and presence of NAPL within the intermediate aquifer. Nine of the ten borings were completed as NAPL recovery wells, due to the observed indications of NAPL. The recovery wells were constructed of 4-inch diameter polyvinylchloride (PVC) pipe, with screens located at the top of the silt and clay aquitard. A two-foot long sump was installed below the screen (in the aquitard) to collect NAPL. The locations of the NAPL recovery wells are shown in Figure 4-1.

On a monthly basis, the depth to the water (and NAPL, if present) is measured in each of the recovery wells. Once the NAPL has collected to a thickness greater than six inches, a bailer or pump is used to remove the NAPL. Collected NAPL is removed to a sealed, labeled drum kept on Site under a tarpaulin. When the drum is filled, it is removed by a licensed waste handler. The recovered NAPL is managed offsite as a non-hazardous material.

NAPL has been recovered from four of the nine locations. NAPL recovery activities have been conducted for approximately two years, with approximately 36 gallons of NAPL removed to date. The majority of NAPL has been recovered from three locations: EW-101; EW-103; and, EW-107. The ROD indicated that passive NAPL recovery would be conducted and that criteria for termination of the NAPL recovery effort would be developed. Figure 4-3 presents a graph showing the cumulative amounts of NAPL removed from wells EW-100, EW-101, EW-103, and EW-107.

4.2 OVERVIEW OF REPORTS AND APPROVALS

4.2.1 Monthly Progress Reports (2003 to Present)

On behalf of Beazer, KEY submits monthly progress reports to the Department. These reports detail all the activities of the past month, with particular emphasis on monitoring and data reporting and summaries of any meetings/conferences held. It is intended that after approval of this FER, monthly progress reporting will be discontinued as the Site moves into the post-remedial operations phase.

4.2.2 Surface Tar/NAPL Removal Letter Plan (KEY, July 31, 2006)

In July 2006, Beazer provided a letter plan to address the removal of surface tar and NAPL that was identified near the location of a sump removed during the 2005 soil removal activities. The surface tar was noted for the first time in the Fall 2005 Semi-Annual Inspection Report for the soil remedy (KEY, November 7, 2005). The interim approach outlined in that report was approved by the Department (Department, November 23, 2005). This letter presented the results of the test pit observations made and then outlined the next step as being the installation of four, interconnected NAPL recovery sumps. The Department approved this plan on September 7, 2006.

4.2.3 Surface Tar/NAPL Removal Summary Report (KEY, November 6, 2006)

This document described the installation of the NAPL recovery sumps and the initial gauging to determine the presence of NAPL. On October 23, 2006, no NAPL was observed. Monthly gauging was begun upon completion of the installation. Department approved this document on November 21, 2006.

4.2.4 Department Letter Modifying the ROD (Department, March 10, 2008)

In this letter, the Department acknowledged that it would be appropriate to defer the development of termination criteria until the Site is fully in the site management phase.

4.2.5 NAPL Recovery Pre-Design Investigation Report (KEY, June 13, 2008)

This document was submitted to the Department in draft form in October 2007. The Department provided comments in November 2007, and approved Beazer's responses to those comments in January 2008. In order to provide a final document, the responses were integrated into the document and the pre-design report was finalized in June 2008. This document contained descriptions of the approaches to be taken in the investigation of the extent of NAPL in the intermediate aquifer in the southern portion of the site (near MW-505I), the definition of the vertical profile of NAPL so that the recovery wells can target the most significant depth intervals, and to collect data to enable the recovery wells to continue to perform their intended purpose. The recovery wells were described earlier in Section 4.1.4.

4.2.6 Site Management Plan (KEY, June 2009)

The SMP included a Groundwater Management Plan that was intended to provide technical information as a basis to evaluate the continuity of the shallow, unconfined aquifer, monitor NAPL movement in the shallow and intermediate zones, conduct periodic sampling and analysis in the shallow and intermediate zones outside the NAPL area, and ultimately establish termination criteria for the NAPL and groundwater remedial alternatives. The SMP was submitted in draft form in August 2008, and Department-approved responses to comments were incorporated into the June 2009 final document.

4.3 REVIEW OF SITE MANAGEMENT PLAN REQUIREMENTS

The SMP contains descriptions of certain requirements pertaining to the NAPL recovery efforts at the Site. The activities were conducted in two phases and include an earlier phase of sump installation, and a later phase of recovery well installation.

Three shallow sumps were installed to monitor a small (approximately 10-foot square) area where tar-like material had migrated to the surface of the soil cover. The sumps are gauged on a monthly basis to determine whether NAPL has been collected by the sumps. To date, no NAPL has been observed in the sumps. Nine NAPL recovery wells were installed, and are also gauged on a monthly basis. NAPL that has accumulated is removed using a bailer or low-flow pump,

and is stored onsite in a covered, closed drum until the drum is filled, at which point it is removed.

A Recovery Well Gauging Form (Attachment C) is used to document the NAPL recovery efforts, which are conducted monthly, and report any problems observed with the sumps. In addition to the monthly monitoring, the condition of the sumps and wells will be inspected and documented annually, in accordance with the Annual Well Inspection Form (Attachment C), and maintained as necessary.

4.4 DEVELOPMENT OF TERMINATION CRITERIA

4.4.1 Termination Criteria for NAPL Recovery Sumps

According to the SMP, if no NAPL is observed at the end of the two year monitoring period, the sumps will be abandoned by filling with cement-bentonite grout and cutting and removing the stick-up pipe approximately two feet bgs. As of the date of this report, only a few months remain in the initial two year monitoring period. Barring a first-time discovery of NAPL in the sumps, it appears as though this part of the NAPL recovery project will soon be complete and the sumps can be abandoned.

4.4.2 Termination Criteria for Passive NAPL Recovery Wells

At the current time, termination criteria have not been developed for the passive NAPL recovery wells. The Department deferred development of the termination criteria to the post remedial operations phase (Department, March 10, 2008). No language changes were needed for the ROD, as the Department considered this change to be a minor change as per Department guidance DER-2.

5.0 GROUNDWATER MONITORING OVERVIEW

Groundwater monitoring has been conducted at the Site over a period of many years as part of the remedial investigation effort. However, during implementation of the soil corrective measures, the shallow water bearing unit was dewatered and all of the existing Site monitoring wells were abandoned. In 2009, a new monitoring well network was installed at the Site. This section describes the installation and sampling of groundwater monitoring wells that post-date the soil excavation and NAPL recovery efforts, as provided in the following sections:

- Section 5.1 describes the recovery well installation effort;
- Section 5.2 provides a review of the reports and approvals associated with the groundwater remedy;
- Section 5.3 reviews the SMP requirements related to the groundwater corrective measure; and,
- Section 5.4 identifies the termination criteria development process.

5.1 DESCRIPTION OF WELL INSTALLATION ACTIVITIES

5.1.1 Background Information

During the soil remedial activities conducted at the site, several onsite groundwater monitoring wells were removed completely (i.e., shallow wells in the fill material) and/or abandoned and grouted with a cement/bentonite mixture. Well abandonment was discussed in more detail in Section 3.1.3. Once these wells were removed from service, there were no wells remaining on the property for monitoring groundwater quality in accordance with the requirements of the ROD. Hence, three new well clusters (consisting of one shallow and one intermediate zone well in each of three locations shown in Figure 5-1) were installed in March 2009.

The hydrogeology of the Site consists of a shallow perched and discontinuous water-bearing zone within the placed material and historic fill on top of the lacustrine deposits and the presence of a confined transmissive water-bearing zone within the intermediate fluvial deposits. Based on previous investigations, the shallow water-bearing zone was discontinuous and potentially perched; therefore, this zone could not be reasonably termed as a shallow aquifer. The lacustrine deposits have been historically referred to as the shallow aquitard and the intermediate fluvial deposits referred to as the intermediate confined aquifer.

Groundwater flow within the confined intermediate aquifer is generally northeastward towards the Utica Harbor. Horizontal groundwater flow gradients vary from 0.004 to 0.011 ft/ft at the passive NAPL recovery well locations. Groundwater gradients are related to the thickness of the sandy fluvial channel deposits within the confined intermediate aquifer, because thick zones are more transmissive than thin zones.

5.1.2 Record of Decision Remedial Goals

The remediation goals, as specified in the ROD, relevant to groundwater were to:

- Eliminate, to the extent practicable, the environmental threat associated with migration of contaminated groundwater into adjacent surface waters;
- Eliminate, to the extent practicable, the potential human health and environmental impacts associated with groundwater contamination resulting from leaching of soil contaminants and/or presence and migration of NAPL;
- Return groundwater to Department Class GA Water Quality Criteria to the extent practicable; and,
- Eliminate the ingestion of groundwater which does not meet state drinking water standards.

The ROD groundwater corrective action required that groundwater quality be monitored. A 30-year period was used for cost estimating purposes. Institutional controls were established for the Site. The ROD also required a periodic survey of groundwater use in the area and efforts to identify in a timely manner any future threats to drinking water wells. The SMP discusses those activities required to demonstrate that the remedial action components for groundwater remain in-place.

5.1.3 Monitoring Well Installation

In order to meet the monitoring conditions specified in the ROD, it was necessary to install new monitoring wells at the Site. As described in the Groundwater Management Plan portion of the SMP, three shallow and three intermediate groundwater monitoring wells have been installed at the Site. The locations of these wells are shown in Figure 5-1.

The wells were installed throughout the northern portion of the Site, since the NAPL recovery wells occupy the southern portion of the Site. The shallow wells were considered necessary in light of the extensive modifications of the upper six feet of the property. During earlier field activities, the shallow zone was identified as a perched, discontinuous water-bearing unit consisting of fill which had been impacted by the presence of NAPL and tar-like materials. Since the conditions have been completely altered, shallow wells are necessary to determine the hydrogeologic conditions within the placed material. The intermediate wells are paired with shallow zone wells and installed in the sandy unit below the confining layer.

All the wells are constructed of 2-inch inside diameter PVC with 10-slot PVC screen. The shallow wells' screens were installed at depths of approximately 6 to 10 feet, above the more clayey lacustrine deposits. The intermediate zone well screens were installed in the sandy material lying beneath the clayey lacustrine deposits. Well construction diagrams have been provided in the Baseline Groundwater Monitoring Report (KEY, August 2009).

Three rounds of water level data have been recorded, and the wells have been gauged for the presence of NAPL during each round. The groundwater elevation data indicate that groundwater

in the shallow zone flow direction is inconsistent. Groundwater in the intermediate zone flows in a northerly direction. Well cluster M09-3S and 3I are located just north of the recovery wells and were found to contain NAPL during the monthly gauging.

The new monitoring wells have undergone a baseline sampling event. The samples were analyzed for BTEX and PAHs. The results have been summarized in Table 5-1. Benzene was detected in every well sample at concentrations ranging from 42 micrograms/liter (µg/L) (M09-01S) to 6200 µg/L (M09-02S). Toluene, ethylbenzene and xylenes were also detected in every groundwater sample. The two most prevalent PAHs detected in the groundwater samples were naphthalene (all samples at concentrations ranging from 37 µg/L [M09-01S] to 11000 µg/L [M09-03S]) and 2-methylnaphthalene (also found in all samples at concentrations ranging from 33 µg/L [M09-02I] to 550 µg/L [M09-03S]). Most of the PAHs were detected in the sample from M09-01S, albeit at low concentrations, but the elevated detection limits resulting from the high concentration of naphthalene in M09-03S may mask some lower concentrations in that well.

The groundwater monitoring program for the Site thus consists of the three NAPL recovery sumps, the nine passive NAPL recovery wells, and three shallow/intermediate well clusters. While the NAPL recovery is measured monthly, the six groundwater monitoring wells are gauged for water levels and will be sampled annually for two years, following the baseline sampling event conducted in May 2009.

5.2 OVERVIEW OF REPORTS AND APPROVALS

5.2.1 Site Management Plan (KEY, June 2009)

The SMP was submitted in draft form in August 2008, and the Department-approved responses to comments were incorporated into the June 2009 final document. A Groundwater Management Plan was included in that document. The objectives of the Groundwater Management Plan were to:

- Monitor for NAPL movement within the shallow zone;
- Conduct periodic sampling to monitor groundwater quality in the intermediate aquifer outside of the NAPL area; and,
- Define the process to establish termination criteria for the groundwater remedial alternatives.

5.2.2 Baseline Groundwater Monitoring Report (KEY, August 2009)

The Baseline Groundwater Monitoring Report provides the well installation and baseline sampling analytical results obtained from the May 2009 sampling event. The results were compared to the historic results from the Draft RI/RA Report. The analytical results were generally similar to the historic data.

5.3 REVIEW OF SITE MANAGEMENT PLAN REQUIREMENTS

In order to comply with the conditions of the ROD, installation and sampling of six monitoring wells was undertaken. The three shallow and three intermediate zone wells were installed in March 2009. The wells were situated to provide an upgradient or background location, one cluster just north of the recovery well network, and one cluster on the eastern boundary of the property. After the initial sampling round conducted in May 2009, two additional annual sampling events will be conducted, at least six months apart. The groundwater samples are analyzed for BTEX and PAHs.

In addition to the annual sampling events, each of the six monitoring wells are included in the monthly well gauging task, which measures the depth to water, the depth to NAPL (if any), and the thickness of the NAPL (if any).

5.4 DEVELOPMENT OF TERMINATION CRITERIA

Upon completion of the two annual groundwater monitoring events, the analytical and gauging results will be reviewed with the Department to determine if it is appropriate to terminate any or all of the groundwater monitoring and/or gauging activities in the six monitoring wells. The recovery of NAPL in the nine-well network and the gauging of NAPL in the sumps were discussed in Section 4.4.

6.0 REFERENCES

Beazer East, Inc., (Beazer), October 9, 2003. Letter from Michael Slenska to John Spellman re: Letter of Intent – Excavation/Off-Site Disposal Remedy Remedial Design-New York Tar Emulsion Products Site-Utica, New York. Pittsburgh, PA.

Key Environmental, Inc. (KEY), May 11, 1998. Final Remedial Investigation/Feasibility Study Work Plan – New York Tar Emulsion Products Site – Utica, New York. Carnegie, PA.

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New York State Department of Environmental Conservation, Division of Environmental Remediation, March 2002. Record of Decision – NIMO-Harbor Point Property Operable Unit No. 1-Peninsula Site No. 6-33-021; New York Tar Emulsion Products Site-Site No. 6-33-031; Mohawk Valley Oil Site-Site No. 6-33-032. Albany, New York.

New York State Department of Environmental Conservation, Division of Environmental Remediation. March 10, 2008. Letter to Michael Slenska regarding NAPL Recovery Pre-Design Report. Albany, New York.

TABLES

TABLE 1-1
CHECKLIST FOR FINAL ENGINEERING REPORT APPROVAL
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

The FER must include the following:		
Figure 1-1, 1-2	☒ **Yes**	Clear identification of the boundaries of the site as described in the brownfield site cleanup agreement (BSCA), ERP State assistance contract or for a Superfund site as defined in the order or the Inactive Hazardous Waste Disposal Site Registry.
	☒ **N/A**	Clear identification of the boundaries of the real property subject to the environmental easement or other institutional controls, if different than the site boundaries described above.
Figure 3-2	☒ **Yes**	A metes and bounds description and survey map must be included in the FER which corresponds to the above site boundaries.
Sections 3, 4, and 5	☒ **Yes**	A description of the remedial activities completed at the site, including previous CCRs and the project which is the subject of this FER, completed in accordance with the remedial work plan(s) and/or decision document(s) for the site.
See the Site Management Plan (SMP); Attachment A	☒ **Yes**	A complete description of any institutional and/or engineering controls employed at the site, including the mechanisms that will be used to continually implement, maintain, monitor, and enforce such controls.
See section 2.3	☒ **Yes**	Identification of the cleanup levels applied to the remedial actions, for each media of concern and area of concern at the site.
Sections 3, 4, and 5; plus Soil Remedy Certification Report	☒ **Yes**	A summary of the implementation of the remedial actions, which includes as appropriate: ☐ A description of any problems encountered during construction and their resolution. ☐ A description of changes to the design documents and why the changes were made; including documentation of the approval of the change by the Department. ☐ Quantities and concentration of contaminants removed or treated. ☐ A listing of the waste streams, quantity of materials disposed and where they were disposed.
See the Soil Remedy Certification Report	☒ **Yes**	The FER substantially follows the guidance provided in DER 10, Section 5.8 and specifically includes the following, as appropriate to the remedy: ☒ **Yes** ☐ **No** ☐ **N/A** A detailed description of site restoration activities pursuant to DER 10 Section 5.4(d). ☒ **Yes** ☐ **No** ☐**N/A** A detailed description of the source and quality of imported fill pursuant to DER 10 Section 5.4(d). ☐**Yes** ☐ **No** ☒ **N/A** <u>For active groundwater remedial actions consisting of groundwater extraction or control</u>: The final engineering report should also include figures representative of flow conditions

TABLE 1-1
CHECKLIST FOR FINAL ENGINEERING REPORT APPROVAL
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

		immediately preceding initiation of the remedial action and flow conditions representative of pumping conditions required by the remedy. ☐ **Yes** ☐ **No** ☒ **N/A** For SSF State funded and ERP projects, where State funding is provided: A detailed summary of actual costs including bid tabulations and change orders.
Tables and Figures: (Included: ☐ Yes ☐ No ☒ N/A)		
Sections 3, 4; Figure 3-1, Figure 3-2		As set forth in DER 10 Section 3.14 (remedial investigation report) tables and figures presenting all pre- and post-remedial data keyed appropriately are included to as appropriate to document the satisfactory completion of the remedial action. The figure/tables should clearly indicate the volume of contaminated media which was remediated by area where appropriate.
As-Built Drawings: (Included: ☒ Yes ☐ No ☐ N/A)		
Figure 3-2	☒ **Yes**	"As-built" drawings, with a NYS P.E. stamp and signature on each drawing, were provided, including relevant drawings from previous CCRs. The as built drawings must identify: The boundaries of the real property subject to the environmental easement; other institutional controls or the oversight agreement must be incorporated on all figures.
	☒ **Yes**	The location and extent of all engineering controls including, without limitation, slurry walls, treatment units, piping and instrumentation wiring or other remedial structures which will remain in place after completion of the remedial action.
	☒ **N/A**	Permanent survey markers for horizontal and vertical control for site management, where required.
	☒ **Yes**	For projects with soil covers and/or caps: the areal and vertical (depth) extent of the covered/capped area, including identification of buildings and/or paving which are considered part of the site cover/cap as well as a description of the material and depths of the demarcation layer.
	☒ **Yes**	For projects with soil removals: the limits of the excavation, the depth of the excavation and location of all documentation samples.
	☒ **Yes**	For projects with underground storage tank removals: the size and contents of the tank(s) identified and addressed by the remedy, the surveyed location of the tanks removed or abandoned in place and the extent of any soil removal as per above.
Data Submittal: (Included: ☐ Yes ☐ No ☒ N/A)		
The following information is to be submitted with the final engineering report, in an electronic		

TABLE 1-1
CHECKLIST FOR FINAL ENGINEERING REPORT APPROVAL
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

format acceptable to the DER. This information is not to be included as an attachment or appendix to the report, but as a separate data submittal in an electronic format approved by the DER:		
See Soil Remedy Certification Report provided under separate cover June 24, 2005; November 4, 2005.		Electronic copies of all fully executed manifests documenting off-site transport and disposal of all material deemed hazardous or solid wastes. All analytical data for pre and post-excavation samples, soil backfill analyses, treated water effluent analyses, and waste disposal characterizations, including all laboratory data sheets and the required laboratory data deliverables pursuant to DER10 Sections 2.2, 2.3 and appendix 2B.
Soil Remedy Certification Report		Photographs
Site Management Plan (SMP): **(Included: ☐ Yes ☐ No☐ N/A)**		
Provided under separate cover on June 25, 2009	☒ **Yes**	If none is required for the remedy which is the subject of this FER check here. The approved SMP is included in the FER. The SMP must include at a minimum an Institutional and Engineering Control Plan as well as provision for the periodic certification of the institutional control and engineering controls (IC/EC certification) and may include, as required by the remedy, a Site Monitoring Plan and Operation & Maintenance Plan. The required certification regarding the SMP is included in the Certification Section below.
Environmental Easement: (Included: ☐ Yes ☐ No☐ N/A)		
	☒ **N/A**	If none is required for the remedy which is the subject of this FER check here . A filed copy of the environmental easement is included in the FER or has been provided to the Department. Title insurance has been issued in favor of the Department. A certification that the easement has been filed and the municipalities having jurisdiction over the easement have been notified is required. See Certification Section below for the language of this certification.
Financial Assurance: (Included: ☐ Yes ☐ No☐ N/A)		
	☒ **N/A**	If none is required for the remedy which is the subject of this FER check here.
		Identify the financial assurance mechanisms required for the site and include the copy of the executed mechanism.

TABLE 1-1
CHECKLIST FOR FINAL ENGINEERING REPORT APPROVAL
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

		A certification that the Financial Assurance has been submitted by the applicant must be included in the FER. See Certification Section below for the language of this certification.
Citizen Participation: (Included: ☐ Yes ☒ No ☐ N/A)		
	☐ **Yes**	A notice to the mailing list/Fact Sheet was issued after the FER was submitted but prior to Department approval of the FER. NOTE: A notice to the mailing list/Fact Sheet is also to be issued within 10 days of when the Certificate of Completion is issued by the Department for a site which will utilize IC/ECs.
FER Professional Engineer Certification and Stamp: Included ☒ Yes ☐ No ☐ N/A		
FER Certifications for the COC:		
Pursuant to Environmental Conservation Law 27-1419 for the BCP and 6 NYCRR 375 for the ERP and SSF, the *Final Engineering Report* must include the certifications listed below, which are to be signed by the PE certifying the FER or the site owner. These certifications must appear exactly as they are set forth below:		
	☒ **N/A**	"The data submitted to the Department demonstrates that the remediation requirements set forth in the remedial work plan and any other relevant provisions of ECL 27-1419 have been or will be achieved in accordance with the time frames, if any, established in the work plan."
	☒ **N/A**	"Any use restrictions, institutional controls, engineering controls and/or any operation and maintenance requirements applicable to the site are contained in an environmental easement created and recorded pursuant to ECL 71-3605 and that any affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded."
	☒ **Yes**	"A Site Management Plan has been submitted by the applicant for the continual and proper operation, maintenance, and monitoring of any engineering controls employed at the site including the proper maintenance of any remaining monitoring wells, and that such plan has been approved by the Department."
	☒ **N/A**	"Any financial assurance mechanisms required by the Department pursuant to ECL 27-1419 have been executed."

TABLE 3-1
ANALYTICAL RESULTS FOR SOIL CONFIRMATION SAMPLES
FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

Analyte(mg/kg)	Sample Number	
	11N	**12S**
Acenaphthene	4.200	160
Acenaphthylene	0.071 J	16.0 J
Anthracene	0.120 J	80
Benzo(a)anthracene	0.110 J	43
Benzo(a)pyrene	0.090 J	29
Benzo(b)fluoranthene	0.470 U	13 J
Benzo(g,h,i)perylene	0.048 J	10 J
Benzo(k)fluoranthene	0.470 U	15 J
Chrysene	0.110 J	43
Dibenzo(a,h)anthracene	0.470 U	4 J
Fluoranthene	0.160 J	75
Fluorene	0.700	81
Indeno(1,2,3-cd)pyrene	0.470 U	7.9 J
2-Methylnaphthalene	7.300	230
Naphthalene	27.000 D	250
Phenanthrene	0.450 J	280
Pyrene	0.350 J	130
Total PAHs	**41.649**	**1466.9**

J – Compound detected at estimated quantity (less than the quantitation limit, but greater than the method detection limit

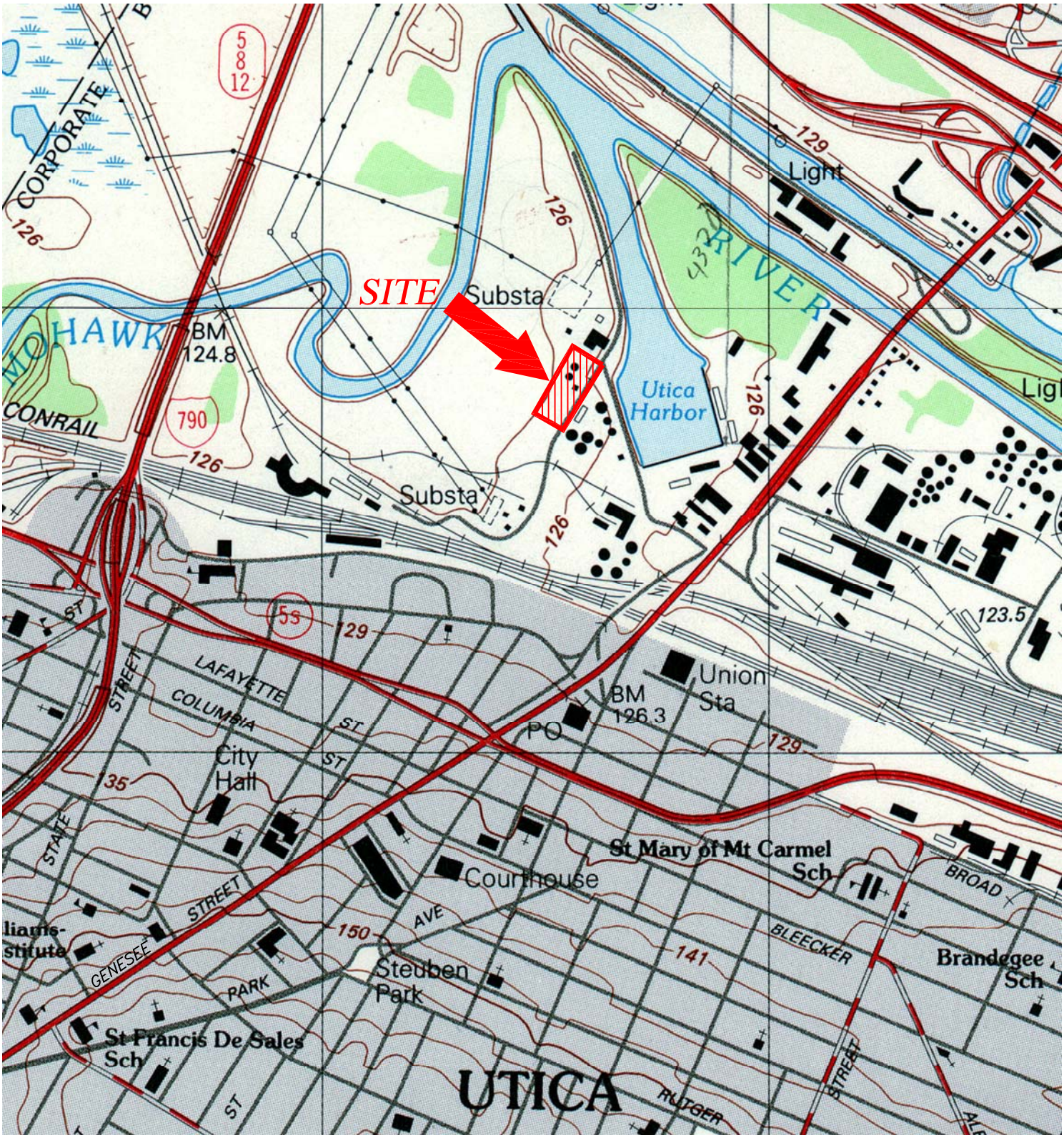
D – Compound detected at secondary dilution

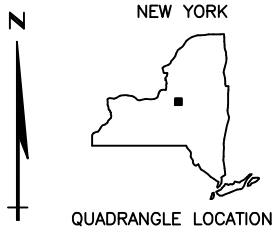
U – Compound not detected above the method detection limit indicated. One-half the detection limit was used to estimate total PAHs

TABLE 5-1
BASELINE GROUNDWATER SAMPLING RESULTS FROM NEW WELLS
FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

CONSTITUENT	P/F	UNITS	M09-01I M09-1I 5/26/2009 Primary	M09-01I M-99A-052609 5/26/2009 Duplicate 1	M09-01S M09-1S 5/26/2009 Primary	M09-02I M09-2I 5/26/2009 Primary	M09-02S M09-2S 5/26/2009 Primary	M09-03I M09-03I 5/27/2009 Primary	M09-03S M09-03S 5/27/2009 Primary
Benzene	Total	(ug/l)	460	350	42	690	6200	870	1400
Ethylbenzene	Total	(ug/l)	210	90	30	120	280	160	95 J
Toluene	Total	(ug/l)	4.2 J	2.4 J	2.3 J	40 J	27	49 J	670
Xylene (total)	Total	(ug/l)	190	81	38	110 J	840	180	300
2-Methylnaphthalene	Total	(ug/l)	62	49	43	33	120	250	550 J
Acenaphthene	Total	(ug/l)	25	21	45	17	72	140	240 J
Acenaphthylene	Total	(ug/l)	1.4 J	1.4 J	0.80 J	0.67 J	10	6.9	42 U
Anthracene	Total	(ug/l)	0.99 U	1.0 U	13	0.99 U	8.1	12	510 U
Benzo(a)anthracene	Total	(ug/l)	0.17 U	0.17 U	7.2	0.17 U	0.67 U	2.8	87 U
Benzo(a)pyrene	Total	(ug/l)	0.11 U	0.11 U	6	0.11 U	0.44 U	0.71 J	58 U
Benzo(b)fluoranthene	Total	(ug/l)	0.15 U	0.16 U	9.8	0.15 U	0.62 U	0.15 U	81 U
Benzo(ghi)perylene	Total	(ug/l)	0.082 U	0.084 U	2.6	0.082 U	0.33 U	0.082 U	43 U
Benzo(k)fluoranthene	Total	(ug/l)	0.16 U	0.16 U	0.15 U	0.16 U	0.62 U	0.16 U	81 U
Chrysene	Total	(ug/l)	0.10 U	0.10 U	8.7	0.10 U	0.41 U	2.2	53 U
Dibenzo(a,h)anthracene	Total	(ug/l)	0.12 U	0.12 U	0.67 J	0.12 U	0.48 U	0.12 U	63 U
Fluoranthene	Total	(ug/l)	0.52 J	0.47 J	24	0.095 U	4.6 J	20	50 U
Fluorene	Total	(ug/l)	4.2	3.9	25	2.6	31	86	49 U
Indeno(1,2,3-cd)pyrene	Total	(ug/l)	0.15 U	0.16 U	2.3	0.15 U	0.61 U	0.15 U	80 U
Naphthalene	Total	(ug/l)	350	320	37	220	770	6600	11000
Phenanthrene	Total	(ug/l)	5.9	5.1	44	1.6 J	42	120	260 J
Pyrene	Total	(ug/l)	0.54 J	0.52 J	18	0.11 U	6.0 J	13	55 U

FIGURES





QUADRANGLE LOCATION

REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE OF UTICA EAST, NEW YORK 1983

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN:	SCC	DATE: 05/12/08	KEY ENVIRONMENTAL INCORPORATED
CHKD:	MRL	DATE: 05/12/08	
APPD:	MRL	DATE: 05/12/08	
SCALE:	1" = 1000'		

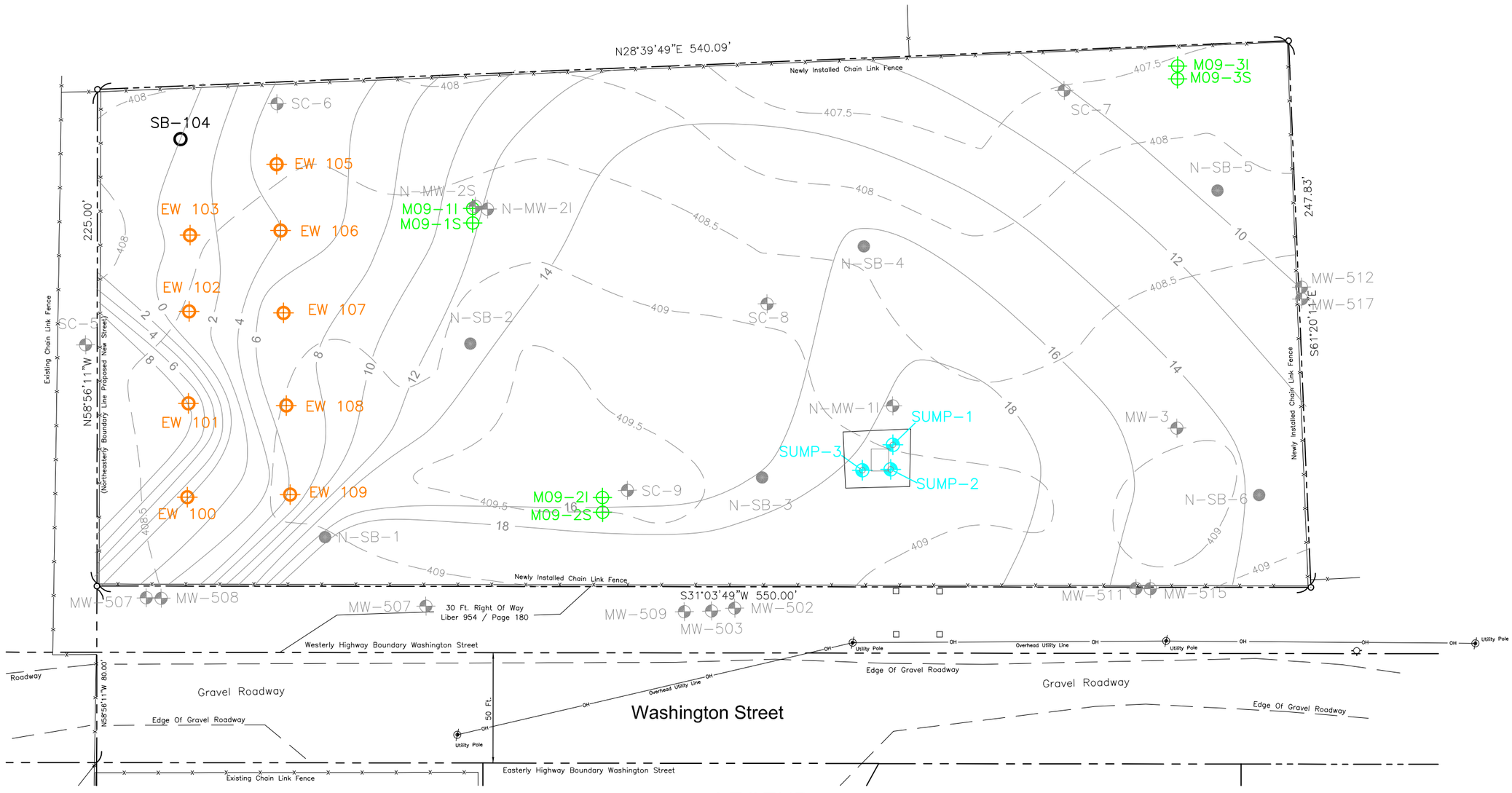
FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

SITE LOCATION MAP

PROJECT NO: 09-888

FIGURE 1-1

Y:\NYTEP\09-888\FINAL ENGINEERING REPORT\FIGURE 1-1.DWG



LEGEND

- SITE PROPERTY BOUNDARY
- EDGE OF ROAD
- EDGE OF GRAVEL ROAD
- 409 — GROUND SURFACE ELEVATION CONTOUR INTERVAL
- 370 — ISOPACH CONTOURS OF INTERMEDIATE CONFINED AQUIFER
- CHAIN LINK FENCE
- ABANDONED MONITORING WELL
- ABANDONED TEST BORING
- SB-104 — SOIL BORING
- SUMP-1 — SHALLOW ZONE DNAPL MONITORING LOCATION
- EW 109 — INTERMEDIATE ZONE DNAPL MONITORING LOCATION
- M09-1 — SHALLOW AND INTERMEDIATE ZONE GROUNDWATER MONITORING WELL PAIR

0 50 100 FEET

REV #	DATE	DESCRIPTION	APPD
1			
2			
3			

REFERENCE:

* SHEEN NOTED FOR TWO OR MORE EVENTS.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN:	SCC	DATE:	08/06/09
CHKD:	RMB	DATE:	08/06/09
APPD:	MRL	DATE:	08/06/09
SCALE:	AS SHOWN		

KEY ENVIRONMENTAL INCORPORATED

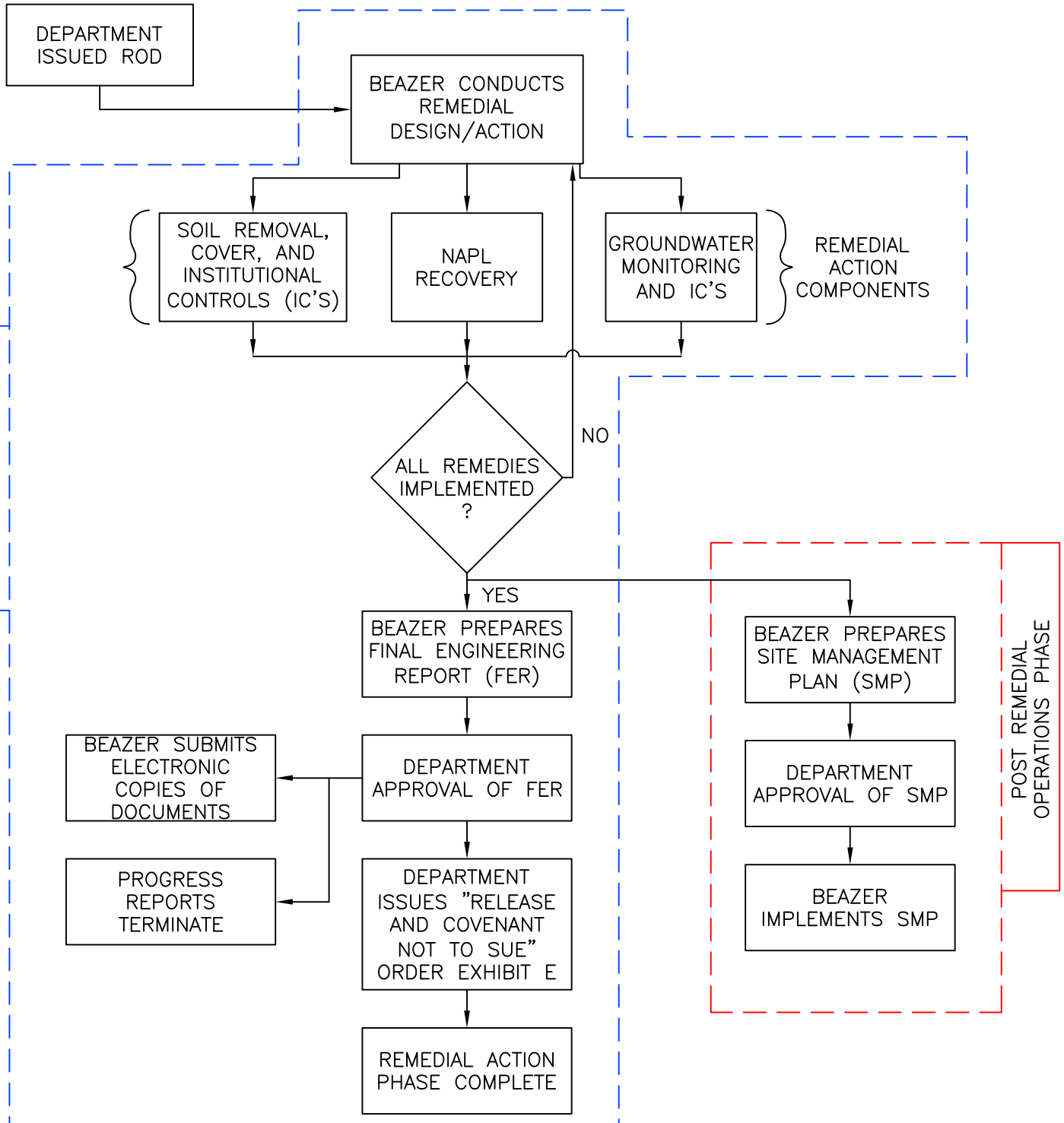
FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

SITE PLAN

PROJECT NO: 09-888

FIGURE 1-2

y:\nytep\09-888\final engineering report\figure 1-2.dwg Last Saved By: Scorner 8/31/2009 10:38 AM Plotted By: Shelly Corner 12/3/2009 7:31 AM Scale: 1:1



BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: SCC	DATE: 08/12/09	KEY ENVIRONMENTAL INCORPORATED
CHKD: MRL	DATE: 08/12/09	
APPD: MRL	DATE: 08/12/09	
SCALE: AS SHOWN		

FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

CONSENT ORDER FLOW CHART

PROJECT NO: 09-888
FIGURE 1-3

REFERENCE:

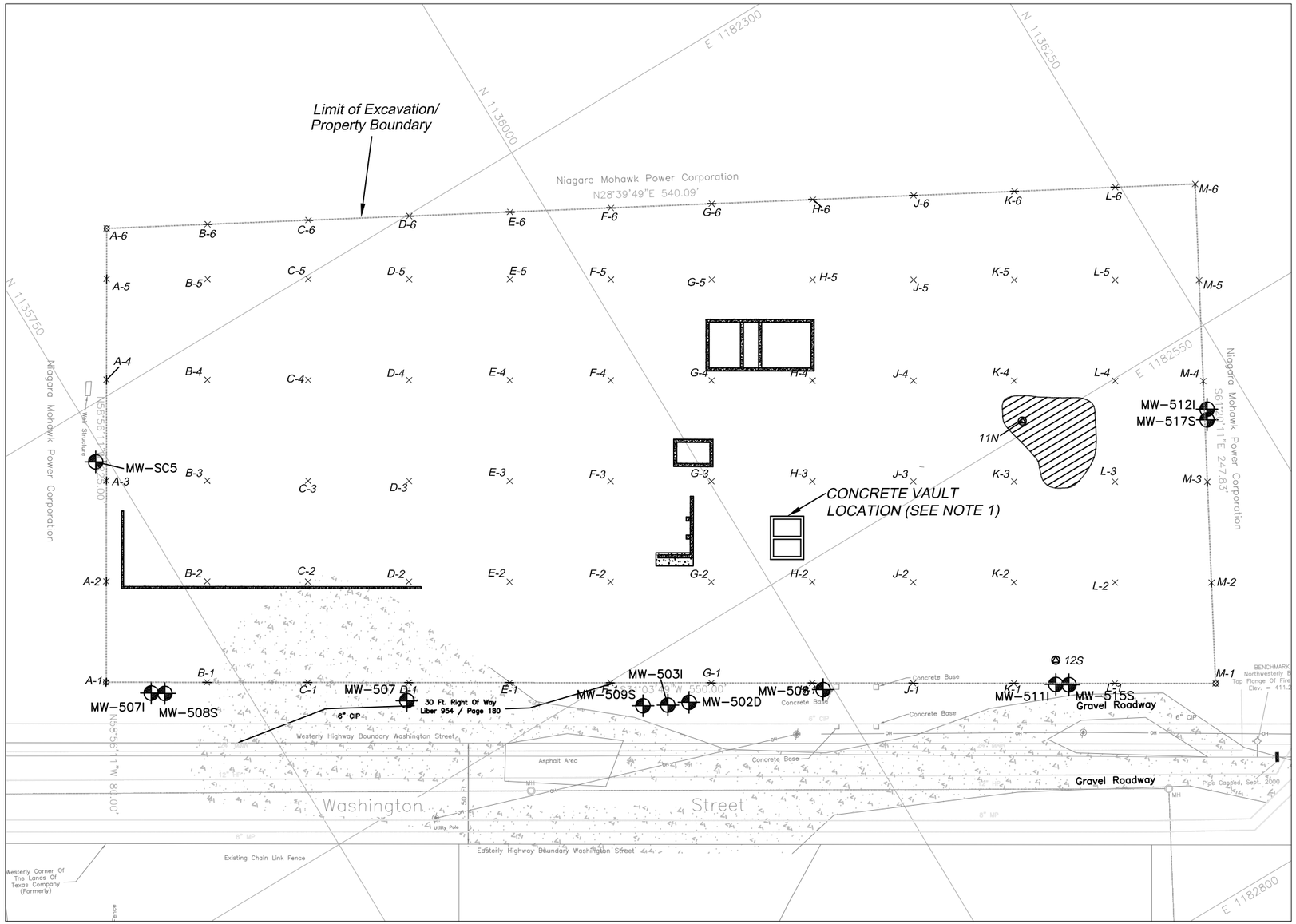
ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

EXCAVATION ELEVATIONS

NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NY

Grid Point	Pre-Existing Ground Surface Elevation	Cut Depth (ft)	Actual Excavation Elevation
A-1	407.75	6.00	401.75
A-2	407.64	6.00	401.64
A-3	407.34	6.00	401.34
A-4	407.00	6.00	401.00
A-5	407.49	6.00	401.49
A-6	408.19	6.00	402.19
B-1	408.32	6.00	402.32
B-2	407.81	6.00	401.81
B-3	407.51	6.00	401.51
B-4	407.19	6.00	401.19
B-5	407.44	6.00	401.44
B-6	407.89	6.00	401.89
C-1	408.04	6.00	402.04
C-2	407.92	6.00	401.92
C-3	407.56	6.00	401.56
C-4	407.50	6.00	401.50
C-5	407.68	6.00	401.68
C-6	407.98	6.00	401.98
D-1	408.04	6.00	402.04
D-2	408.02	6.00	402.02
D-3	407.64	6.00	401.64
D-4	407.22	6.00	401.22
D-5	407.82	6.00	401.82
D-6	408.36	6.00	402.36
E-1	408.03	6.00	402.03
E-2	407.77	6.00	401.77
E-3	407.52	6.00	401.52
E-4	407.43	6.00	401.43
E-5	407.62	6.00	401.62
E-6	408.36	6.00	402.36
F-1	408.33	6.00	402.33
F-2	408.32	6.00	402.32
F-3	407.93	6.00	401.93
F-4	407.58	6.00	401.58
F-5	407.91	6.00	401.91
F-6	408.45	6.00	402.45
G-1	408.47	6.00	402.47
G-2	408.60	6.00	402.60
G-3	408.22	6.00	402.22
G-4	407.75	6.00	401.75
G-5	407.81	6.00	401.81
G-6	408.59	6.00	402.59
H-1	408.45	6.00	402.45
H-2	408.14	6.00	402.14
H-3	408.25	6.00	402.25
H-4	407.74	6.00	401.74
H-5	407.93	6.00	401.93
H-6	408.49	6.00	402.49
J-1	408.88	6.00	402.88
J-2	408.60	6.00	402.60
J-3	408.25	6.00	402.25
J-4	407.80	6.18	401.62
J-5	407.57	6.00	401.57
J-6	408.49	6.02	402.47
K-1	409.11	6.48	402.63
L-5	408.11	6.02	402.09
L-6	408.88	6.25	402.63
M-1	409.06	6.20	402.86
M-2	409.00	6.39	402.61
M-3	409.00	6.41	402.59
M-4	409.00	6.83	402.17
M-5	409.70	7.75	401.95
M-6	409.20	6.15	403.05



LEGEND

- SITE PROPERTY BOUNDARY
- OVERHEAD POWER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER LINE
- EXISTING GAS LINE
- UTILITY POLE
- FIRE HYDRANT
- MANHOLE
- IRON PIN SET AT PROPERTY CORNER
- GRAVEL ROADWAY
- NEW YORK STATE PLANE GRID
- 5.5' EXCAVATION AREA
- SOIL CONFIRMATION SAMPLE
- A-1 EXCAVATION GRID POINT
- BELOW GROUND CONCRETE REMAINS

NOTES:

1. *MATERIAL WITHIN THE "CONCRETE VAULT" WAS SOLIDIFIED IN-PLACE, EXCAVATED AND PLACED IN LINED ROLL OFF BOXES, AND APPROPRIATELY DISPOSED OF OFF-SITE AS A D018 CHARACTERISTIC HAZARDOUS WASTE. THE VAULT CONCRETE WAS DRY DECONTAMINATED, DISMANTLED, AND MANAGED AS A NON-HAZARDOUS WASTE IN ACCORDANCE WITH THE 100% SOIL REMEDY DESIGN AND THE MATERIAL MANAGEMENT PLAN. - ADDENDUM 1*
2. *CONCRETE REMAINS WERE GENERALLY BETWEEN 1-FOOT BGS AND 6-FEET BGS, AND ALL REMAINS EXTEND PAST THE 6-FOOT BGS LIMIT. ALL CONCRETE REMAINS WERE DRY DECONTAMINATED PRIOR TO BACKFILLING ACTIVITIES.*

REV #	DATE	DESCRIPTION	APPD
1			
2			
3			

REFERENCE: TOPOGRAPHY AND PLANIMETRICS PROVIDED BY MYERS & ASSOCIATES, P.C., SURVEY DRAWING, 8/12/2002.

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

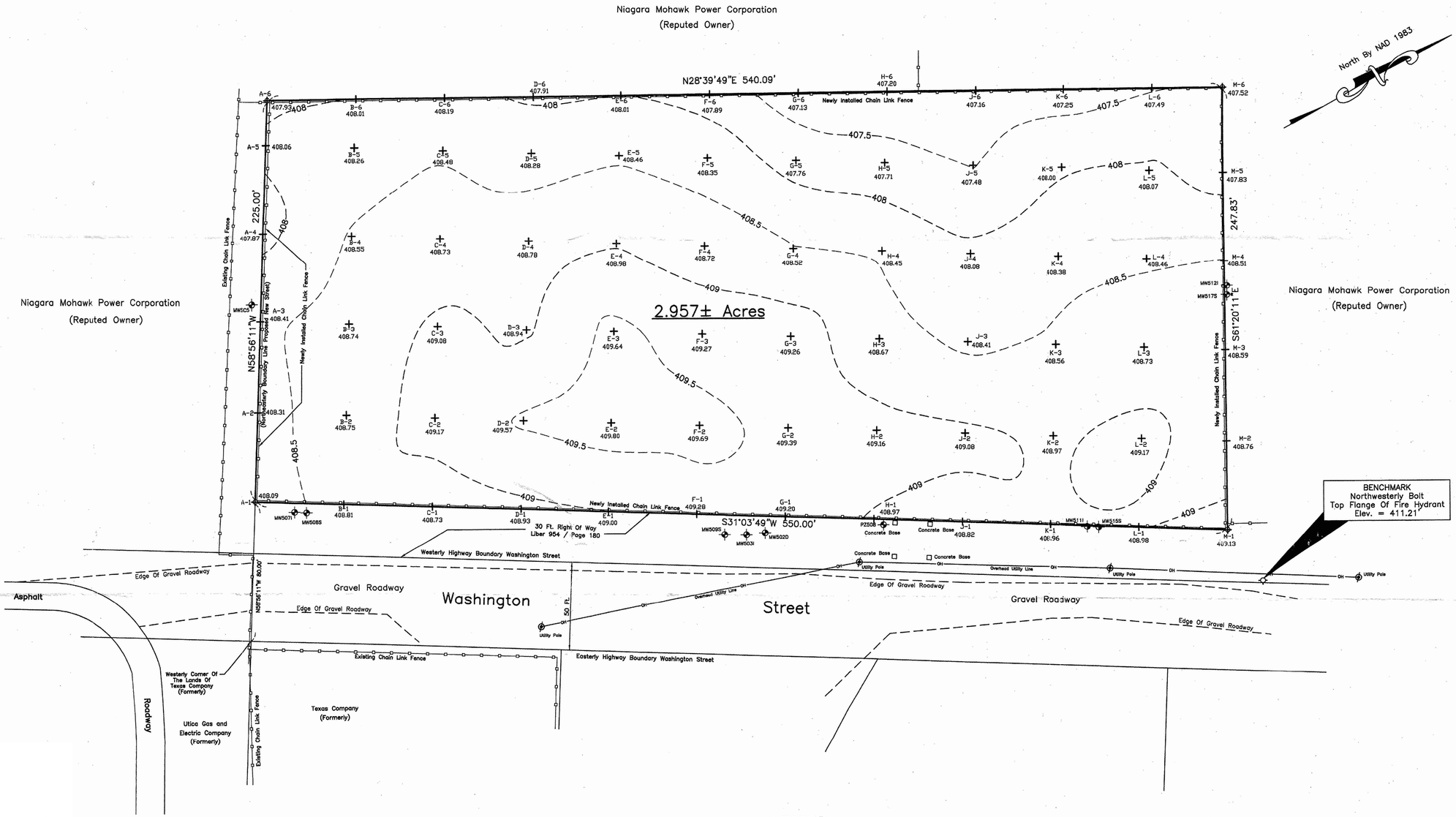
DRWN: SCC	DATE: 08/12/09	KEY ENVIRONMENTAL INCORPORATED
CHKD: AH	DATE: 08/12/09	
APPD: MRL	DATE: 08/12/09	
SCALE: AS SHOWN		

FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

AS-BUILT EXCAVATION PLAN

PROJECT NO: 09-888
FIGURE 3-1

NORTHING	EASTING	EXISTING GROUND ELEVATIONS	SHOT DESCRIPTION
1135692.50,	1182421.54,	408.09,	A-1
1135718.30,	1182378.71,	408.31,	A-2
1135744.10,	1182335.88,	408.41,	A-3
1135769.90,	1182293.05,	407.87,	A-4
1135795.70,	1182250.22,	408.06,	A-5
1135808.60,	1182228.81,	407.93,	A-6
1135735.33,	1182447.34,	408.81,	B-1
1135761.13,	1182404.50,	408.75,	B-2
1135786.93,	1182361.68,	408.74,	B-3
1135812.73,	1182318.85,	408.55,	B-4
1135838.52,	1182276.01,	408.26,	B-5
1135852.51,	1182252.81,	408.01,	B-6
1135778.17,	1182473.13,	408.73,	C-1
1135803.96,	1182430.30,	409.17,	C-2
1135829.76,	1182387.48,	409.08,	C-3
1135855.55,	1182344.64,	408.73,	C-4
1135881.35,	1182301.80,	408.48,	C-5
1135896.42,	1182276.81,	408.19,	C-6
1135821.00,	1182498.93,	408.93,	D-1
1135846.79,	1182456.11,	409.57,	D-2
1135872.59,	1182413.82,	408.94,	D-3
1135898.39,	1182370.45,	408.78,	D-4
1135924.19,	1182327.62,	408.28,	D-5
1135940.33,	1182300.82,	407.91,	D-6
1135863.82,	1182524.74,	409.00,	E-1
1135889.63,	1182481.89,	409.80,	E-2
1135915.42,	1182396.25,	408.98,	E-4
1135967.02,	1182353.42,	408.46,	E-5
1135984.24,	1182324.82,	408.01,	E-6
1135906.65,	1182550.54,	409.28,	F-1
1135932.46,	1182507.69,	409.69,	F-2
1135958.25,	1182464.88,	409.27,	F-3
1135984.05,	1182422.02,	408.72,	F-4
1136009.85,	1182379.22,	408.35,	F-5
1135949.49,	1182576.32,	409.20,	G-1
1135975.29,	1182533.48,	409.39,	G-2
1136001.09,	1182490.65,	409.26,	G-3
1136026.88,	1182447.82,	408.52,	G-4
1136052.68,	1182404.99,	407.76,	G-5
1136072.07,	1182372.83,	407.13,	G-6
1135992.33,	1182602.11,	408.97,	H-1
1136018.12,	1182559.28,	409.16,	H-2
1136043.92,	1182516.45,	408.67,	H-3
1136069.71,	1182473.64,	408.45,	H-4
1136095.51,	1182396.84,	407.20,	H-6
1136035.14,	1182627.94,	408.82,	J-1
1136060.94,	1182585.11,	409.08,	J-2
1136086.74,	1182542.28,	408.41,	J-3
1136112.55,	1182499.41,	408.08,	J-4
1136138.34,	1182456.58,	407.48,	J-5
1136159.89,	1182420.84,	407.16,	J-6
1136077.99,	1182653.70,	408.96,	K-1
1136103.77,	1182610.90,	408.97,	K-2
1136129.58,	1182568.04,	408.56,	K-3
1136155.37,	1182525.25,	408.38,	K-4
1136181.77,	1182482.42,	408.00,	K-5
1136203.80,	1182444.84,	407.25,	K-6
1136120.82,	1182679.50,	408.98,	L-2
1136172.41,	1182593.84,	408.73,	L-3
1136198.20,	1182551.04,	408.46,	L-4
1136224.01,	1182508.17,	408.07,	L-5
1136247.71,	1182468.85,	407.49,	L-6
1136163.63,	1182705.33,	409.13,	M-1
1136187.63,	1182661.42,	408.76,	M-2
1136211.64,	1182617.51,	408.59,	M-3
1136235.64,	1182573.59,	408.51,	M-4
1136259.64,	1182529.68,	407.83,	M-5
1136282.50,	1182487.87,	407.52,	M-6



NOTES:

1) DATUM: VERTICAL: NAVD 1988
HORIZONTAL: NAD: 1983

2) Elevations shown on this survey are based on field measurements. contours are merely an interpilation and should be considered as such only.

3) Underground facilities, structures and utilities have been plotted from a combination of field measurements, available maps, records and information provided by the, therefore their location should be considered approximate only. There also may be other facilities, strictures or utilities the existence of which of is presently unknown.

4) This survey represents the limits of excavation and the final location of the chain-link fence installed after excavation. The azimuths do not represent property boundaries as described in the deed (Attachment A). Mark Lahr NY PE 074012-1

SURVEY NOTE:

Survey Boundary Shown On This Plat
Taken From Map Prepared By
Myers & Assocoiates, P.C. Dated August 12, 2002

LEGEND:

- Existing Iron Pin
- Existing Utility Pole
- 408 — Existing Ground Contour
- H-2 409.16 — Existing Ground Elevation
- MW5C9 — Existing Monitoring Well

DEED REFERENCE:

Koppers Company
To
Koppers Company Inc.
Warranty Deed - Dated November 9, 1944
Liber 1063 of Deeds / Page 211

30 0 30 60 90
Scale 1" = 30'

MAP BY: CD
CHECKED BY: TP

It is hereby certified that this map was made from an actual field survey dated October 18, 2005 and that both map and survey are correct.

Thomas A. Parker L.S.#050268

FILE NO. 04-22-AB

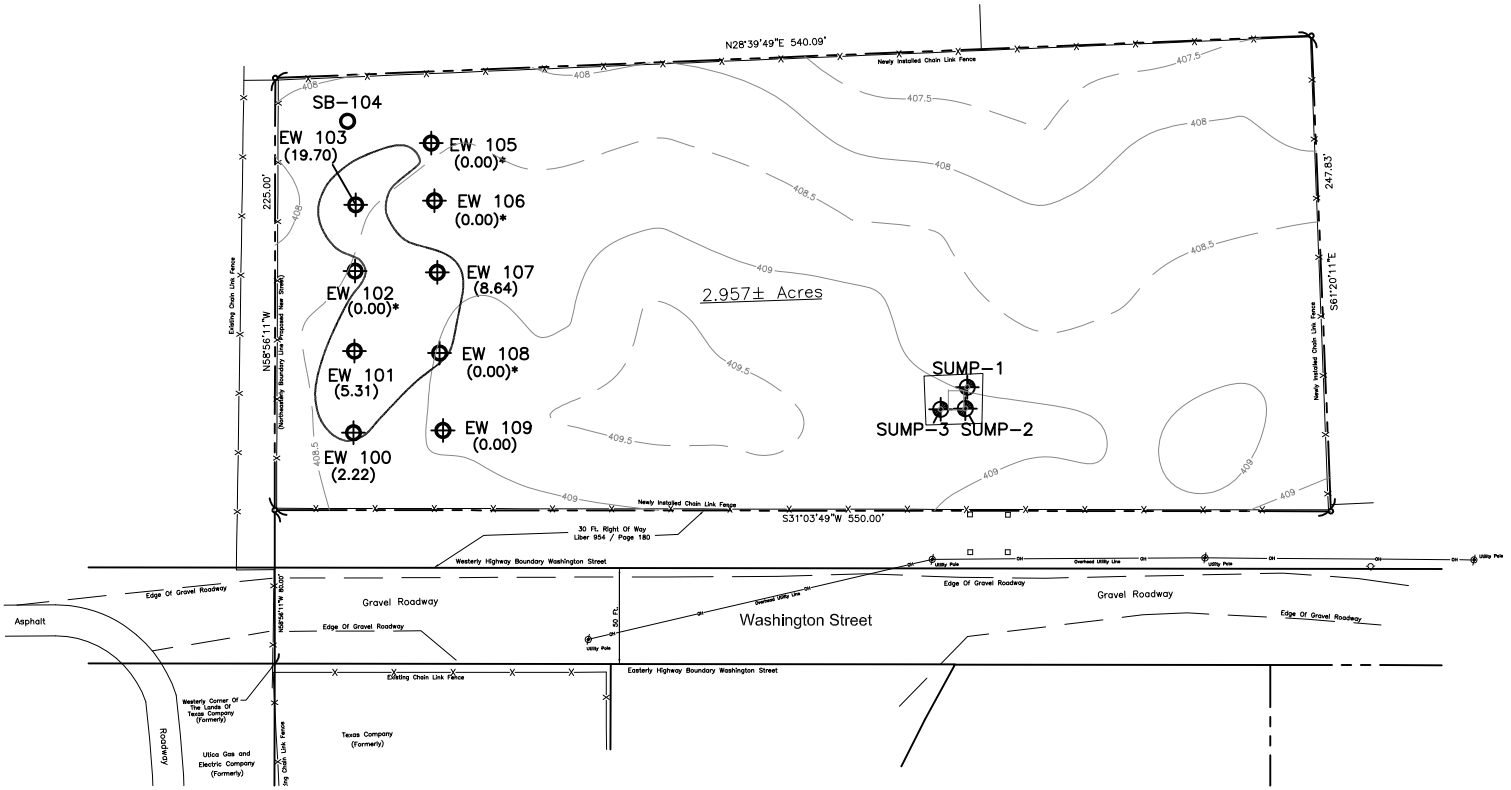
AS-BUILT SURVEY
Lands Of
Koppers Company Inc.
Washington Street

City Of Utica - Oneida County
STATE OF NEW YORK

DATE OF DRAWING
10/18/2005

Parker Land Surveying, P.C.
5504 State Route #5
Vernon, New York 13476
Telephone (315) 829-5429

REVISIONS



LEGEND

SITE PROPERTY BOUNDARY AND CHAIN LINK FENCE

EDGE OF ROAD

EDGE OF GRAVEL ROAD

CHAIN LINK FENCE

409 — GROUND SURFACE ELEVATION CONTOUR INTERVAL

INFERRED EXTENT OF FREE NAPL – JULY 2009

(0.18) — TOTAL GALLONS OF NAPL REMOVED – JULY 2009

EW 100 — NAPL EXTRACTION WELL

SB-104 — SOIL BORING

SUMP-1 — SHALLOW NAPL RECOVERY SUMP

0 100 200 FEET

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: SCC	DATE: 06/17/08	KEY ENVIRONMENTAL INCORPORATED
CHKD: MRL	DATE: 06/17/08	
APPD: MRL	DATE: 06/17/08	
SCALE: AS SHOWN		

FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

RECOVERY WELL SUMP AND LOCATION MAP

PROJECT NO: 09-888
FIGURE 4-1

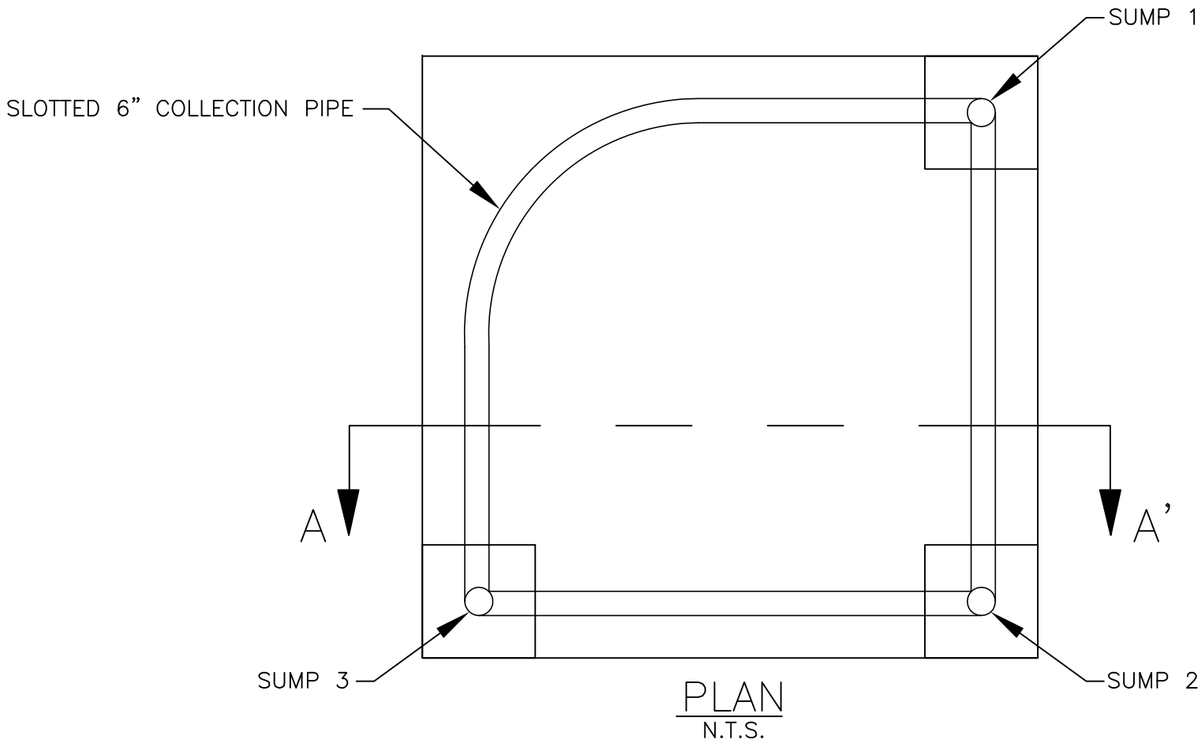
REFERENCE:

* SHEEN NOTED FOR 2 OR MORE EVENTS

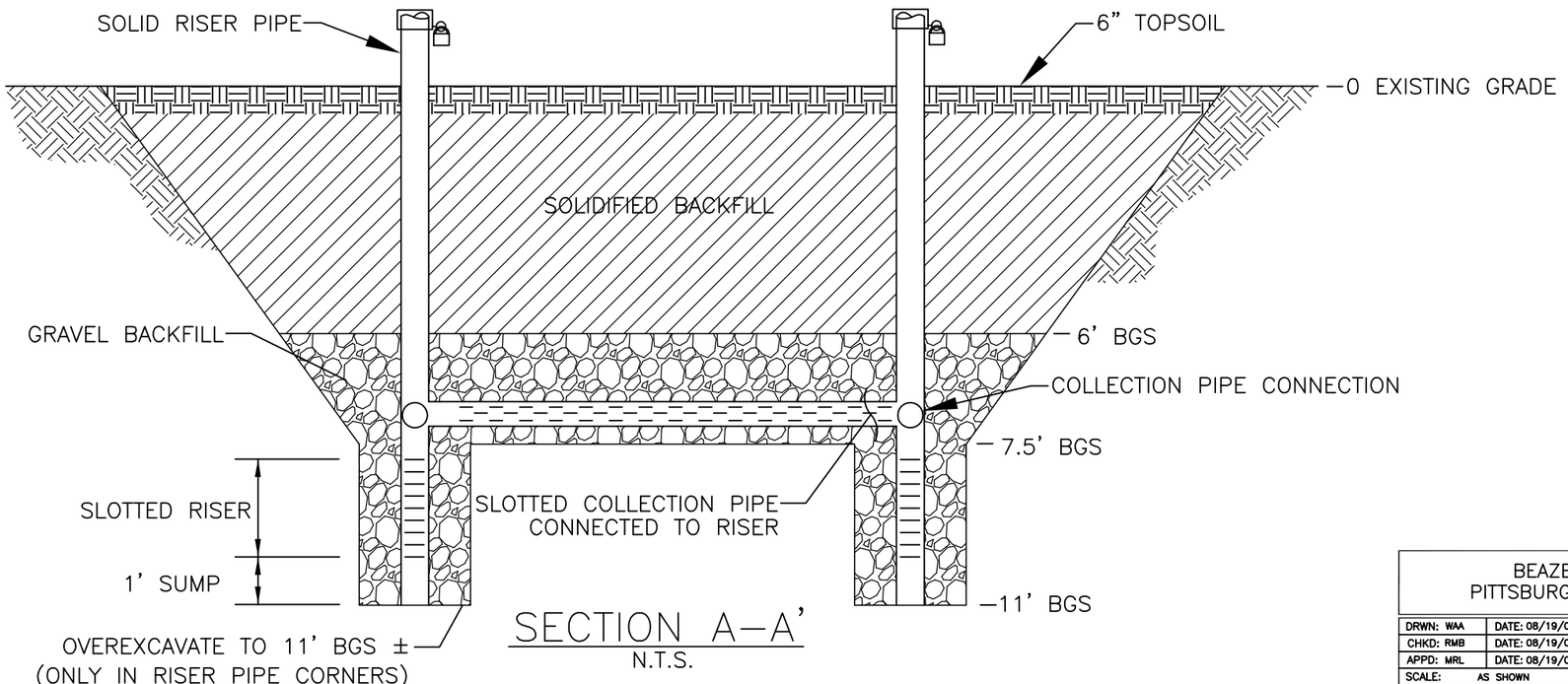
ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

Y:\NYTEP\09-888\FINAL ENGINEERING REPORT\FIGURE 4-1.DWG



PLAN
N.T.S.



SECTION A–A'
N.T.S.

REV #	DATE	DESCRIPTION	APPD
1			
2			
3			

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: WAA	DATE: 08/19/09	KEY ENVIRONMENTAL INCORPORATED
CHKD: RMB	DATE: 08/19/09	
APPD: MRL	DATE: 08/19/09	
SCALE: AS SHOWN		

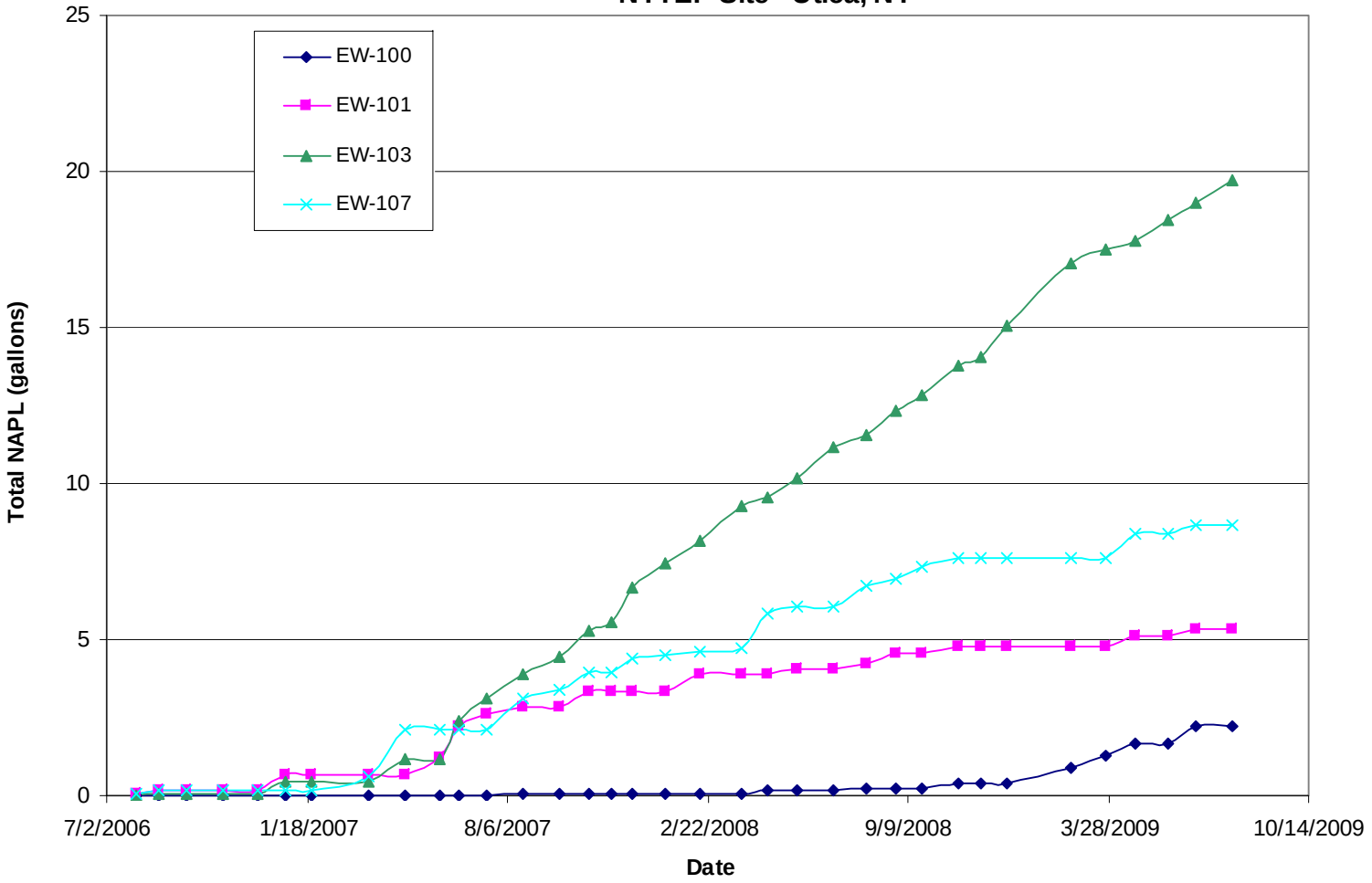
FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

NAPL RECOVERY SUMPS

PROJECT NO: 09-888
FIGURE 4-2

y:\nytep\09-888\final engineering report\figure 4-2.dwg Last Saved By: Sconner 8/31/2009 10:38 AM Plotted By: Shelly Comer 12/3/2009 7:28 AM Scale: 1:1

FIGURE 4-3
Cumulative NAPL Recovery History By Well
Final Engineering Report
NYTEP Site - Utica, NY



BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: SCC	DATE: 08/14/09	KEY ENVIRONMENTAL INCORPORATED
CHKD: AH	DATE: 08/14/09	
APPD: MRL	DATE: 08/14/09	
SCALE: AS SHOWN		

FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

CUMULATIVE NAPL RECOVERY

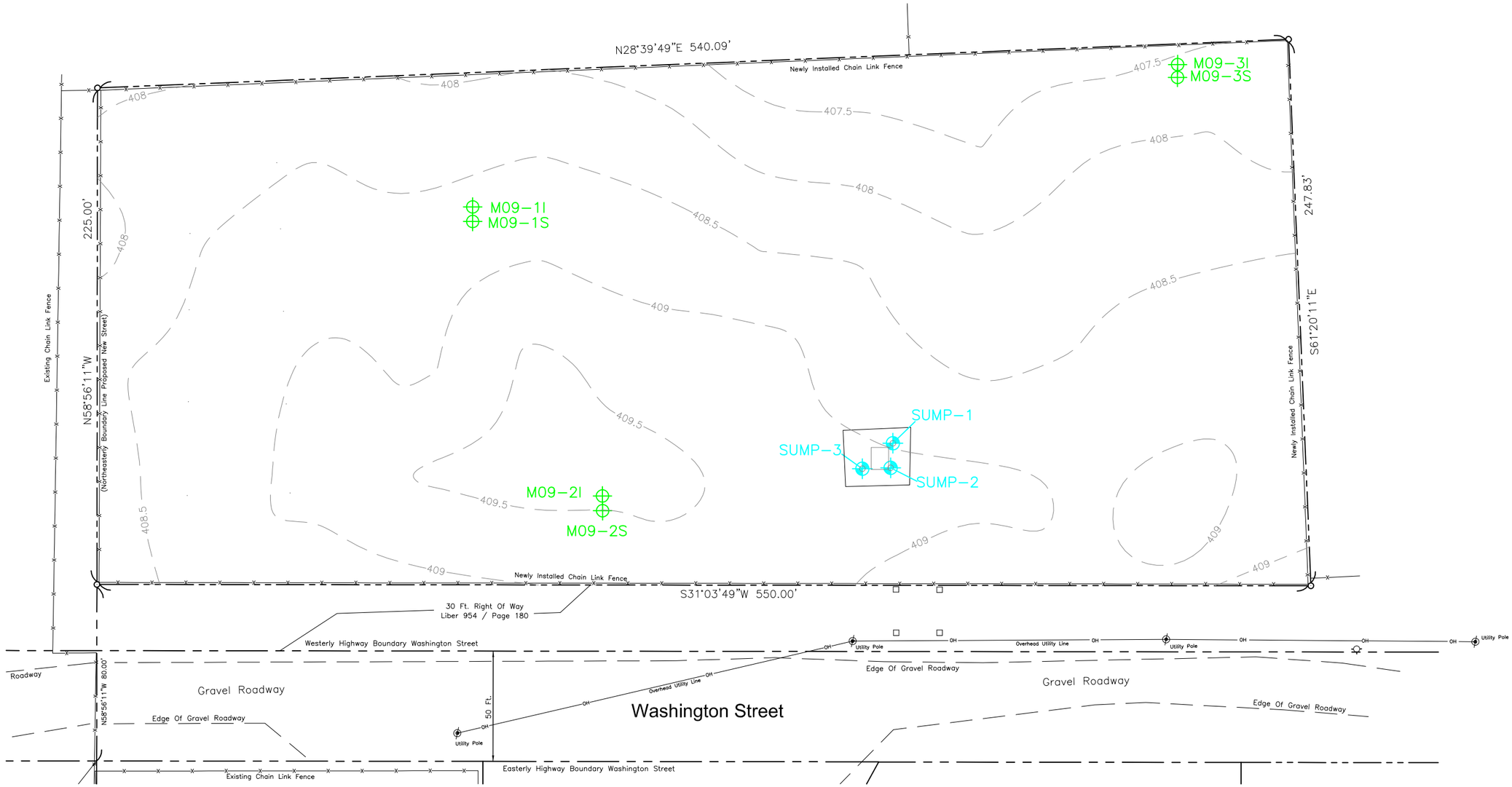
PROJECT NO: 09-888
FIGURE 4-3

REFERENCE:

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

Y:\NYTEP\09-888\FINAL ENGINEERING REPORT\FIGURE 4-3.DWG



LEGEND

- SITE PROPERTY BOUNDARY
- EDGE OF ROAD
- EDGE OF GRAVEL ROAD
- CHAIN LINK FENCE
- SUMP-1 — SHALLOW ZONE DNAPL MONITORING LOCATION
- 409 — GROUND SURFACE ELEVATION CONTOUR INTERVAL
- M09-1 — SHALLOW AND INTERMEDIATE ZONE GROUNDWATER MONITORING WELL PAIR

0 50 100 FEET

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: SCC	DATE: 08/06/09	KEY ENVIRONMENTAL INCORPORATED	
CHKD: RMB	DATE: 08/06/09		
APPD: MRL	DATE: 08/06/09		
SCALE: AS SHOWN			

FINAL ENGINEERING REPORT
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

MONITORING WELL LOCATIONS

PROJECT NO: 09-858
FIGURE 5-1

REV #	DATE	DESCRIPTION	APPD
3			
2			
1			

REFERENCE:
J - ESTIMATED VALUE

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

y:\nytep\09-888\final engineering report\figure 5-1.dwg Last Saved By: Scomer 8/31/2009 10:07 AM Plotted By: Shelly Comer 12/3/2009 7:32 AM Scale: 1:1

ATTACHMENT A

Deed Notice

*** DO NOT DETACH ***

COPY

Oneida County Clerk's Office

Recording Page

Receipt #:	233371	--------FEES--------	
Instrument #:	2005-012599	Recording and Filing:	60.00
Date:	06/21/2005	Transfer Tax:	0.00
Time:	10:05A	Basic Tax:	0.00
Doc Type:	DECLARATION	Additional Tax:	0.00
1st OR:	SUITE KOTE	Special Tax:	0.00
1st EE:	-	Withheld:	0.00
Town:	-	Total:	60.00
Pages:	11		
Serial #:	-	--------MORTGAGE TAX-----	
Employee ID:	JAB	Amount Taxed:	0.00
Transfer Tax #:		--------TRANSFER TAX-------	
		Consideration Amount:	0.00

Return Address: SUIT KOE
PO BOX 5160
CORTLAND NY 13045

State of New York
County of Oneida

***** WARNING -**

I hereby certify that the within and foregoing was recorded in the Oneida County Clerk's Office, State of New York.

This sheet constitutes the Clerks endorsement required by Section 316 of the Real Property Law of the State of New York.

Richard D. Allen
County Clerk

****
* *** DO NOT DETACH *** *
****

Richard D. Allen, Oneida County Clerk

2005-012599
06/21/2005 10:05AM
Page: 1 of 11
DEC

10

DECLARATION of COVENANTS and RESTRICTIONS

THIS COVENANT, made the 15th day of June 2005, by Suit-Kote Corporation, a corporation organized and existing under the laws of the State of New York and having an office at 1911 Lorings Crossing Road, Cortland, New York 13045 (hereinafter "Suit-Kote").

WHEREAS, property known as the former New York Tar Emulsion Products Site is the subject of an Order on Consent (the Order) executed by the New York State Department of Environmental Conservation (the Department), Suit-Kote and Beazer-East, Inc., namely that parcel of real property located at Washington Street in the City of Utica, Oneida County, State of New York, which is part of lands owned by Suit-Kote, and recorded in the Oneida County Clerk's Office on March 21, 1977 in Book 2040 of Deeds at Page 695 and being more particularly described in Appendix "A," attached to this declaration and made a part hereof, and hereinafter referred to as "the Property"; and

WHEREAS, the Department selected a remedy to address contamination at the Property and such remedy requires that the Property be subject to restrictive covenants.

NOW, THEREFORE, Suit-Kote, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions, is as shown on a map attached to this declaration as Appendix "B" and made a part hereof, and consists of:

Beginning at a point marked by an iron pipe in the northeasterly boundary line of a proposed new street, said proposed new street line being the continuation northwesterly of the division line between the lands of the Texas Company on the northeast and the lands of the Utica Gas and Electric Company on the southwest, said point being distant N. 58° 10' W. eighty (80) feet along said proposed street line from the extreme westerly corner of the lands of the Texas Company; thence N. 58° 10' W. eighty (80) feet along said proposed street line from the extreme westerly corner of the lands of the Texas Company; thence N. 58° 10' W. along said proposed new street line two hundred twenty-five (225) feet to a point marked by an iron pipe; thence N. 29° 26' E. five hundred forty and nine hundredths (540.09) feet to a point marked by an iron pipe; thence S. 60° 34' E. two hundred forty-seven and eighty-three hundredths (247.83) feet to a point marked by an iron pipe in a line parallel to and distant eighty (80) feet northwesterly at right angles form the northwesterly line of the heretofore mentioned lands of the Texas Company; thence S. 31° 50' W. along said last mentioned parallel line five hundred fifty (550) feet to the point of beginning.

Second, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, there shall be no construction, use

Suit-Kote
1911 Lorings Crossing
PO Box 5760
Cortland NY 13045

or occupancy of the Property that results in the disturbance or excavation of the Property, which threatens the integrity of the soil cover, or which results in unacceptable human exposure to contaminated soils.

Third, the owner of the Property shall maintain the soil cover covering the Property by maintaining its grass cover or, after obtaining the written approval of the Relevant Agency, by covering the Property with another material.

Fourth, the owner of the Property shall prohibit the Property from being used for purposes other than for restricted commercial use, excluding day care, child care and medical care uses, without the express written waiver of such prohibition by the Relevant Agency.

Fifth, the owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking or for industrial purposes, as appropriate, unless the user first obtains permission to do so from the Relevant Agency.

Sixth, the owner of the Property shall continue in full force and effect any institutional and engineering controls required under the Order, and shall maintain such controls unless the owner first obtains permission to discontinue such controls from the Relevant Agency.

Seventh, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property, and shall provide that the owner of the property, and its successors and assigns, consents to enforcement by the Relevant Agency of the prohibitions and restrictions that Paragraph X of the Order requires to be recorded, and hereby covenants not to contest the authority of the Relevant Agency to seek enforcement.

Eighth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

In Presence of

In Witness Whereof, the party of the first part has signed by its duly authorized officer this day of June, Two Thousand Five.

By Frank H. Suits Jr.

State of New York)
) ss
County of (ORANGE))

On 15TH DAY OF JUNE 2005 , before me, the undersigned, personally appeared **FRANK H. SUITS, JR.,** personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Notary Public

BRIAN P. RENNA
Notary Public, State of New York
Qualified in Onon. Co. No. 01RE5007609
Commission Expires May 26, 2006

Appendix A

142.00

637

#090

THIS INDENTURE, made the 16th day of March Nineteen Hundred and Seventy-seven between KOPPERS COMPANY, INC., a corporation organized under the laws of Delaware, having its general offices in the Koppers Building, Pittsburgh, Pennsylvania, party of the first part, and NEW YORK EMULSIONS, INC., a New York corporation, having its official address at 700 Midtown Tower, Rochester, New York 14604,

party of the second part;

FILED
Utica, N. Y.
MAR 21 1977
Dept. of Assessment & Taxation

WITNESSETH, that the party of the first part, in consideration of ten dollars and other valuable consideration paid by the party of the second part, does hereby grant and release unto the party of the second part, the heirs or successors and assigns of the party of the second part forever,

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situate, lying and being in the City of Utica, County of Oneida and State of New York:

Beginning at a point marked by an iron pipe in the northeasterly boundary line of a proposed new street, said proposed new street line being the continuation northwesterly of the division line between the lands of the Texas Company on the northeast and the lands of the Utica Gas and Electric Company on the southwest, said point being distant N. 58° 10', W. eighty (80) feet along said proposed street line from the extreme westerly corner of the lands of the Texas Company; thence N. 58° 10' W. along said proposed new street line two hundred twenty-five (225) feet to a point marked by an iron pipe; thence N. 29° 26' E. five hundred forty and nine hundredths (540.09) feet to a point marked by an iron pipe; thence S. 60° 34' E. two hundred forty-seven and eighty-three hundredths (247.83) feet to a point marked by an iron pipe in a line parallel to and distant eighty (80) feet northwesterly at right angles from the northwesterly line of the heretofore mentioned lands of the Texas Company; thence S. 31° 50' W. along said last mentioned parallel line five hundred fifty (550) feet to the point of beginning. Containing two and nine hundred fifty-seven thousandths (2.957) acres, more or less, (as shown on Utica Gas and Electric Company's drawing C-5121-2, reference to which is hereby made). Being a part of parcel "N" conveyed to Utica Gas and Electric Company by Charles Davies individually and as Executor by Deed dated December 20, 1923, and recorded in the Office of the County Clerk of Oneida County, New York, in Deed Book 830 at page 152.

Being the same premises conveyed to the party of the first part by Deed dated November 9, 1944 and recorded in the Oneida County Clerk's Office in Liber 1063 of Deeds at page 211.

Together with the right to cross that strip of land thirty (30) feet wide lying between the property above described and the west line of Washington Street extended, as shown on the drawing

referred to above, by persons, teams and vehicles at not more than three places to be selected by the party of the second part, together with the right to pass over Washington Street extended to the proposed new street and through the proposed new street to the nearest public highway.

Also the right of complete and unobstructed access across the southwesterly line of the property above described to the proposed new street as and when said proposed new street is made a public thoroughfare.

Also the right to connect the plant located upon the property above described with the potable water and sewer pipes of Utica Gas and Electric Company now laid in Washington Street opposite to said property, together with the right to use the same for water supply and sewage purposes.

Also the right to lay and maintain, either above or underground, conduits for telephone and electric wires and pipelines for gas, together with the right to connect same with sources of supply in Washington Street.

Also the right to connect the plant located on the property above described with the tar loading pipeline and water service pipeline of the Utica Gas and Electric Company located northerly of said property, together with the right to use the same for tar handling and water supply purposes.

SUBJECT, however, to easements, restrictions and reservations of record and to such state of facts that an accurate survey and an inspection of the premises would disclose, and also subject to the provisions in the Deed dated September 1, 1926 from Utica Gas and Electric Company recorded in the Oneida County Clerk's Office in Liber 879 of Deeds at page 24.

RECEIVED
$ 12.90
REAL ESTATE
MAR 21 1977
TRANSFER TAX
ONEIDA
COUNTY

RECORDED
LIBER ___ OF ___ PAGE
'77 MAR 21 AM 10:24
Mary T. Brickley
ONEIDA COUNTY CLERK
BY ___

TOGETHER with the appurtenances and all the estate and rights of the party of the first part in and to said premises,

TO HAVE AND TO HOLD the premises herein granted unto the party of the second part, its heirs or successors and assigns forever.

AND the party of the first part covenants as follows:

FIRST. That the party of the first part covenants that it has not done or suffered anything whereby the said premises have been incumbered in any way whatever.

SECOND. That the party of the first part, in compliance with Section 13 of the Lien Law, covenants that the party of the first part will receive the consideration for this conveyance and will hold the right to receive such consideration as a trust fund to be applied first for the purpose of paying the cost of the improvement and will apply the same first to the payment of the cost of the improvement before using any part of the total of the same for any other purpose.

IN PRESENCE OF

IN WITNESS WHEREOF, The party of the first part has caused its corporate seal to be hereunto affixed, and these presents to be signed by its duly authorized officer the day and year first above written.

KOPPERS COMPANY, INC.

ATTEST:

Assistant Secretary

By ______________________
Vice President

LIBER 2040 698

STATE OF PENNSYLVANIA)
) ss:
COUNTY OF ALLEGHENY)

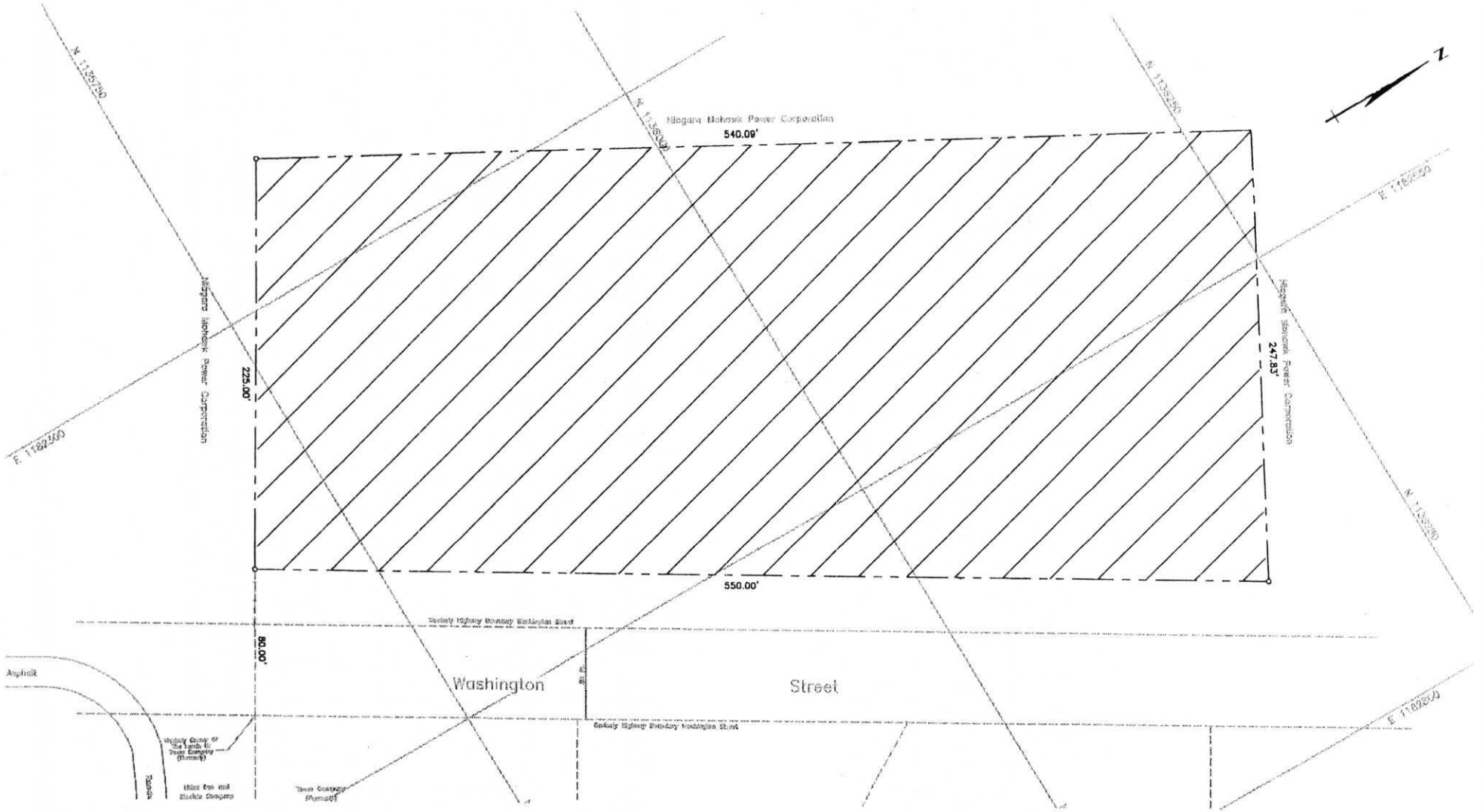
On this 16th day of March, Nineteen Hundred and Seventy-seven before me personally came C. R. Russin to me personally known, who, being by me duly sworn, did depose and say that he resides in Pittsburgh, Pennsylvania that he is a Vice President of KOPPERS COMPANY, INC., the corporation described in, and which executed, the above instrument; that he knows the seal of said corporation; that the seal affixed to said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that he signed his name thereto by like order.

Anne M. Horne

Anne M. Horne, Notary Public
Pittsburgh, Allegheny County, Pa.
My Commission Expires
July 8, 1980

NOTARIAL SEAL

Appendix B



LEGEND

- NYTEP SITE PROPERTY BOUNDARY
- OTHER PROPERTY BOUNDARY
- IRON PIN SET AT PROPERTY CORNER
- LIMITS OF DEED RESTRICTION
- NEW YORK STATE PLANE GRID

0 40 80 160 FEET

REFERENCE: TOPOGRAPHY AND PLANIMETRICS PROVIDED BY MYERS & ASSOCIATES, P.C., SURVEY DRAWING, 8/12/2002.
HORIZONTAL DATUM: NAD 1983

ISSUE DATE:

ROSSLYN FARMS
INDUSTRIAL PARK
1200 ARCH ST., SUITE 200
CARNEGIE, PA 15106

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: DAE	DATE: 05/20/05	KEY ENVIRONMENTAL INCORPORATED
CHKD: RFD	DATE: 05/20/05	
APPD: NJM	DATE: 05/20/05	
SCALE: AS SHOWN		

NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

LIMITS OF DEED RESTRICTION

DRAWING NUMBER
APPENDIX B

CDS: Y:\NYTEP\04-846\G001A.DWG

ATTACHMENT B

Soil Cover Inspection Form

SOIL REMEDY SEMI-ANNUAL INSPECTION FORM

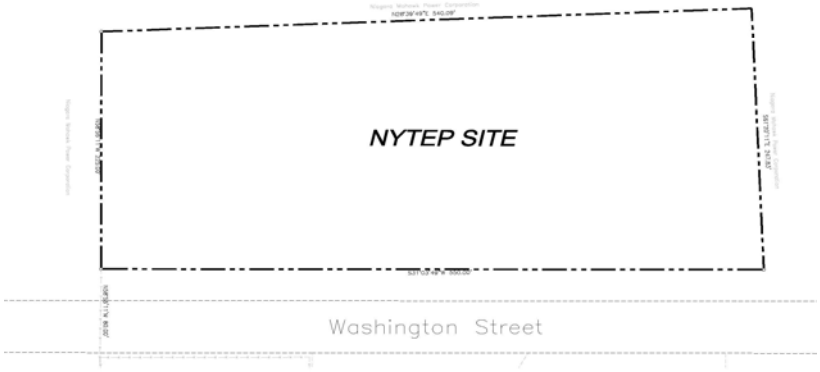
NEW YORK TAR EMULSION PRODUCTS SITE
UTICA, NEW YORK

The following inspection is to be performed on a semi-annual basis to monitor site conditions in relation to the 100% Soil Remedial Design.

ITEM NUMBER	**YES/NO**
1) Is the site gate locked? IF NOT, EXPLAIN	_____
2) Is the site fence in acceptable condition? If NOT, EXPLAIN	_____
3) Does the site fence have any new wear or damage? IF SO, EXPLAIN	_____
4) Does the soil cover show any new signs of erosion or settlement? IF SO, EXPLAIN	_____
5) Does site vegetation show any signs of disease or distress? IF SO, EXPLAIN	_____

NOTES:

_____
_____
_____
_____
_____
_____



Inspected By: _____ **Date: _____**
Signature

_____
Print

ATTACHMENT C

Recovery Well Gauging Form and Annual Well Inspection Form

Annual Well / Sump Inspection Form

Utica FORM 1, Revision 0 (8/11/08)

Date: _____ _____

Weather/Site Conditions: _____

Well ID	Proper Label?	Protective Casing painted?	Well Pad Condition	Condition of Lock	Inner Casing Cap?	Inner Casing Material	Total Depth / Silt	Other	Comments
Sump 01									
Sump 02									
Sump 03									
MW-01									
MW-02									
MW-03									
EW-100									
EW-101									
EW-102									
EW-103									
EW-105									
EW-106									
EW-107									
EW-108									
EW-109									

ADDITIONAL COMMENTS / ACTIVITIES COMPLETED:

_____

_____

_____

_____