

**ExxonMobil**  
**Refining & Supply Company**  
Global Remediation  
Inwood Terminal  
464 Doughty Boulevard  
Inwood, New York 11096



May 21, 2007

New York State Department of  
Environmental Conservation  
Division of Environmental Remediation  
625 Broadway, 12<sup>th</sup> floor  
Albany, New York 12233-7013  
Attn. Mr Ed Hampston

**Ref: Response to NYSDEC May 1, 2007 Comment Letter  
Site Assessment Work Plan  
Greenpoint Remediation Project  
Brooklyn, NY**

Dear Mr. Hampston:

ExxonMobil Refining & Supply Company (ExxonMobil), has prepared this response to the May 1, 2007 comment letter provided by the New York State Department of Environmental Conservation (NYSDEC) regarding the March 2, 2007 Site Assessment Work Plan transmitted to the NYSDEC. Each of the NYSDEC comments is presented on the attached letter from Roux Associates in italic font followed by our response.

Should you have any questions please contact me at 516-239-5232.

Sincerely,

A handwritten signature in blue ink that reads "S.P. Trifiletti".

Steve P. Trifiletti  
Project Manager

Cc: Justin Kennedy – Roux Associates



May 21, 2007

Mr. Steve P. Trifiletti  
ExxonMobil Refining and Supply Company  
Global Remediation  
400 Kingsland Avenue  
Brooklyn, New York 11222

Re: Response to NYSDEC May 1, 2007 Comment Letter  
Site Assessment Work Plan  
Greenpoint Remediation Project  
Greenpoint, Brooklyn, New York

Dear Mr. Trifiletti:

Roux Associates, Inc. (Roux Associates), on behalf of ExxonMobil Refining & Supply Company (ExxonMobil), has prepared this response to the May 1, 2007 comment letter provided by the New York State Department of Environmental Conservation (NYSDEC) regarding the March 2, 2007 Site Assessment Work Plan transmitted to the NYSDEC. Each of the NYSDEC comments is presented below in italic font followed by our response.

*Comment 1. Please provide approximately seven days notice, prior to initiation of various components of field activities associated with this work to my attention at [exhampst@gw.dec.state.ny.us](mailto:exhampst@gw.dec.state.ny.us).*

Roux Associates will notify Mr. Hampston of the NYSDEC a minimum of seven days prior to the commencement of any activities related to the Site Assessment Work Plan.

*Comment 2. The Pipe Removal Plan must also include removal of other underground features associated with former petroleum refining or storage operations. If tanks are identified, please notify the Department at the designated email and include removal in the pipe removal activities.*

The pipe removal project will include documentation of types of structures encountered in each excavation area, with this information included in pipe removal documentation to be submitted to the NYSDEC. If tanks are identified, the NYSDEC will also be notified as requested and tank removal will be scheduled to occur as part of the pipe removal activities.

*Comment 3. The demolition summary on page five must distinguish between demolition of above and below ground structures. The Department presumes that the demolition activities discussed were predominantly limited to above ground activities.*

The recent demolition activities conducted within the Brooklyn Terminal were completed from November 2006 through February 2007. The demolition activities included the removal of nine aboveground storage tanks, a steel trestle pipe rack containing numerous sections of former process piping and conduits, field hydrant and foam fire suppression system, and numerous aboveground apparatuses. All of the structures removed were located above grade and demolition of those structures that extended below grade (i.e., footings and blast wall foundations) was limited to crushing the concrete to a maximum of one-foot below grade.

*Comment 4. Page seven provides a brief summary of monitoring wells installed prior to 1979. The site assessment summary report must include further details on when this work occurred, a summary of information or results from this work, and a summary of goals of this work.*

The site assessment report will include a summary of all historic investigation activities that were completed at the Site that will be based upon a review of all available historic investigation reports and documentation.

*Comment 5. The site assessment report must include a detailed summary of geology and groundwater observations in the Terminal area referencing past investigation reports and other information available to Exxon and include updates from information collected during this site assessment*

The site assessment report will include a detailed summary of all available historic site investigations activities and associated geologic and hydrogeologic observations. This historic information will be augmented by the observations completed during the proposed site assessment activities.

*Comment 6. Page 16 of the work plan indicates a soil vapor assessment will be included in a future submittal to the Department. While ongoing or proposed remedial steps may justify a delay in an extensive soil vapor assessment at this time, the Department believes a preliminary assessment is necessary on or around all the parcels proposed for site assessment to establish baseline conditions and examine whether elevated methane or BTEX may be present at this time presenting an unacceptable potential hazard. Please provide a supplemental work plan to assess soil vapor in the general area by May 25, 2007.*

The supplemental soil vapor assessment work plan is provided in Attachment 1. Please provide any comments to the proposed plan as soon as possible so that the soil vapor activities can be completed prior to the commencement of any intrusive activities, which are tentatively scheduled to be implemented in early June 2007.

*Comment 7. Page 21 of the report indicates that additional monitoring wells are planned to provide more vertical characterization of groundwater impacts based on assessment of initial groundwater monitoring results. The Department would like to have vertical characterization occur at multiple zones within a similar horizontal area via some type of nested well including approximately three to five zones within the designated area. Although it may be appropriate to identify most locations following the initial results assessment, the Department requests that at least three locations be identified during the initial phase that may be suitable for the nested wells.*

A total of three groundwater monitoring well clusters will be installed during the initial site assessment investigation activities. Each monitoring well cluster will include three separately constructed monitoring wells within a limited horizontal area (i.e., approximately ten square feet). The three monitoring wells will be screened in individual vertical zones; specifically, the shallow aquifer, the upper regional aquifer, and the intermediate regional aquifer. The shallow monitoring well will be screened approximately five feet above and extending ten feet below the existing water table. The upper regional aquifer monitoring wells will be screened from immediately beneath the base of the clay-confining unit to 15 feet below the base of the confining layer. The intermediate regional monitoring wells will be screened below the lowest elevation of the petroleum impacted soil observed during the completion of soil boring activities. These monitoring well clusters will be installed at the proposed soil boring locations SB-4 (located adjacent to the bulkhead), SB-6 (located within the southwest portion of the Site), and SB-9 (located within the northwest portion of the Site).

Mr. Steve P. Trifiletti  
May 21, 2007  
Page 4

*Comment 8. Brief updates on investigation status and investigation schedule should be included in the quarterly progress report for the Brooklyn Terminal.*

The quarterly progress reports for the Brooklyn Terminal will provide a summary of any upcoming, completed, or proposed investigation activities associated with the Site assessment.

Should you have any questions please do not hesitate to contact us.

Sincerely,

ROUX ASSOCIATES, INC.

Handwritten signature of Justin Kennedy in cursive, followed by a circled 'e' symbol.

Justin Kennedy  
Senior Engineer/  
Project Manager

Handwritten signature of Andrew Baris in cursive, followed by a circled 'e' symbol.

Andrew Baris  
Principal Hydrogeologist/  
Vice President

cc: Steve Trifiletti, ExxonMobil

**ATTACHMENT 1**

Supplemental Soil Vapor Assessment Work Plan

**ExxonMobil**  
**Refining & Supply Company**  
Global Remediation  
Inwood Terminal  
464 Doughty Boulevard  
Inwood, New York 11096



May 25, 2007

New York State Department of  
Environmental Conservation  
Division of Environmental Remediation  
625 Broadway, 12<sup>th</sup> floor  
Albany, New York 12233-7013  
Attn. Mr Ed Hampston

Ref: **Brooklyn Terminal**  
**Site Assessment Work Plan – Soil Vapor**  
**Greenpoint Remediation Project**  
**Brooklyn, NY**

Dear Mr. Hampston:

Attached in response to the NYSDEC May 1, 2007 Site Assessment Workplan comment letter item #6 is the proposed supplemental Workplan for the soil vapor investigation work at the ExxonMobil Brooklyn Terminal property.

Should you have any questions please contact me at 516-239-5232.

Sincerely,

A handwritten signature in blue ink that reads "S.P. Trifiletti".

Steve P. Trifiletti  
Project Manager

Cc: Justin Kennedy – Roux Associates



May 21, 2007

Mr. Steve P. Trifiletti  
ExxonMobil Refining and Supply Company  
Global Remediation  
400 Kingsland Avenue  
Brooklyn, New York 11222

Re: Supplemental Site Soil Vapor Assessment Work Plan  
ExxonMobil Brooklyn Terminal  
Greenpoint, Brooklyn, New York

Dear Mr. Trifiletti:

Roux Associates, Inc. (Roux Associates), on behalf of ExxonMobil Refining & Supply Company (ExxonMobil), has prepared this Supplement to the Site Investigation Work Plan (Roux Associates, March 2, 2007) for the ExxonMobil Brooklyn Terminal (Site, Figure 1) located at 400 Kingsland Yard, Brooklyn, New York. This supplemental scope of work has been prepared to address comments provided by the New York State Department of Environmental Conservation (NYSDEC) on May 1, 2007. The objective of the work is to conduct a preliminary soil vapor assessment in the general area of the Site in conjunction with implementing other remedial activities as proposed in the Site Investigation Work Plan. The work will be performed to determine baseline concentrations of select volatile organic compounds (VOCs) and methane, as well as establish whether a potential for hazardous conditions exists at the Site. The supplemental scope of work is described below.

#### **Soil Vapor Sampling and Analysis**

A total of eight soil vapor samples will be collected at the temporary sampling locations shown on Figure 1. Based on recent water table elevation measurements collected from monitoring wells at the Site, the water table within the shallow aquifer is located at approximately five to six feet below land surface (ft bls). To avoid saturation near the proposed soil vapor monitoring points, soil vapor samples will be collected from three to four feet below land surface.

Using a GeoProbe® direct push unit, temporary borings will be installed by advancing a Post-Run Tubing (PRT) system and expendable point to four feet below land surface. Once this target depth is reached, the PRT system will be retracted to three ft bls to create a void space for sample collection. An O-ring connection in the PRT system and a

hydrated bentonite seal between the drilling rods and the borehole at the surface will be used to create a vacuum tight seal and prevent sample dilution with ambient air. Soil vapor sampling will then be performed utilizing the following procedure:

- New Teflon-lined tubing will be attached to a PRT adapter, which will then be advanced through the drilling rods and threaded onto the PRT point holder at the bottom of the drilling rods. An O-ring connection at the tubing adaptor will prevent ambient air inside the drilling rods from leaking into the sample tubing.
- At the surface, the sampling assembly will be covered by an enclosure (i.e., plastic pail). The sample tubing will be threaded through the enclosure and connected to a three-way sampling 'T', with one end of the 'T' connector leading to a vacuum pump and the other end leading to a pre-evacuated laboratory-certified clean stainless steel summa canister. The summa canister will be fitted with a laboratory-calibrated flow regulator to enable sample collection at a flow rate of less than 0.2 liters per minute (L/min);
- The sampling point and tubing assembly will then be purged of approximately three volumes of standing air using a vacuum pump set at a rate of 0.2 liters per minute or less;
- While purging is in progress, a tracer gas (i.e. helium) will be used to enrich the atmosphere inside the enclosure (i.e., the immediate vicinity of the sampling location where the sample tubing intersects the ground surface) in order to test the borehole seal and verify that ambient air is not inadvertently drawn into the sample; in the event that the tracer gas concentration in the sample tubing exceeds 10% of the concentrations in the surrounding enclosure, the surface seal will be improved and the tracer gas test repeated until acceptable levels are attained;
- Following purging and verification with the tracer gas, the valve leading to the pump will be closed, the pump will be turned off, and the soil vapor will be directed to a summa canister; and
- Upon completion, each soil boring will be grouted to land surface to prevent the creation of preferential pathways for the soil vapors.

One ambient air sample will also be collected in the vicinity of one of the locations to provide background results for the Site as a whole. Soil vapor and ambient air samples will be analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methane using United States Environmental Protection Agency (USEPA) Method TO-3. The laboratory analyses will be performed by Accutest Laboratories of Dayton, New Jersey, which is a New York State Department of Health (NYDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory.


Mr. Steve P. Trifiletti  
May 21, 2007  
Page 3

**Project Schedule**


The field activities for the above Supplemental Scope of Work will be performed prior to the initiation of drilling activities described in the proposed Site Investigation and will not affect the time frame discussed in the Site Investigation Work Plan.

Should you have any questions, please do not hesitate to call me.

Sincerely,

A handwritten signature in cursive, appearing to read 'C. Proce', followed by a horizontal line.

Christopher Proce  
Project Hydrogeologist

A handwritten signature in cursive, appearing to read 'Justin Kennedy', followed by a circled 'CP'.


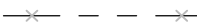

Justin Kennedy  
Senior Engineer /  
Project Manager

cc: Andrew Baris, Roux Associates, Inc.

N:\PROJECTS\MC172E\MC30E\886\MC3088601.DWG



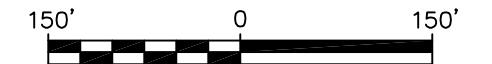
**LEGEND**

-  EXXONMOBIL PROPERTY LINE
-  EXISTING FENCELINE
-  SG-27 PROPOSED TEMPORARY SOIL VAPOR SAMPLING LOCATION



**NOTES:**


1. BASEMAP PREPARED FROM AERIAL SURVEY PERFORMED BY ANGLE OF ATTACK LAND SURVEYING LLC, MAY 2001. ALL TOPOGRAPHIC AND PLANIMETRIC DETAILS WERE PREPARED USING PHOTOGRAMMETRIC METHODS.



Title: **PROPOSED SOIL VAPOR SAMPLING LOCATION**

GREENPOINT REMEDIATION PROJECT  
GREENPOINT, BROOKLYN, NEW YORK

Prepared For: **EXXONMOBIL REFINING AND SUPPLY CO.**  
INWOOD, NEW YORK

|   |                     |                   |                 |
|---|---------------------|-------------------|-----------------|
| <br><b>ROUX ASSOCIATES, INC.</b><br><i>Environmental Consulting &amp; Management</i> | Compiled by: C.P.   | Date: 14MAY07     | <b>FIGURE 1</b> |
|   | Prepared by: J.A.D. | Scale: AS SHOWN   |                 |
|   | Project Mgr: J.P.K. | Office: NY        |                 |
|   | File No: MC3088601  | Project: 17230E21 |                 |