



464 Doughty Boulevard  
Inwood, New York 11096  
Telephone: (516) 239-5232  
Facsimile: (516) 239-2455  
steve.p.trifiletti@exxonmobil.com

Steve Trifiletti  
Project Manager

October 15, 2009

Mr. Brian Davidson  
New York State Department of Environmental Conservation  
Remedial Bureau B  
Division of Environmental Remediation  
625 Broadway, 12th Floor  
Albany, New York 12233-7016

Re: Interim Remedial Measure Feasibility Study Report  
Former Pratt Oil Works  
Waterfront Parcels, Queens, New York

Dear Mr. Davidson:

Exxon Mobil Corporation ("ExxonMobil") is submitting for your review and comment the enclosed Interim Remedial Measure (IRM) Feasibility Study Report for the subject site. Three hard copies and an electronic copy are provided per Section VIII of the Consent Order (D2-1002-12-07AM) executed between ExxonMobil and NYSDEC. This report has been prepared on behalf of ExxonMobil by Kleinfelder of Bohemia, New York.

Please do not hesitate to contact me at (516) 239-5232 if you have any questions.

Very truly yours,



Steve Trifiletti  
Project Manager

Enclosure

Via FEDEX Overnight

cc: J. Kaplan (Waste Management – hard copy only)  
K. Lumpe (Steel Equities – hard copy only)  
A. Michaels (NYSDEC – electronic copy only)  
J. Wolf (Kleinfelder)



**DELIVERED VIA Electronic Mail**

October 15, 2009

Mr. Steve P. Trifiletti  
ExxonMobil Environmental Services Company  
Global Remediation - Major Projects  
464 Doughty Boulevard  
Inwood, New York 11096

**Re: Interim Remedial Measure Feasibility Study Report**  
The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
38-30, 38-50 and 38-80 Newtown Creek (Parcel A)  
38-42 and 39-14 Review Avenue (Parcel B)  
Long Island City, New York  
NYSDEC Case Nos. 07-07417 (Parcel A) and 08-13060 (Parcel B)  
Consent Order Case No. D2-1002-12-07AM  
Document Tracking No. S241115

Dear Mr. Trifiletti:

Kleinfelder East, Inc. (Kleinfelder) was retained by ExxonMobil Environmental Services Company (ExxonMobil), on behalf of ExxonMobil Oil Corporation, to prepare this Interim Remedial Measure Feasibility Study Report (IRM Study) for the above-referenced Former Pratt Oil Works, Waterfront Parcels (Tract II), herein identified as the Site (Figure 1). The IRM Study was conducted in accordance with an *Interim Remedial Measure Feasibility Study Work Plan* (Work Plan) dated July 13, 2009 and approved by the New York State Department of Environmental Conservation (NYSDEC) on August 20, 2009. Investigative activities were conducted in accordance with a Corrective Action Plan (CAP) included in Order on Consent No. D2-1002-12-07 AM, which was executed between ExxonMobil Oil Corporation and the NYSDCE on July 15, 2008.

Light non-aqueous phase liquid (LNAPL) was detected in seven of 13 monitoring wells installed during an interim site characterization conducted on the Waterfront Parcels in April 2009. A description including, but not limited to, the nature and extent of LNAPL was submitted to the NYSDCE in an *Interim Site Characterization Report* dated August 10,



2009. LNAPL distribution and thickness are presented on Table 1. The intent of the IRM Study was to evaluate LNAPL recoverability under various conditions and methods in order to determine the optimal method for LNAPL recovery. In addition to evaluating optimal LNAPL recovery, temporary on-site management options, the ability to recycle and/or dispose of accumulated LNAPL, LNAPL waste characterization, and access agreement requirements were considered prior to recommending the proposed optimal IRM technology. Three LNAPL recovery methods were assessed based on the criteria stated above and are discussed in the later sections of this IRM Study.

## **SITE DESCRIPTION**

The Waterfront Parcels are comprised of five separate property lots located at 38-30, 38-50, and 38-80 Newton Creek (Parcel A), and 38-42 and 39-14 Review Avenue (Parcel B) within Long Island City, New York. Parcel A is currently owned and operated by Waste Management Corporation (WMC) as an active New York City Department of Sanitation waste transfer station. Parcel A comprises an approximately 4.3-acre parcel, which currently consists of a vacant building, a waste transfer building, and paved areas. Parcel B is owned by Apollo Steel and consists of warehouse and office space for several commercial companies and is primarily paved. Parcel B is approximately 3.08 acres in size. Site plans for each parcel, depicting monitoring well locations and pertinent site features, are illustrated on Figures 2 and 3, respectively.

The Waterfront Parcels are bound to the northeast by the southern line of the Long Island Railroad (LIRR), and to the northwest by the South Capasso property. To the southeast, the Site is bounded by the former Maspeth Concrete property, which is now vacant. The Site is located on the northeast bank of Newtown Creek. Further to the northeast, across the LIRR, are the Quanta Resources Site, properties owned by Phoenix Beverage, and several other commercial and industrial properties.

## **SITE GEOLOGY AND HYDROGEOLOGY**

The Waterfront Parcels are located on the northeast bank of Newtown Creek that flows northwest and drains into the East River on the western part of Long Island. The banks of the creek and the surficial materials on the adjacent properties have been largely altered by land reclamation activities that preceded much of the modern history of this part of Long Island. The topography and surficial geology in the vicinity of the Waterfront Parcels are largely reflections of man-made urban fill and unconsolidated natural deposits related to the Wisconsin stage glaciation.

The Site geology described in the *Interim Site Characterization Report* dated August 10, 2009 and based on previous investigations (performed by others) at the Site, consists predominately of urban fill including coal ash, brick, concrete, wood, with sand and gravel. The thickness of the fill ranges from approximately 2 to 18 feet below grade (fbg). Unconsolidated layers and lenses of sand, silt, clay, peat and gravel underlie the fill material. Bedrock was not encountered during the investigation.



A greater thickness of fill material associated with foundations, brick, and concrete debris was observed throughout Parcel A. The fill contains layers of material consisting of coal ash that extend through the northern portion of both Parcel A and Parcel B and range in thickness from 2 to 8 feet. Discontinuous coal ash material is also present on the southern portions of Parcel A and B.

A layer of peat/organic silt, ranging in thickness from less than one foot to four feet, is located beneath the fill material throughout the northern section of Parcel A and onto the eastern section of Parcel B. The peat/organic silt layer is underlain by a 2 to 5 foot thick silt and clay lens on the northern portion of Parcel A. A sand unit of unknown thickness underlies the silt and clay lens. On the northern portion of Parcel B, where the peat/organic silt is not present, a sand unit is located immediately beneath the fill material. Lenses of silt and gravel, ranging in thickness from one to four feet, are present sporadically throughout the northern portion of the Site.

The geologic deposits in the southern portions of both Parcel A and B appear to be more heterogeneous than in the north seemingly due to the proximity to Newtown Creek, and the historic reworking of the Creek's shoreline by natural and anthropogenic processes. A sand unit, approximately 4 to 12 feet in thickness, is located beneath the fill on the southern portion of Parcel A. A silt lens underlies the fill on the southern portion of Parcel B. Beneath the sand unit and silt lens are various lenses of sand, silt, clay and gravel. Geologic cross-sections illustrating the geology observed and LNAPL distribution in soil samples collected from the Site are provided as Figures 4 and 5.

The Waterfront Parcels are situated between a local topographic high located to the northeast (local groundwater recharge area) and Newtown Creek (a regional groundwater discharge area). Groundwater flows laterally towards Newtown Creek with a hydraulic gradient of approximately 0.022 feet per foot. Depth to groundwater ranges from approximately 4 to 9 fbg.

## **METHODS OF INVESTIGATION**

Several LNAPL recovery techniques, including manual gauging and bailing (G&B), submersible pumping, and enhanced fluid recovery (EFR), were evaluated for this study. Water level gauging of the monitoring well network on April 17, 2009 detected LNAPL in monitoring wells MW-2, MW-4 through MW-7, MW-9, and MW-12 ranging in thickness from 0.01 foot in MW-12 to 11.34 feet in MW-5. Monitoring well gauging data are included on Tables 1 to 3. Monitoring well MW-5 (Parcel A) and MW-9 (Parcel B) were used to complete this study. Monitoring well MW-5 was selected based on the following:

- LNAPL detected beneath a confining layer with a measurement of approximately 11 feet in the monitoring well.

- A waste characterization analysis of a LNAPL sample collected from the well was acceptable for recycling by a disposal facility with vacuum truck services.
- Location of the well outside of the high traffic patterns.

Monitoring well MW-9 was selected based on the following:

- Terms and conditions regarding waste storage and disposal agreed to within the Site access agreements executed between ExxonMobil and the individual property owners.
- A LNAPL measurement of approximately 9 feet at the water table.
- A waste characterization analysis of a LNAPL sample collected from the well was acceptable for recycling by a disposal facility with vacuum truck services.
- Location of the well outside of the high traffic patterns.

The location of the monitoring wells are illustrated on Figures 2 and 3. The results of each technique were compared in an effort to evaluate the optimal LNAPL recovery method. In addition to evaluating optimal LNAPL recovery, temporary on-site storage and disposal options were considered based on the terms and conditions of access agreements, prior to recommending an IRM technology.

The following subsections describe the LNAPL recovery techniques used during the feasibility study.

### ***Manual Gauge and Bail Events***

On September 4, 2009, monitoring wells MW-5 and MW-9 were gauged for depth to LNAPL and depth to water (DTW) using an electronic interface probe (EIP) to measure LNAPL thickness. Level C personal protective equipment (PPE), including a tyvek suit, rubber booties, and a respirator, was used to conduct the gauging. LNAPL was bailed from the monitoring wells with a poly-ethylene, 3-inch diameter bailer. Upon retrieval at the surface, LNAPL was temporarily stored in United States Department of Transportation (USDOT)-approved 55-gallon, steel drums that were grounded and staged on spill containment pallets pending off-site disposal. During the bailing event (LNAPL recovery), the LNAPL thickness was periodically measured. The bailing continued until less than 0.5-foot of LNAPL was detected. Once a level of less than 0.5-foot of LNAPL was detected, bailing ceased, and the monitoring wells were gauged at various intervals, to evaluate LNAPL recharge rates.

### ***Submersible Pumping***

On September 10, 2009, monitoring wells MW-5 and MW-9 were gauged for depth to LNAPL and DTW using an EIP to measure LNAPL thickness. LNAPL was pumped from the monitoring wells using a Magnum Spill Buster™ pumping system operating using a portable generator. The Magnum Spill Buster™ is an automated, free-phase



LNAPL pumping system. The pump is designed to remove LNAPL from the water table using an auto-seeking device allowing the pump intake to automatically follow the elevation of the LNAPL/water interface as it fluctuates throughout the length of the well. The pump is designed not to pump water. The Auto Seeker is a small, motorized, reel assembly installed on the wellhead. It automatically raises and lowers the probe to follow the LNAPL interface through the depth of the well. The 1.93-inch diameter probe contains a 12vdc electric product pump. Monitoring well MW-9 was initially bailed prior to initiating the recovery event to raise the water level because the Spill Buster™ could not initially detect the DTW level to operate. The LNAPL was transferred and temporarily stored in USDOT approved 55-gallon, steel drums staged on spill containment pallets pending off-site disposal. During the pump event (LNAPL recovery), the LNAPL thickness was periodically measured. The pumping continued until less than 0.1-foot of LNAPL was detected. Once a level of less than 0.1-foot of LNAPL was detected, pumping ceased, and the monitoring wells were gauged at various intervals, to evaluate LNAPL recharge rates.

### ***Enhanced Fluid Recovery***

On September 16, 2009, monitoring well MW-9 was gauged for depth to LNAPL and DTW using an EIP to measure LNAPL thickness. EFR was not proposed for monitoring well MW-5 in order to minimize the potential for additional LNAPL migration beneath a confining layer. The EFR event was conducted via vacuum truck to remove LNAPL from the monitoring well. The vacuum truck was provided and operated by Lorco Petroleum Services of Elizabeth, New Jersey (Lorco). A single, 1-inch diameter extraction pipe ("stinger") was temporarily installed within the monitoring well and connected to a vacuum truck via a cam lock fitting and hose. To induce recovery, the stinger was installed under the vacuum until LNAPL was entrained in the air flow. The stinger was adjusted, as necessary, to maximize LNAPL recovery without penetrating 1-foot below the LNAPL elevation. During the EFR event (LNAPL recovery), the LNAPL thickness was periodically measured. The EFR continued for approximately 4 hours until the LNAPL thickness appeared to reach equilibrium. Following the EFR event, the monitoring well was gauged at various intervals to evaluate the LNAPL recharge rate.

### **FINDINGS AND RESULTS**

For each recovery method, the Depth to LNAPL and DTW measurements were compared to the monitoring well top of casing elevation to determine the LNAPL and groundwater elevation. In addition, the LNAPL thickness was converted to LNAPL volume observed in the well based on the well diameter. The LNAPL elevation, groundwater elevation, and LNAPL volume detected in the wells were graphed versus time to illustrate the change in elevation and volume respectively during the LNAPL recovery and recharge. A trend line was added to the LNAPL volume versus time plot to evaluate the average recharge rate of LNAPL in gpm.

The following subsections describe the findings and results of the LNAPL recovery techniques used during the feasibility study.

### ***Manual Gauge and Bail Events***

Bailing occurred on monitoring well MW-5 for approximately 35 minutes in which 21 gallons of LNAPL was recovered and LNAPL thickness was reduced from 10.1 to 0.45 feet for an average bailing rate of 0.6 gallons per minute (gpm). Bailing occurred on monitoring well MW-9 for 94 minutes in which 55.25 gallons of LNAPL was recovered and LNAPL thickness was reduced from 9.62 feet to 0.34 feet for an average bailing rate of 0.59 gpm. LNAPL recharge for MW-5 and MW-9 were 0.022 and 0.018 gpm respectively. Figures 1 and 2 of Appendix A illustrate the LNAPL elevation, groundwater elevation and LNAPL volume detected in the well over time.

### ***Submersible Pumping***

Pumping occurred on monitoring well MW-5 for 108 minutes in which 16.46 gallons of LNAPL was recovered and LNAPL thickness was reduced from 11.83 to 0.07 feet for an average pumping rate of 0.152 gallons per minute (gpm). Pumping occurred on monitoring well MW-9 for 117 minutes in which 24.37 gallons of LNAPL was recovered and LNAPL thickness was reduced from 7.55 feet to 0.04 feet for an average pumping rate of 0.21 gpm. LNAPL recharge for MW-5 and MW-9 were 0.023 and 0.022 gpm respectively. Figures 3 and 4 of Appendix A illustrate the LNAPL elevation, groundwater elevation and LNAPL volume detected in the well over time.

### ***Enhanced Fluid Recovery***

EFR occurred on monitoring well MW-9 for approximately 236 minutes in which 28 gallons of LNAPL was recovered and LNAPL thickness was reduced from 9.65 feet to 1.18 feet for an average EFR rate of 0.12 gpm. LNAPL recharge for MW-9 was 0.022 gpm. Figure 5 of Appendix A illustrates the LNAPL elevation, groundwater elevation and LNAPL volume detected in the well over time.

LNAPL recovery and recharge data for monitoring wells MW-5 and MW-9 are summarized on Tables 2 and 3, respectively. A summary of cumulative LNAPL recovered is provided as Table 4.

## **WASTE MANAGEMENT**

LNAPL recovered during the G&B and submersible pump recovery events was stored in USDOT approved 55-gallon, steel drums that were grounded and staged on spill containment pallets pending off-site disposal. The drums were emptied on September



10 and 16, 2009, by a Lorco vacuum truck for recycling. LNAPL recovered during the EFR event was contained in a vacuum truck supplied by Lorco and transported to its facility for recycling. Copies of the non-hazardous waste manifests are provided in Appendix B.

## **CONCLUSIONS**

The manual G&B event had the greatest volume of LNAPL recovered (76.25 gallons) over the shortest period of time with an average bailing rate of 0.6 gpm. However, the G&B events also induced the greatest change in LNAPL elevation, up to 4.2-feet in MW-9.

The submersible pump and EFR methods had similar LNAPL average recovery rates ranging from 0.12 gpm (EFR on MW-9) to 0.18 gpm (pump on MW-9). EFR had the longest recovery period with the lowest average recovery rate. In addition, after approximately 186 minutes, the EFR event sustained a LNAPL thickness of approximately 1.55 feet for the remaining 35 minutes of the test. The submersible pump and EFR methods induced lower changes in LNAPL elevation ranging from 0.34 feet (pump in MW-9) to 1.93 feet (pump in MW-5).

The three recovery methods had similar recharge rates ranging from 0.018 gpm in MW-9 to 0.023 gpm in MW-5. This appears consistent with the expected average recharge / steady-state extraction rate. In addition, the three recovery methods induced a rise in the groundwater elevation inside the monitoring well, which is likely attributable to hydrostatic compensation for the reduced thickness of the overlying LNAPL.

## **RECOMMENDATIONS**

The objectives of the IRM approach was to initiate a reduction of LNAPL volume, and preserve the ability to remove a greater volume of LNAPL over time, without prematurely reducing LNAPL mobility and recoverability due to initial aggressive extraction. This approach does not preclude consideration of future efforts to more aggressively remove LNAPL or reduce its mobility.

Based on the findings and results of the feasibility study, it is proposed that interim LNAPL recovery be initiated by retesting the submersible pump used during the feasibility study at a lower flow rate; testing passive skimmers, then passive skimmer pumps and/or pneumatic recovery pumps for comparison to the submersible pump used during the feasibility study at a lower flow rate. This proposal will be further detailed in an IRM Work Plan for the installation of LNAPL recovery pumps in monitoring wells MW-5 and MW-9. LNAPL recovery pumps deployed in these wells would be operated at a relatively low flow rate (approximately 0.02 gpm) in an effort to maintain LNAPL recovery at or less than the LNAPL recharge rate of the wells. This approach is



proposed for additional testing because it is expected that such approach will operate on a continual basis at an optimal flow rate to maintain steady-state LNAPL extraction, similar to what was observed during the EFR event. Sustaining steady-state extraction is expected to reduce the displacement of LNAPL with groundwater, and maintain the relative permeability and saturation for LNAPL recovery. It is believed this will be accomplished by sustaining LNAPL-wet pore spaces in the formation to minimize premature development of residual LNAPL conditions [globules and ganglia] due to over-pumping. Over-pumping may accelerate the creation of a three-phase system (water, air, LNAPL) in the formation pore space, which inhibits LNAPL recoverability due to interfacial tension between phases and capillary forces. This tentative approach for interim LNAPL recovery and longer term testing, in lieu of more aggressive extraction (e.g., total fluids recovery), appears supported by preliminary observations that seem to indicate that the lateral extent of LNAPL has reached equilibrium.

In addition, Kleinfelder proposes installing LNAPL recovery socks or passive skimmers in monitoring wells with approximately 1-foot or less of LNAPL including, but not limited to, MW-2, MW-3, and MW-7.

### **TENTATIVE SCHEDULE**

The following is a tentative schedule of proposed IRM implementation and pilot testing activities:

- Within 30-days of NYSDEC approval of this IRM Study, the flow rate of the submersible pump used during the feasibility testing will be tested over a minimum 6-hr period in monitoring well MW-9 to evaluate if it can be reduced. In addition, LNAPL passive skimmers will be acquired and installed in monitoring wells MW-5 and MW-9 in an effort to evaluate the effectiveness of this technology to recover LNAPL. The passive skimmers will be emptied and the recovered LNAPL will be containerized in USDOT approved 55-gallon, steel drums, grounded and staged on spill containment pallets, pending off-site disposal.
- Within 30-days of NYSDEC approval of this IRM Study, LNAPL recovery socks or passive skimmers will be installed in monitoring wells with approximately 1-foot or less of LNAPL including, but not limited to, MW-2, MW-3, MW-7, and MW-12. The spent LNAPL recovery socks and/or contents of the passive skimmers will be containerized on a weekly basis in USDOT approved 55-gallon, steel drums, grounded and staged on spill containment pallets pending off-site disposal. After four weeks, the frequency of changing recovery socks and emptying passive bailers will be reevaluated.
- Within 30-days of successful testing of passive skimmers in MW-5 and MW-9, passive skimmer pumps and/or pneumatic LNAPL recovery pumps will be tested to evaluate the effectiveness of this technology to recover LNAPL.

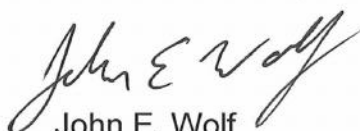
- Within 60-days of testing the pumps, an IRM Work Plan will be prepared describing the proposed IRM.

The above-stated IRM implementation and pilot testing is planned to be implemented within 30 days of NYSDEC approval of this IRM Study, contingent upon, but not limited to, access and weather conditions. Additional IRM and pilot testing actions may be proposed to the NYSDEC based on the findings of the above stated pilot test.

The pilot study will be implemented according to the schedule discussed above assuming no unforeseen circumstances occur or additional activities are required by the NYSDEC. If additional work is required by the NYSDEC for this Site during the same time frame described above, the implementation of said additional work, as well as the activities listed above, will be completed on a revised schedule to be agreed upon by ExxonMobil and the NYSDEC.

If you have questions or require additional information, please contact the undersigned at (631) 218-0612.

Very truly yours,  
**Kleinfelder East, Inc.**

  
John E. Wolf  
Senior Project Manager

  
Michael Meyerhoefer  
Project Manager

Attachments

Copy: Jeffrey Hale, Kleinfelder  
File

*"Kleinfelder performed the services for this project under the Standard Procurement Agreement with Procurement, a division of ExxonMobil Global Services Company (signed on June 21, 2007). Kleinfelder states that the services performed are consistent with professional standard of care defined as that level of services provided by similar professionals under like circumstances. This report is based on the regulatory standards in effect on the date of the report. It has been produced for the primary benefit of Exxon Mobil Global Services Company and its affiliates."*



## TABLES

**Table 1**  
**GROUNDWATER GAUGING AND FIELD PARAMETERS SUMMARY**

Former Pratt Oil Works  
Long Island City, New York

April 7, 2009 through September 16, 2009

Sample ID	Date	Gauging Data						Field Parameters							
		Top of Casing Elevation (feet)	Depth to Water (feet)	Depth to LNAPL (feet)	Specific Gravity (g/cm3)	LNAPL Thickness (feet)	Corrected GW Elevation (feet)	PID Reading (ppmv)	pH (s.u.)	Temperature (°C)	Conductivity (mS/cm)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Turbidity (ntu)	Salinity (%)
MW-1(6-18)	4/7/2009	13.49	9.51	ND	NA	ND	3.98	0.4	6.57	11.78	0.68	-302	NA*	530	NM
	4/17/2009	13.49	9.43	ND	NA	ND	4.06	NM	NM	NM	NM	NM	NM	NM	NM
MW-2(2-17)	4/7/2009	6.56	5.45	ND	NA	ND	1.11	80.9	NM	NM	NM	NM	NM	NM	NM
	4/17/2009	6.56	7.81	7.72	NA	0.09	-1.17	NM	NM	NM	NM	NM	NM	NM	NM
MW-3(3-18)	4/7/2009	NSVD	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	4/17/2009	NSVD	NM	NM	NA	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
MW-4(5-22)	4/7/2009	8.87	9.65	6.59	0.8908	3.06	1.95	135	NM	NM	NM	NM	NM	NM	NM
	4/17/2009	8.87	11.55	6.52	0.8908	5.03	1.80	NS	NM	NM	NM	NM	NM	NM	NM
MW-5(13-21)	4/7/2009	9.62	18.82	7.14	0.8952	11.68	1.26	23.0	NM	NM	NM	NM	NM	NM	NM
	4/17/2009	9.62	18.66	7.32	0.8952	11.34	1.11	NM	NM	NM	NM	NM	NM	NM	NM
	9/4/2009	9.62	17.10	7.00	0.8952	10.10	1.56	NM	NM	NM	NM	NM	NM	NM	NM
	9/10/2009	9.62	20.35	8.52	0.8952	11.83	-0.14	NM	NM	NM	NM	NM	NM	NM	NM
MW-6(18-23)	4/7/2009	11.80	12.18	9.09	0.8944	3.09	2.40	68.7	NM	NM	NM	NM	NM	NM	NM
	4/17/2009	11.80	12.55	9.35	0.8944	3.20	2.13	NM	NM	NM	NM	NM	NM	NM	NM
MW-7(1-15)	4/7/2009	6.54	5.18	4.82	0.9129	0.36	1.68	211	NA	NA	NA	NA	NA	NA	NA
	4/17/2009	6.54	8.42	7.74	0.9129	0.68	-1.27	NM	NM	NM	NM	NM	NM	NM	NM
MW-8(1-13)	4/7/2009	5.80	4.09	ND	NA	ND	1.71	0.0	7.59	8.07	37.4	-140	3.7	74.9	2.31
	4/17/2009	5.80	7.54	ND	NA	ND	-1.74	NM	NM	NM	NM	NM	NM	NM	NM
MW-9(3-18)	4/7/2009	9.76	17.70	8.40	0.9074	9.30	0.50	106	NA	NA	NA	NA	NA	NA	NA
	4/17/2009	9.76	17.51	8.28	0.9074	9.23	0.63	NM	NM	NM	NM	NM	NM	NM	NM
	9/4/2009	9.76	17.98	8.35	0.9074	9.63	0.52	NM	NM	NM	NM	NM	NM	NM	NM
	9/10/2009	9.76	19.30	9.51	0.9074	9.79	-0.66	NM	NM	NM	NM	NM	NM	NM	NM
	9/16/2009	9.76	17.90	8.25	0.9074	9.65	0.62	NM	NM	NM	NM	NM	NM	NM	NM
MW-10(3-13)	4/7/2009	10.56	8.74	ND	NA	ND	1.82	1.8	6.90	12.32	0.478	-143	0.0	95.4	0.02
	4/17/2009	10.56	8.64	ND	NA	ND	1.92	NM	NM	NM	NM	NM	NM	NM	NM
MW-11(2-17)	4/7/2009	6.98	5.73	ND	NA	ND	1.25	0.00	4.62	10.54	29.6	-242	0.0	77.1	NM
	4/17/2009	6.98	8.72	ND	NA	ND	-1.74	NM	NM	NM	NM	NM	NM	NM	NM
MW-12(2-16)	4/7/2009	6.67	8.26	ND	NA	ND	-1.59	0.0	NM	NM	NM	NM	NM	NM	NM
	4/17/2009	6.67	8.41	8.40	NA	0.01	-1.73	NM	NM	NM	NM	NM	NM	NM	NM
MW-13(1-8)	4/7/2009	7.82	NM	NM	NA	NM	NM	0.0	8.43	9.68	1.14	-155	0.0	102	0.05
	4/17/2009	7.82	3.64	ND	NA	ND	4.18	NM	NM	NM	NM	NM	NM	NM	NM



**Table 1**  
**GROUNDWATER GAUGING AND FIELD PARAMETERS SUMMARY**

Former Pratt Oil Works  
Long Island City, New York

April 7, 2009 through September 16, 2009

**Notes:**

% - percent

~ - no standard or guidance value exists

<1.0 - Not detected at or above the laboratory reporting limit shown

°C - degrees Celsius

F - degrees Fahrenheit

cst - centistokes

Corrected GW Elevation - calculated using the following formula:  
(top of casing elevation - depth to water) + (LNAPL thickness \* LNAPL specific gravity)

Depth to Water - measured in feet below land surface from top of casing

GW - Groundwater

LNAPL - Light non-aqueous phase liquid

mg/L - milligrams per liter (parts per million)

mS/cm - milliSiemens per centimeter

mV - millivolts

N/A - Not applicable

NA - Not analyzed

ND - Not detected

NM - Not monitored

NS - Not sampled

NSVD - Not surveyed to vertical datum

ntu - nephelometric turbidity units

ppmv - parts per million by volume

s.u. - standard units

\* - equipment malfunction

**TABLE 2**  
**LNAPL RECOVERY GAUGING DATA - MW-5**

The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York

**Date:** September 4, 2009

**Recovery Method:** Gauge and Bail

Time (Minutes)	LNAPL Recovered (Gallons)	Cumulative LNAPL (Gallons)	Water Recovered (Gallons)	Cumulative Water (Gallons)	Top of Casing (Feet)	Depth to LNAPL (Feet)	Depth to Water (Feet)	LNAPL Thickness (Feet)	LNAPL Volume (Gallons)	LNAPL Elevation (Feet)	Groundwater Elevation (Feet)
0.00	N/A	0	0	0	9.62	7.00	17.10	10.10	6.57	2.62	-7.48
10.00	7.5	7.5	0	0	9.62	9.80	15.55	5.75	3.74	-0.18	-5.93
18.00	6.5	14	0	0	9.62	11.05	12.45	1.40	0.91	-1.43	-2.83
25.00	5	19	1.5	1.5	9.62	10.85	11.79	0.94	0.61	-1.23	-2.17
35.00	2	21	1.5	3	9.62	9.65	10.10	0.45	0.29	-0.03	-0.48
46.00	End LNAPL Recovery / Start Recharge				9.62	8.70	10.40	1.70	1.11	0.92	-0.78
53.00	NA	NA	NA	NA	9.62	8.46	9.85	1.39	0.90	1.16	-0.23
88.00	NA	NA	NA	NA	9.62	8.05	11.44	3.39	2.20	1.57	-1.82
107.00	NA	NA	NA	NA	9.62	7.94	11.05	3.11	2.02	1.68	-1.43
129.00	NA	NA	NA	NA	9.62	7.83	11.70	3.87	2.52	1.79	-2.08
150.00	NA	NA	NA	NA	9.62	7.70	13.00	5.30	3.45	1.92	-3.38
165.00	NA	NA	NA	NA	9.62	7.69	12.69	5.00	3.25	1.93	-3.07



**TABLE 2**  
**LNAPL RECOVERY GAUGING DATA - MW-5**

The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York

**Date:** September 10, 2009

**Recovery Method:** Spill Buster Pump

Time (Minutes)	LNAPL Recovered (Gallons)	Cumulative LNAPL (Gallons)	Water recovered (Gallons)	Cumulative Water (Gallons)	Top of Casing (Feet)	Depth to LNAPL (Feet)	Depth to Water (Feet)	LNAPL Thickness (Feet)	LNAPL Volume (Gallons)	LNAPL Elevation (Feet)	Groundwater Elevation (Feet)
0.00	NA	0	0	0	10.55*	8.52	20.35	11.83	7.69	2.03	-9.80
5.00	NA	NA	0	0	10.55*	9.12	19.57	10.45	6.79	1.43	-9.02
11.00	NA	1.79	0	0	10.55*	9.30	19.10	9.80	6.37	1.25	-8.55
23.00	NA	NA	0	0	10.55*	9.68	17.56	7.88	5.12	0.87	-7.01
33.00	NA	4.17	0	0	10.55*	9.87	16.90	7.03	4.57	0.68	-6.35
44.00	NA	NA	0	0	10.55*	10.04	14.55	4.51	2.93	0.51	-4.00
54.00	NA	11.07	0	0	10.55*	10.21	12.95	2.74	1.78	0.34	-2.40
64.00	NA	NA	0	0	10.55*	10.45	11.28	0.83	0.54	0.10	-0.73
73.00	NA	15.17	0	0	10.55*	10.41	10.65	0.24	0.16	0.14	-0.10
84.00	NA	15.6	0	0	10.55*	9.95	10.02	0.07	0.05	0.60	0.53
98.00	NA	NA	0	0	10.55*	9.88	9.97	0.09	0.06	0.67	0.58
108.00	NA	16.46	0	0	10.55*	9.83	9.90	0.07	0.05	0.72	0.65
125.00	End LNAPL Recovery / Start Recharge				10.55*	8.30	8.85	0.55	0.36	2.25	1.70
154.00	NA	NA	NA	NA	10.55*	8.10	9.90	1.80	1.17	2.45	0.65
176.00	NA	NA	NA	NA	10.55*	7.99	10.50	2.51	1.63	2.56	0.05
209.00	NA	NA	NA	NA	10.55*	7.85	11.70	3.85	2.50	2.70	-1.15
250.00	NA	NA	NA	NA	10.55*	7.66	12.99	5.33	3.46	2.89	-2.44
290.00	NA	NA	NA	NA	10.55*	7.53	14.21	6.68	4.34	3.02	-3.66
330.00	NA	NA	NA	NA	10.55*	7.42	15.36	7.94	5.16	3.13	-4.81

**Notes**

NA - not applicable

LNAPL - Light non-aqueous phase liquid

LNAPL Volume =  $\pi r^2 \text{LNAPL Thickness} \times 7.48$  (conversion factor)

\* -TOC for MW-5 calculated from original TOC 9.62 + 1.29 (height of 4-inch PVC riser needed for spill buster pump install)

TOC - top of casing

PVC - polyvinyl chloride

**TABLE 3**  
**LNAPL RECOVERY GAUGING DATA - MW-9**

The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York

**Date:** September 4, 2009

**Recovery Method:** Gauge and Bail

Time	LNAPL Recovered	Cumulative LNAPL	Water recovered	Cumulative Water	Top of Casing	Depth to LNAPL	Depth to Water	LNAPL Thickness	LNAPL Volume	LNAPL Elevation	Groundwater Elevation
(Minutes)	(Gallons)	(Gallons)	(Gallons)	(Gallons)	(Feet)	(Feet)	(Feet)	(Feet)	(Gallons)	(Feet)	(Feet)
0.00	0	0	0	0	9.76	8.35	17.97	9.62	6.25	1.41	-8.21
20.00	3.75	3.75	0	0	9.76	9.56	18.10	8.54	5.55	0.20	-8.34
33.00	7.5	11.25	0	0	9.76	10.32	16.50	6.18	4.02	-0.56	-6.74
43.00	7.5	18.75	0	0	9.76	12.40	15.10	2.70	1.76	-2.64	-5.34
50.00	7.25	26	0	0	9.76	12.55	15.00	2.45	1.59	-2.79	-5.24
57.00	7.25	33.25	0.5	0.5	9.76	11.10	13.40	2.30	1.50	-1.34	-3.64
73.00	7.25	40.5	0.5	1	9.76	10.80	13.55	2.75	1.79	-1.04	-3.79
81.00	7.25	47.75	0.5	1.5	9.76	10.40	11.95	1.55	1.01	-0.64	-2.19
94.00	2.5	55.25	1	3.25	9.76	10.10	10.80	0.70	0.46	-0.34	-1.04
105.00	End LNAPL Recovery / Start Recharge				9.76	9.57	9.91	0.34	0.22	0.19	-0.15
119.00	NA	NA	NA	NA	9.76	9.30	9.95	0.65	0.42	0.46	-0.19
137.00	NA	NA	NA	NA	9.76	9.14	10.55	1.41	0.92	0.62	-0.79
185.00	NA	NA	NA	NA	9.76	8.92	11.36	2.44	1.59	0.84	-1.60
210.00	NA	NA	NA	NA	9.76	8.86	12.05	3.19	2.07	0.90	-2.29
235.00	NA	NA	NA	NA	9.76	8.80	13.02	4.22	2.74	0.96	-3.26
253.00	NA	NA	NA	NA	9.76	8.78	13.45	4.67	3.04	0.98	-3.69
280.00	NA	NA	NA	NA	9.76	8.70	14.35	5.65	3.67	1.06	-4.59
300.00	NA	NA	NA	NA	9.76	8.69	14.68	5.99	3.89	1.07	-4.92
323.00	NA	NA	NA	NA	9.76	8.64	15.15	6.51	4.23	1.12	-5.39

**TABLE 3**  
**LNAPL RECOVERY GAUGING DATA - MW-9**

The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York

**Date:** September 10, 2009

**Recovery Method:** Spill Buster Pump

Time (Minutes)	LNAPL Recovered (Gallons)	Cumulative LNAPL (Gallons)	Water recovered (Gallons)	Cumulative Water (Gallons)	Top of Casing (Feet)	Depth to LNAPL (Feet)	Depth to Water (Feet)	LNAPL Thickness (Feet)	LNAPL Volume (Gallons)	LNAPL Elevation (Feet)	Groundwater Elevation (Feet)
0.00	Hand Bail To Increase Water Level				11.09*	9.51	19.30	9.79	6.36	1.58	-8.21
8.00	5	5	0	0	11.09*	10.7	17.6	6.90	4.49	0.39	-6.51
17.00	5	10	0	0	11.09*	9.87	19.55	9.68	6.29	1.22	-8.46
35.00	Start Pump				11.09*	10.50	18.05	7.55	4.91	0.59	-6.96
47.00	NA	13.01	0	0	11.09*	10.6	18.9	8.30	5.40	0.49	-7.81
58.00	NA	NA	0	0	11.09*	10.47	17.47	7.00	4.55	0.62	-6.38
68.00	NA	17.97	0	0	11.09*	10.45	16.87	6.42	4.17	0.64	-5.78
83.00	NA	NA	0	0	11.09*	10.44	15.73	5.29	3.44	0.65	-4.64
99.00	NA	24.66	0	0	11.09*	10.54	14.50	3.96	2.57	0.55	-3.41
114.00	NA	NA	0	0	11.09*	10.68	13.10	2.42	1.57	0.41	-2.01
139.00	NA	34.15	0	0	11.09*	10.84	11.55	0.71	0.46	0.25	-0.46
152.00	NA	34.37	0	0	11.09*	10.55	10.59	0.04	0.03	0.54	0.50
167.00	End LNAPL Recovery / Start Recharge				11.09*	10.37	11.10	0.73	0.47	0.72	-0.01
177.00	NA	NA	NA	NA	11.09*	10.29	11.57	1.28	0.83	0.80	-0.48
192.00	NA	NA	NA	NA	11.09*	10.24	12.04	1.80	1.17	0.85	-0.95
207.00	NA	NA	NA	NA	11.09*	10.20	12.50	2.30	1.50	0.89	-1.41
219.00	NA	NA	NA	NA	11.09*	10.16	12.68	2.52	1.64	0.93	-1.59
233.00	NA	NA	NA	NA	11.09*	10.13	12.99	2.86	1.86	0.96	-1.90



**TABLE 3**  
**LNAPL RECOVERY GAUGING DATA - MW-9**

The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York

**Date:** September 16, 2009  
**Recovery Method:** Enhanced Fluid Recovery (EFR)

Time (Minutes)	LNAPL Recovered (Gallons)	Cumulative LNAPL (Gallons)	Water recovered (Gallons)	Cumulative Water (Gallons)	Top of Casing (Feet)	Depth to LNAPL (Feet)	Depth to Water (Feet)	LNAPL Thickness (Feet)	LNAPL Volume (Gallons)	LNAPL Elevation (Feet)	Groundwater Elevation (Feet)
0.00	NA	NA	NA	NA	9.76	8.25	17.90	9.65	6.27	1.51	-8.14
16.00	NA	NA	NA	NA	9.76	8.50	17.85	9.35	6.08	1.26	-8.09
31.00	NA	NA	NA	NA	9.76	8.51	17.86	9.35	6.08	1.25	-8.10
45.00	NA	NA	NA	NA	9.76	8.54	17.90	9.36	6.08	1.22	-8.14
76.00	NA	NA	NA	NA	9.76	9.22	16.08	6.86	4.46	0.54	-6.32
106.00	NA	NA	NA	NA	9.76	9.27	13.47	4.20	2.73	0.49	-3.71
136.00	NA	NA	NA	NA	9.76	9.29	11.70	2.41	1.57	0.47	-1.94
161.00	NA	NA	NA	NA	9.76	9.30	11.15	1.85	1.20	0.46	-1.39
186.00	NA	NA	NA	NA	9.76	9.30	10.85	1.55	1.01	0.46	-1.09
221.00	NA	NA	NA	NA	9.76	9.30	10.87	1.57	1.02	0.46	-1.11
236.00	NA	NA	NA	NA	9.76	9.52	10.70	1.18	0.77	0.24	-0.94
246.00	End LNAPL Recovery / Start Recharge				9.76	9.37	11.05	1.68	1.09	0.39	-1.29
255.00	NA	NA	NA	NA	9.76	9.35	11.50	2.15	1.40	0.41	-1.74
270.00	NA	NA	NA	NA	9.76	9.30	12.00	2.70	1.76	0.46	-2.24
282.00	NA	NA	NA	NA	9.76	9.27	12.69	3.42	2.22	0.49	-2.93
300.00	NA	NA	NA	NA	9.76	9.22	13.30	4.08	2.65	0.54	-3.54
336.00	NA	NA	NA	NA	9.76	9.13	14.22	5.09	3.31	0.63	-4.46
350.00	NA	NA	NA	NA	9.76	9.10	14.50	5.40	3.51	0.66	-4.74
376.00	NA	NA	NA	NA	9.76	9.07	15.01	5.94	3.86	0.69	-5.25

**Notes**

NA - not applicable

LNAPL - Light non-aqueous phase liquid

LNAPL Volume =  $\pi r^2 \text{LNAPL Thickness} \times 7.48$  (conversion factor)

\* -TOC for MW-9 calculated from original TOC 9.76 + 1.33 (height of 4-inch PVC riser needed for spill buster pump install)

TOC - top of casing

PVC - polyvinyl chloride

**TABLE 4**  
**LNAPL RECOVERY SUMMARY**

The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York

WELL ID	DATE	LNAPL RECOVERY METHOD	BEFORE LNAPL RECOVERY					AFTER LNAPL RECOVERY			LNAPL RECOVERED  (Gallons)
			DEPTH TO LNAPL  (Feet)	DEPTH TO WATER  (Feet)	LNAPL THICKNESS  (Feet)	TOP OF CASING ELEVATION  (Feet)	WATER-TABLE ELEVATION  (Feet)	DEPTH TO LNAPL  (Feet)	DEPTH TO WATER  (Feet)	LNAPL THICKNESS  (Feet)	
MW-5	09/04/09	Gauge and Bail	7.00	17.10	-10.10	9.62	-7.48	9.7	10.1	0.45	21.00
	09/10/09	Pumping	8.52	20.35	-11.83	9.62	-10.73	9.8	9.9	0.07	16.46
MW-9	09/04/09	Gauge and Bail	8.35	17.97	-9.62	9.76	-15.43	10.10	10.80	0.70	55.25
	09/10/09	Pumping	9.51	19.30	-9.79	9.76	-16.88	10.6	10.59	0.04	34.37
	9/16/2009	EFR	8.25	17.90	-9.65	9.76	-15.38	9.5	10.70	1.18	28.00
<b>TOTALS:</b>											155.08

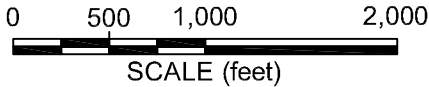
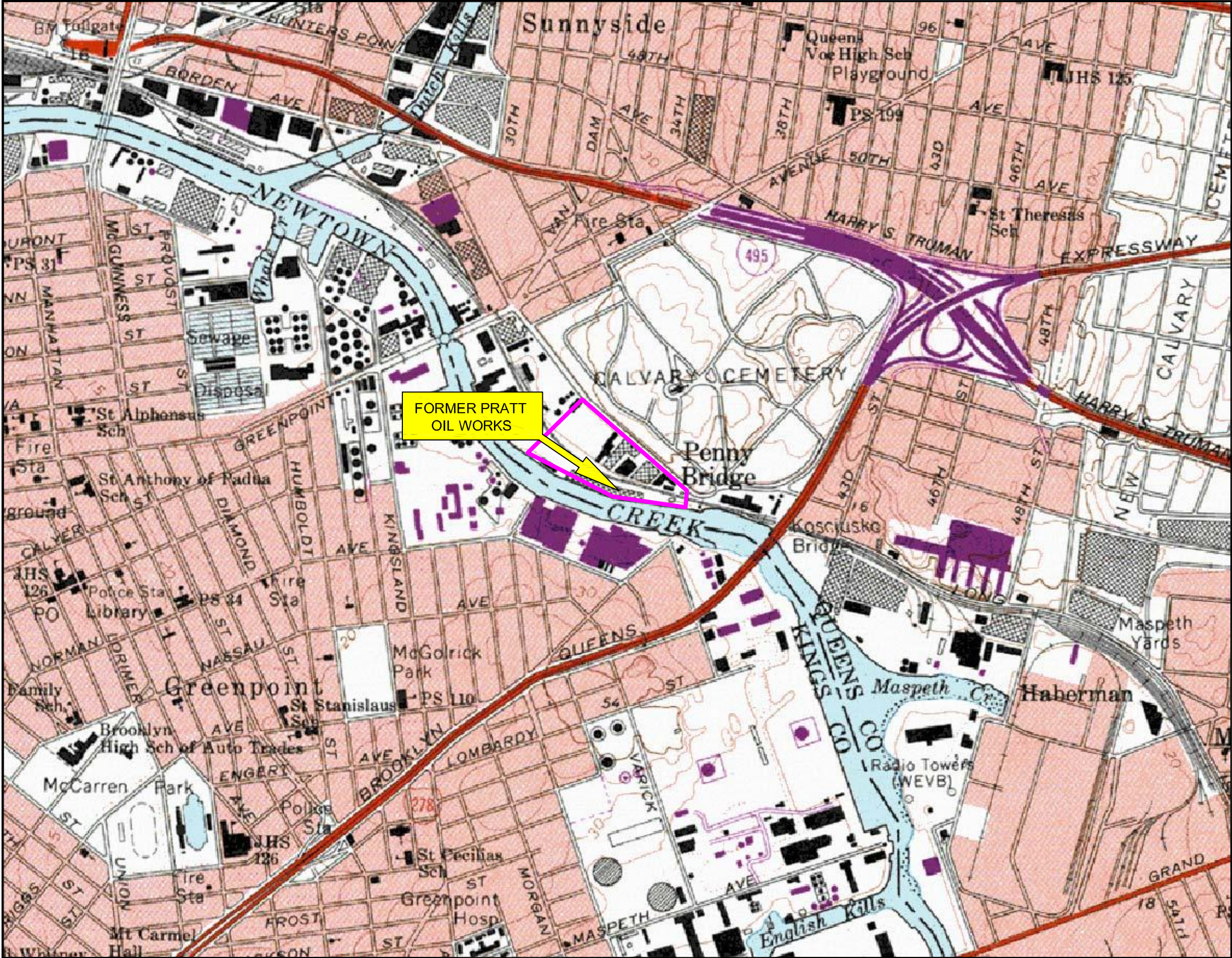
**Notes:**

EFR - enhanced fluid recovery

LNAPL - Light Non-aqueous phase liquid

## FIGURES





PROPERTY LINE



LATITUDE: 40° 43' 47.32" N  
LONGITUDE: 73° 56' 08.26" W



SOURCE:  
USGS 7.5' SERIES TOPOGRAPHIC MAP,  
"BROOKLYN, NY QUADRANGLE  
PHOTOREVISED 1979"

QUADRANGLE  
LOCATION

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PROJECT NO. 102179  
DRAWN: 09/17/2009  
DRAWN BY: JR  
CHECKED BY:  
FILE NAME:

LOCUS PLAN

THE WATERFRONT PARCELS (TRACT II)  
FORMER PRATT OIL WORKS  
38-30, 38-50, 38-80 NEWTOWN CREEK (PARCEL A)  
38-42, AND 39-14 REVIEW AVENUE (PARCEL B)  
LONG ISLAND CITY, NEW YORK

FIGURE

1





SOURCE: MICROSOFT AERIAL IMAGERY 2006

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Feet

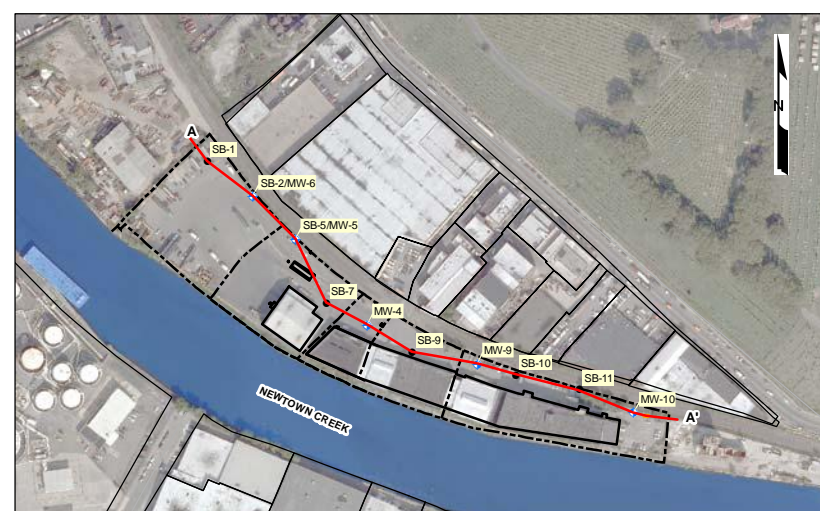
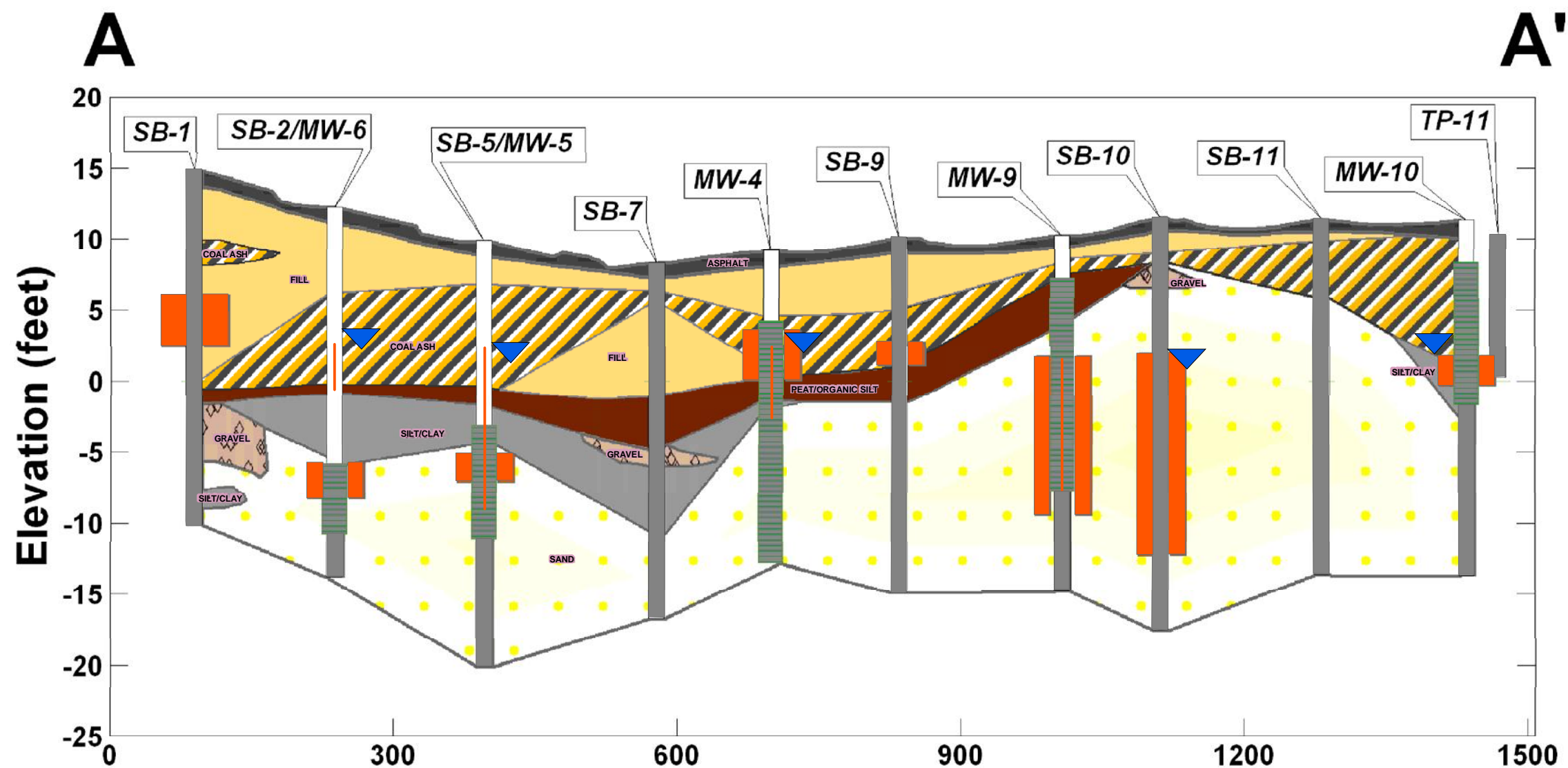


PROJECT NO.	102021	SITE PLAN - PARCEL A	FIGURE  2
DRAWN:	J.R.		
DRAWN BY:	09/17/09		
CHECKED BY:	J.W.	WATERFRONT PARCELS (TRACT II) FORMER PRATT OIL WORKS 38-30, 38-50, AND 38-80 NEWTOWN CREEK (PARCELA) LONG ISLAND CITY, NEW YORK	
FILE NAME:			

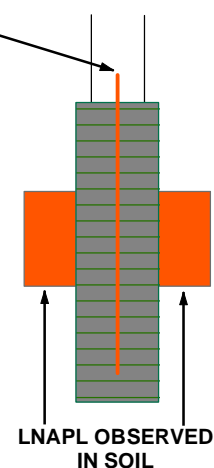








LNAPL THICKNESS  
IN MONITORING WELL  
(APRIL 17, 2009)



#### Wells/Borings/Test Pits

- CASING
- SCREEN
- SOIL BORING/TEST PIT
- CORRECTED WATER TABLE ELEVATION

#### Stratigraphy

- ASPHALT
- COAL ASH
- FILL
- GRAVEL
- PEAT/ORGANIC SILT
- SAND
- SILT/CLAY

SOURCE: MICROSOFT AERIAL IMAGERY 2006

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Feet



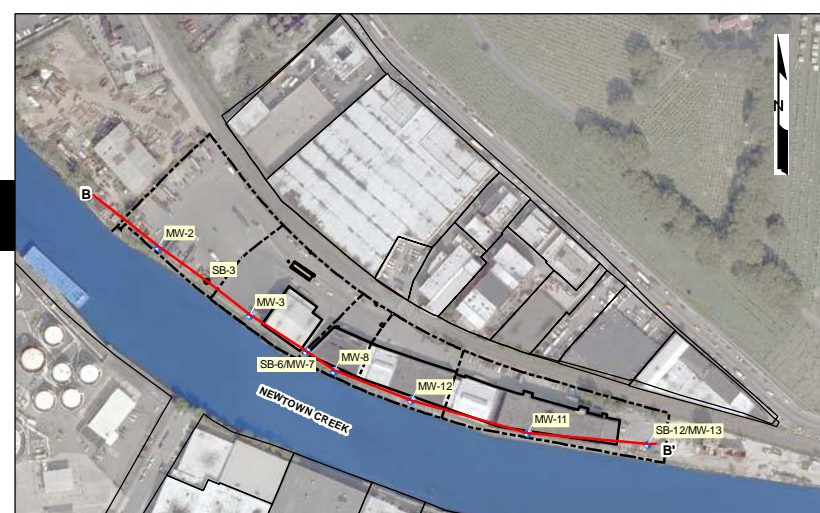
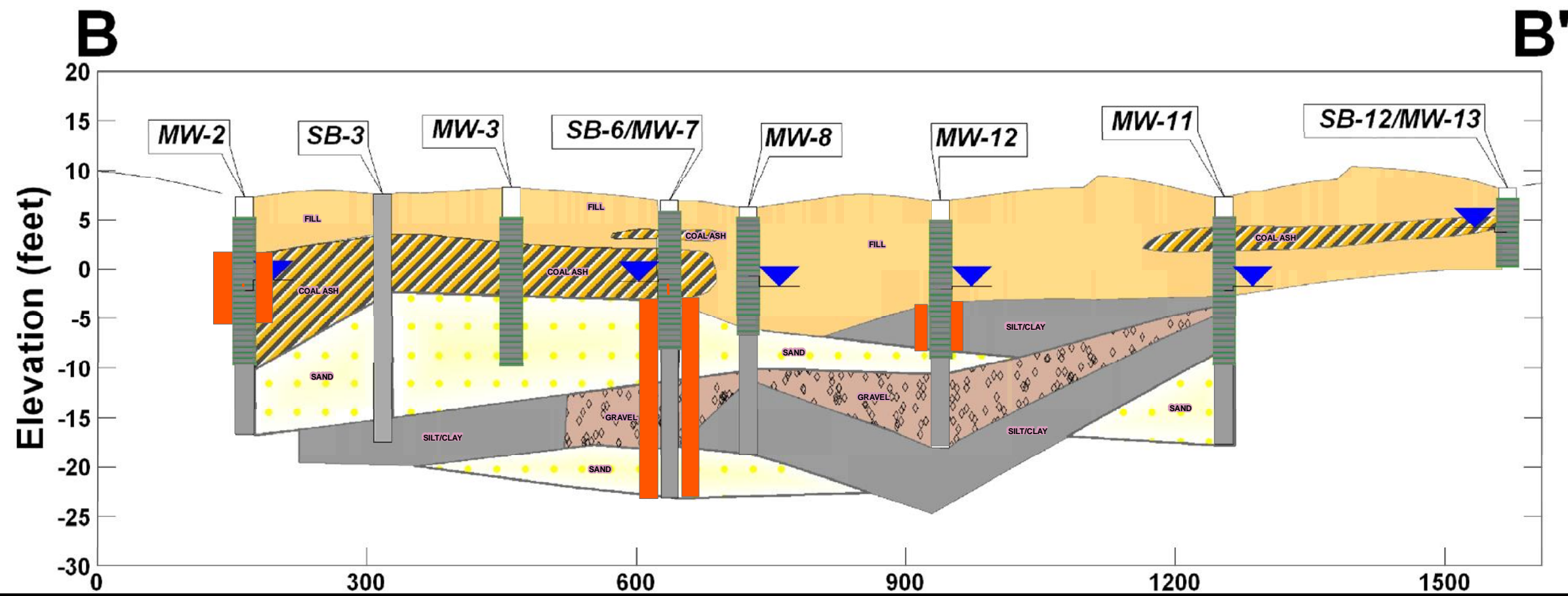
PROJECT NO. 102021 & 102179  
DRAWN: J.R.  
DRAWN BY: 09/28/09  
CHECKED BY: J.W.  
FILE NAME:

#### SITE GEOLOGY CROSS-SECTION A-A'

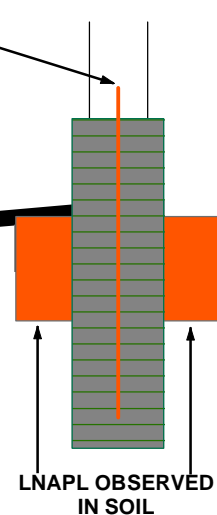
WATERFRONT PARCELS (TRACT II)  
FORMER PRATT OIL WORKS  
38-30, 38-50, AND 38-80 NEWTOWN CREEK (PARCEL A)  
38-42 AND 39-14 REVIEW AVENUE (PARCEL B)  
LONG ISLAND CITY, NEW YORK

FIGURE

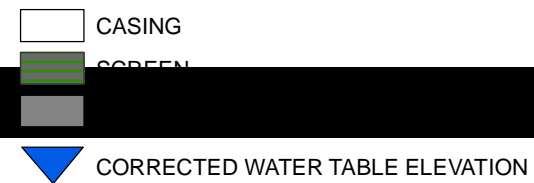
4



LNAPL THICKNESS  
IN MONITORING WELL  
(APRIL 17, 2009)



#### Wells/Borings/Test Pits



#### Stratigraphy



NOTE:  
1. GEOLOGY DESCRIPTION FROM MONITORING WELL  
MW-3 IS EXTRAPOLATED FROM SOIL BORINGS SB-3  
AND SB-10.

SOURCE: MICROSOFT AERIAL IMAGERY 2006

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0 35 70  
Feet



PROJECT NO. 102021 & 102179  
DRAWN: J.R.  
DRAWN BY: 09/28/09  
CHECKED BY: J.W.  
FILE NAME:

#### SITE GEOLOGY CROSS-SECTION B-B'

WATERFRONT PARCELS (TRACT II)  
FORMER PRATT OIL WORKS  
38-30, 38-50, AND 38-80 NEWTOWN CREEK (PARCEL A)  
38-42 AND 39-14 REVIEW AVENUE (PARCEL B)  
LONG ISLAND CITY, NEW YORK

FIGURE

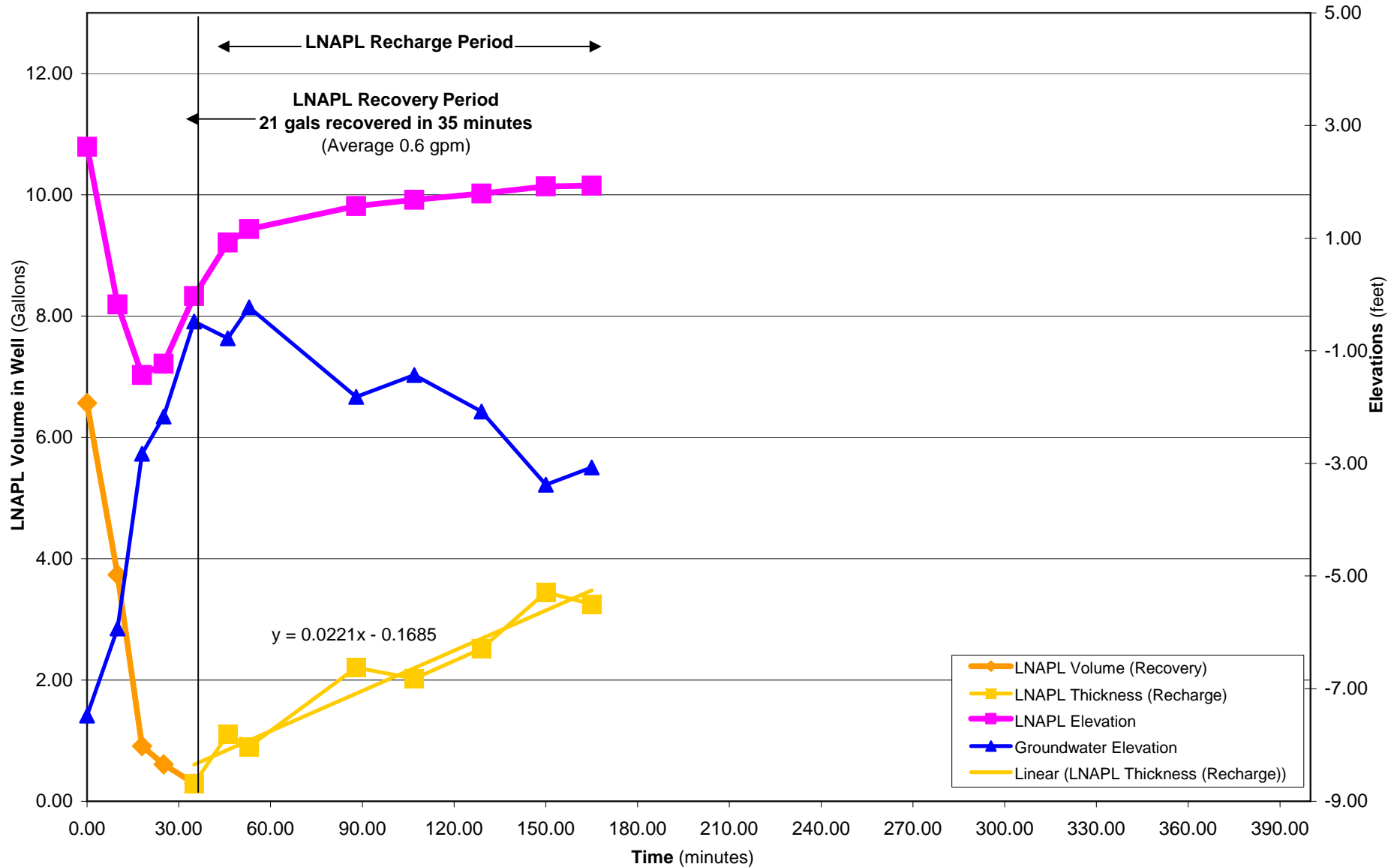
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**ATTACHMENT A**  
**LNAPL RECOVERY GRAPHS**



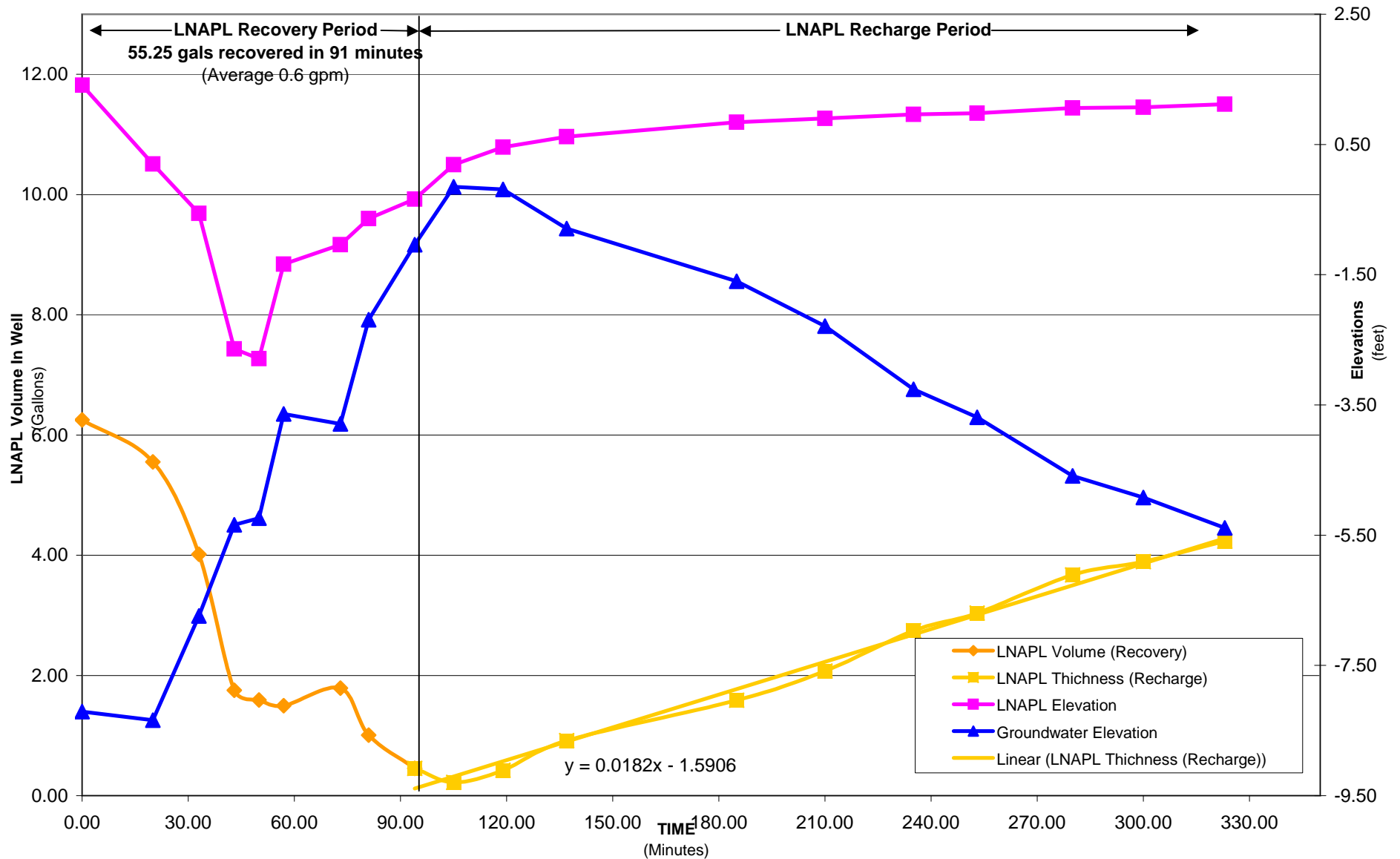
**FIGURE 1**  
**LNAPL RECOVERY Vs. TIME - MW-5**  
Gauge and Bail Event 9-4-09

The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York



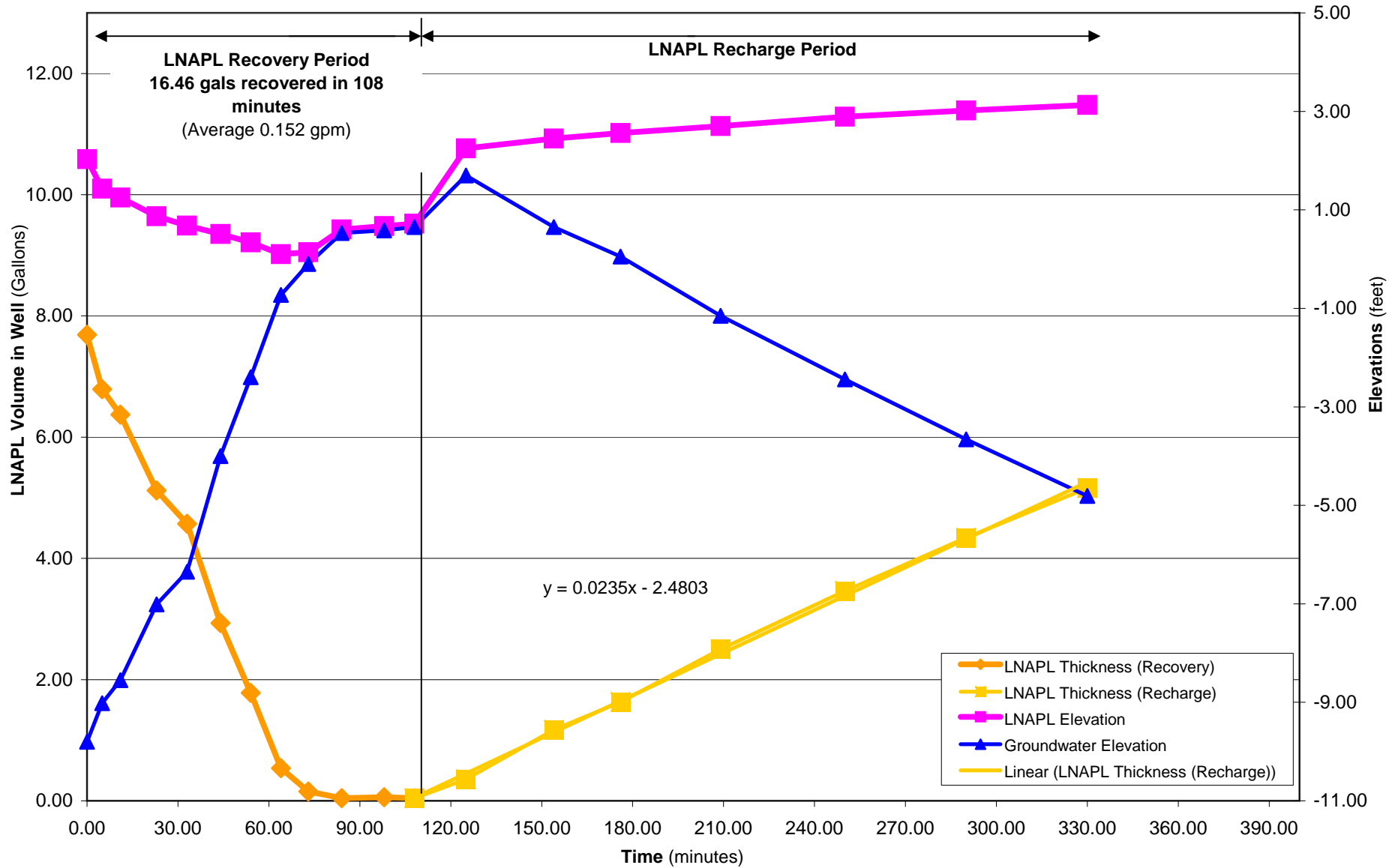
**FIGURE 2**  
**LNAPL RECOVERY Vs. TIME - MW-9**  
Gauge and Bail Event 9-4-09

The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York



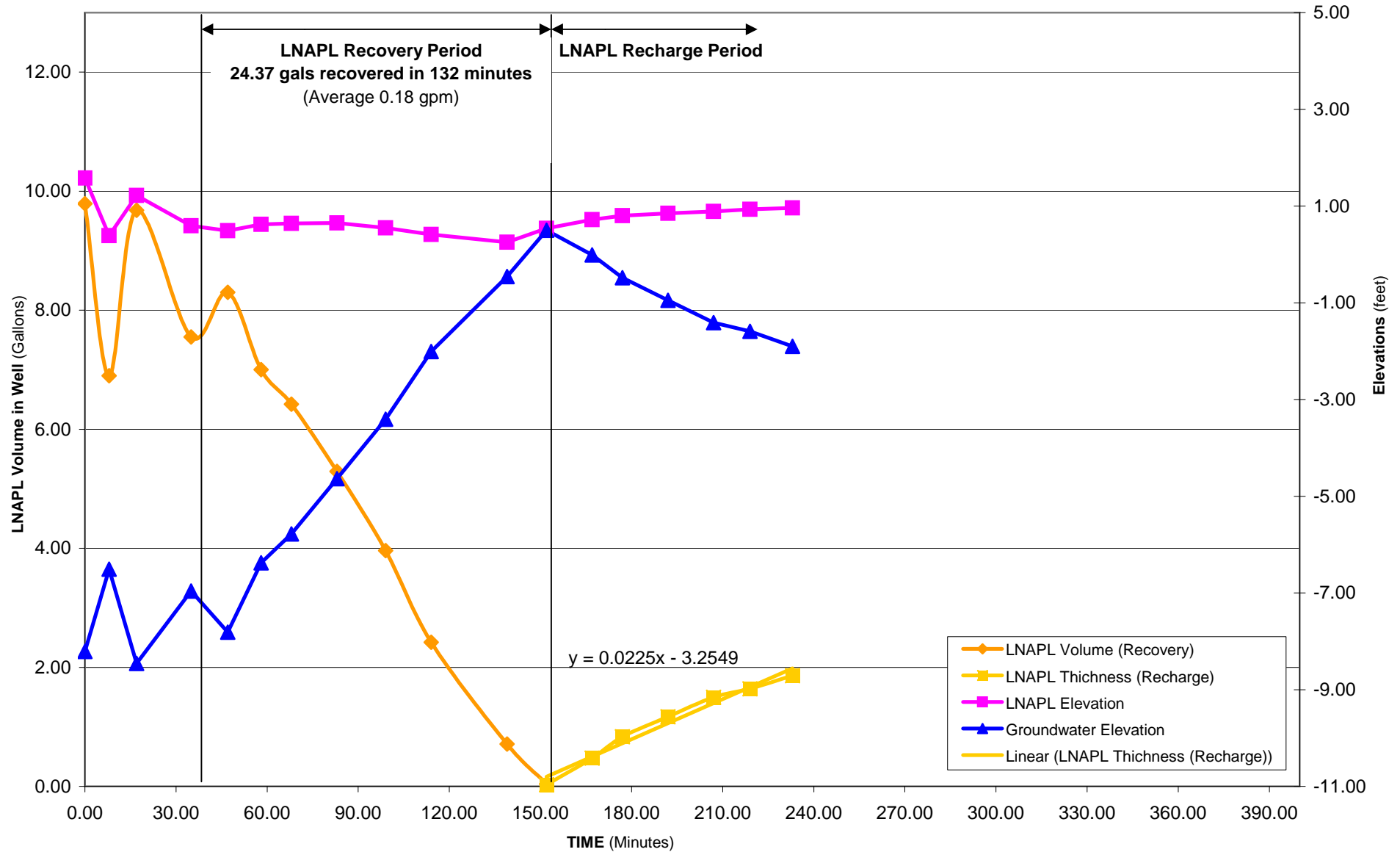
**FIGURE 3**  
**LNAPL RECOVERY Vs. TIME - MW-5**  
Spill Buster Pump Event - 9-10-09

The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York



**FIGURE 4**  
**LNAPL RECOVERY Vs. TIME - MW-9**  
Spill Buster Pump Event 9-10-09

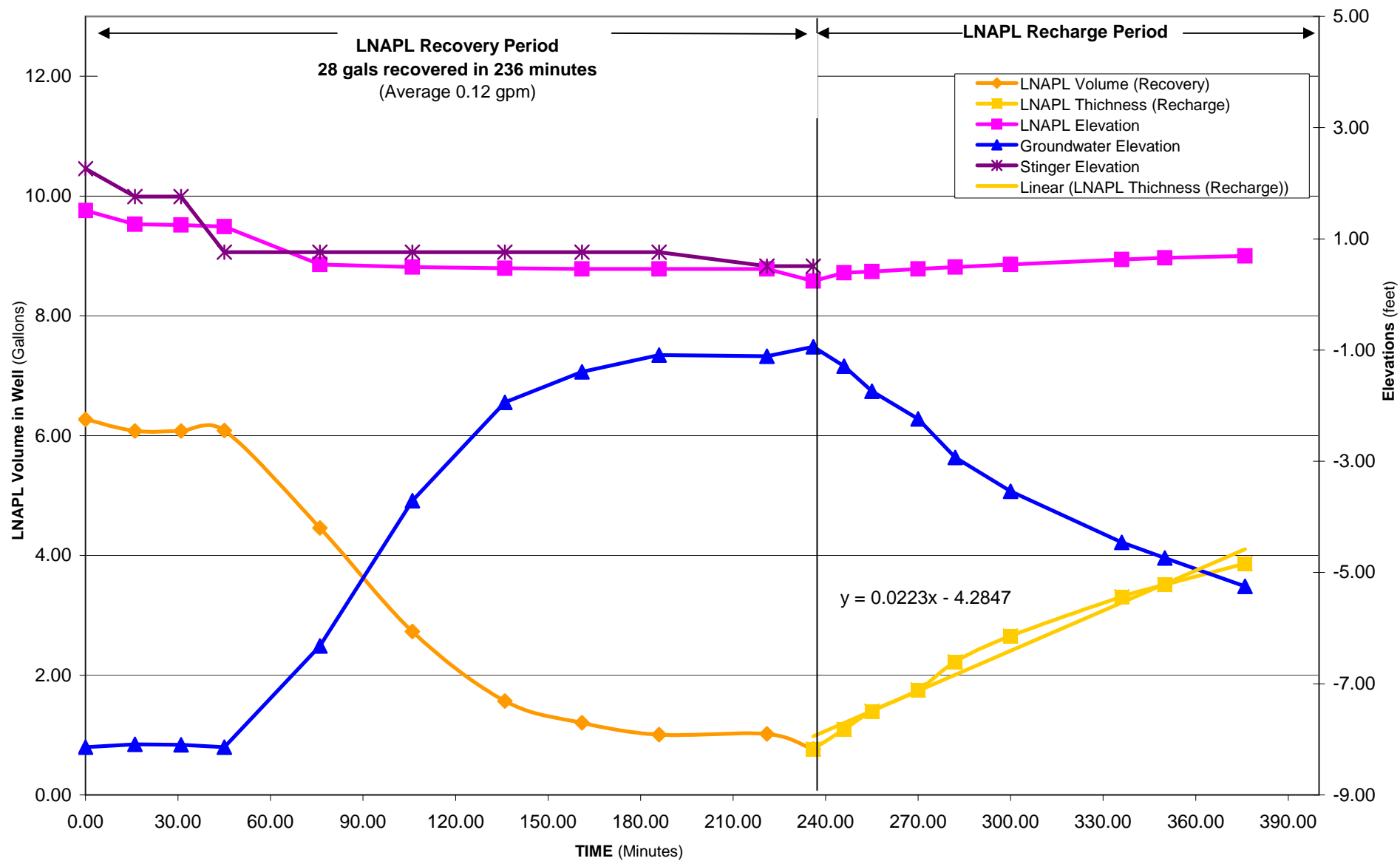
The Waterfront Parcels (Tract II)  
Former Pratt Oil Works  
Long Island City, New York





**FIGURE 5**  
**LNAPL RECOVERY Vs. TIME - MW-9**  
 Enhanced Fluid Recovery Event 9-16-09

The Waterfront Parcels (Tract II)  
 Former Pratt Oil Works  
 Long Island City, New York



**APPENDIX B**  
**Waste Documentation**



Base print or type  
(Form designed for use on elite (12-pitch) typewriter.)

450 SOUTH FRONT STREET, ELIZABETH, NJ 07202

A002 NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No. 52996		2. Page 1 of 1		NHZ 52996	
3. Generator's Name and Mailing Address		EXXONMOBIL OIL CORPORATION 16825 NORTHCHASE DRIVE, ROOM 911 HOUSTON, TX 77060				Exxon MOB / Fwd ID# 3442 R. View Ave Long Island City NY			
4. Generator's Phone ( 713 ) 654-8470						A. Transporter's Phone 908-820-8800			
5. Transporter 1 Company Name		LORCO PETROLEUM SERVICES		6. US EPA ID Number NJR 000023036		B. Transporter's Phone			
7. Transporter 2 Company Name				8. US EPA ID Number		C. Facility's Phone			
9. Designated Facility Name and Site Address		LORCO PETROLEUM SERVICES 450 SOUTH FRONT STREET ELIZABETH, NJ 07202				10. US EPA ID Number NJR 000023036			
11. Waste Shipping Name and Description		a. GASOLINE MIXTURE 3 UN 1203 PGIII				12. Containers No.		13. Total Quantity	
b.						001 TTX-X-75 G			
c.									
d.									
D. Additional Descriptions for Materials Listed Above						E. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information		24-HOUR EMERGENCY RESPONSE #908-820-8800 DECAL# _____ EGR#128 TRUCK# 88							
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.									
Printed/Typed Name		FRANK LOBELLO		Signature		ON BEHALF OF EXXONMOBIL		Month Day Year 09/10/09	
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Month Day Year		09/10/09	
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		Month Day Year			
19. Discrepancy Indication Space									
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.									
Printed/Typed Name		Tom Wickhoff		Signature		Month Day Year		09/10/09	

ORIGINAL-RETURN TO GENERATOR



450 SOUTH FRONT STREET, ELIZABETH, NJ 07202

Please print or type  
(Form designed for use on elite (12-pitch) typewriter.)

A002 NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.		Manifest Document No. 53018		2. Page 1 of 1		NHZ 53018			
3. Generator's Name and Mailing Address EXXONMOBIL OIL CORPORATION 16825 NORTHCHASE DRIVE, ROOM 911 HOUSTON, TX 77060		6. US EPA ID Number N.J.R.0000023036		A. Transporter's Phone 908-820-8800		ID# EOM Flow Parcel B 39-14 Review Ave Long Island City NY					
4. Generator's Phone ( 713 ) 654-8470		8. US EPA ID Number		B. Transporter's Phone							
5. Transporter 1 Company Name LORCO PETROLEUM SERVICES		10. US EPA ID Number N.J.R.0000023036		C. Facility's Phone 908-820-8800							
7. Transporter 2 Company Name											
9. Designated Facility Name and Site Address LORCO PETROLEUM SERVICES 450 SOUTH FRONT STREET ELIZABETH, NJ 07202											
11. Waste Shipping Name and Description		12. Containers		13. Total Quantity		14. Unit Wt/Vol					
a. GASOLINE MIXTURE 3 UN 1203 PGIII		No. Type									
b.											
c.											
d.											
D. Additional Descriptions for Materials Listed Above		E. Handling Codes for Wastes Listed Above									
15. Special Handling Instructions and Additional Information 24-HOUR EMERGENCY RESPONSE #908-820-8800  DECAL# _____ EGR#128  TRUCK# 88											
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.											
Printed/Typed Name FRANK LOBELLO				Signature ON BEHALF OF EXXONMOBIL <i>Frank Lobello</i>		Month 10		Day 16		Year 09	
17. Transporter 1 Acknowledgement of Receipt of Materials											
Printed/Typed Name <i>Stello Black</i>				Signature <i>Stello Black</i>		Month 10		Day 16		Year 09	
18. Transporter 2 Acknowledgement of Receipt of Materials											
Printed/Typed Name				Signature		Month		Day		Year	
19. Discrepancy Indication Space											
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.											
Printed/Typed Name <i>J. Candelario</i>				Signature <i>J. Candelario</i>		Month 10		Day 16		Year 09	

ORIGINAL-RETURN TO GENERATOR