

January 7, 2008

R. Scott Deyette
New York State Department of Environmental
Conservation
625 Broadway
Albany, NY 12233-7014

JAN 11 2008

Subject: Interim Remedial Measure Pre-Design Work Plan
Fort Edward (Canal St.) Non-Owned Former MGP Site
Fort Edward, Washington County, Site #V00472

Dear Mr. Deyette:

National Grid has prepared this revised Interim Remedial Measure (IRM) Pre-Design Work Plan for the completion of additional site characterization activities for the Ft. Edward (Canal St) Non-Owned Former Manufactured Gas Plant (MGP) Site ("the Site"). This revision to the IRM Pre-Design Work Plan incorporates comments provided by the New York State Department of Environmental Conservation (NYSDEC) in letter dated November 5, 2007, and ultimately approved in letter dated December 12, 2007.

The overall objective of the IRM work plan is to determine and address (by removal, containment, or a combination thereof) the extent of soils containing potential MGP residuals adjacent to previous test pit locations (TP-4, TP-5, and TP-6) at the Site. A scope for the IRM Work Plan was proposed to the NYSDEC on May 22, 2007, and approved on June 26, 2007. The approved IRM Work Plan specified the completion of an array of additional test pits to supplement those previously completed (TP-4, TP-5 and TP-6), and the collection and analysis of soil samples from soil borings adjacent to these test pits. The proposed test pits were completed in August 2007, and were extended beyond the proposed dimension to the north in response to observations of MGP structures and residuals (**Figure 1**). In response to the extent of potential MGP residuals observed in soils during completion of the test pits, it is now proposed that the soil boring array also be modified to encompass the area where MGP residuals or appurtenant structures were observed. These observations are discussed below, together with the revised scope currently proposed for completion of the IRM soil characterization activities.

OBSERVATIONS RECORDED DURING COMPLETION OF TEST PITS, AUGUST 2007

Additional test pits (TP-9, TP-10, TP-11, TP-12, TP-13, TP-14, and TP-15) were completed at the Site on August 14 and 15, 2007 beyond the limits of the previously completed test pits (TP-4, TP-5 and TP-6), and were extended to a maximum depth of twelve feet below grade (**Attachments I and II**). The intent of these test pits was to reach the vertical and horizontal limits of impacted material.

As anticipated, soils with a bluish color potentially impacted by MGP residuals were observed near the juncture of TP-9, TP-10, and TP-11. While attempting to determine the extent of these soils to the north of this juncture point, a clay tile pipe was found within TP-11 on August 14, 2007. The tile pipe connected to a steel tank that contained stiff coal tar. An additional location of bluish-colored soils was observed along TP-15 (**Figure 1**). The presence of ash was observed in test pits TP-9, TP-11, TP-13, and TP-14, as shown on **Figure 1**. A steel pipe was unearthed between the former gas house and the location of an underground

brick structure that was discovered during the Site Characterization completed at the Site. The underground structure appeared to be cylindrical, approximately 6 feet in diameter, and constructed of brick. Standing water was present within the structure at approximately 4 feet bgs. National Grid used a backhoe to remove the cover and investigate the structure's interior; no visual or olfactory evidence of MGP impacts was detected. The structure was closed in place in June 2003 by backfilling it with clean fill, to eliminate a potential safety hazard to trespassers at the site. The structure was photo-documented prior to closure, however its origin and purpose are unknown. Similarly, the pipe unearthed in August 2007 was found to be empty, did not contain MGP residual, and showed no evidence of having carried or released any MGP related residuals.

REVISED SCOPE OF WORK

Additional and revised soil boring locations are now proposed as a modification of the May 2007 IRM Work Plan, to investigate the areas heretofore unknown to contain MGP residuals, as described below.

- Borings will be installed along both sides of TP-11 to investigate the extent of MGP residuals below the clay tile pipe and tar tank, along TP-10 and TP-15, and at the southeast corner of TP-6, to investigate the extent of bluish colored soils found there. These soil borings (ten in all) will be extended to twelve feet below ground surface (ft. bgs) to investigate the vertical extent of potential MGP impacts associated with these features.
- Soil borings will also be installed to the east and north of the test pits TP-9 and TP-14, to investigate the extent of relatively shallow ash fill material, which was observed while completing the Site Characterization and while completing the test pits in August 2007. These soil borings (ten in all) will be extended to four ft. bgs to investigate the vertical extent of the ash layer.

As with the IRM Work Plan submitted in May 2007, the intent of these borings is to reach the vertical and horizontal limits of soils containing potential MGP residuals, so that greater certainty of meeting the objective of a potential IRM can be assured. In particular, the boring density and analytical parameters are intended to eliminate the need for soil endpoint sampling during the completion of the IRM remedy, provided that no additional MGP residual material is encountered during the IRM. A total of 20 soil borings will be advanced using a track mounted Geoprobe® machine.

- At the deeper boring locations, borings will be advanced to a maximum depth of twelve ft. bgs or to the soil-groundwater interface. During the completion of these soil borings, discrete soil samples will be obtained at two foot intervals from ground surface to twelve ft. bgs for laboratory analysis. Soil samples will be analyzed for polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270, and Total Cyanide. The deepest soil samples at these locations (ten to twelve ft. bgs) will also be analyzed for Free Cyanide. The completion of the soil borings will be supervised by a MWH geologist, who will log the soil borings during field activities. All field activities will be conducted in accordance with the *Site Characterization Work Plan* and the *National Grid Generic Quality Assurance Project Plan (QAPP)*.
- At the shallow soil boring locations, borings will be advanced to a maximum depth of four ft. bgs, unless fill material is encountered at the proposed maximum depth of four ft. bgs in any boring, in which case that boring will be advanced until the fill material has been defined vertically.. During the completion of these soil borings, discrete soil samples will be obtained at two foot intervals from ground surface to four ft. bgs for laboratory analysis. Soil samples will be analyzed for PAHs, Total Cyanide, and Target Analyte List metals. The deepest soil samples at these locations (two to four ft. bgs, unless the boring is advanced deeper to determine the vertical extent of fill material) will also be analyzed for Free Cyanide. The completion of the soil borings will be supervised by a MWH geologist, who will log the soil borings during field activities. All field activities will be conducted in accordance with the *Site Characterization Work Plan* and the *National Grid Generic Quality Assurance Project Plan (QAPP)*.

Soil samples will be collected in laboratory supplied containers, preserved in laboratory supplied coolers with ice, and transported to a New York State (NYS) Environmental Laboratory Approval Program (ELAP) certified laboratory in accordance with the procedures in the QAPP and accompanied by a properly executed chain of custody. A matrix spike/matrix spike duplicate and field duplicate sample will also be analyzed to provide quality assurance/quality control for the analytical work. A NYSDEC Analytical Services Protocol (ASP) Category B Analytical Package will be provided by the analytical laboratory for each sample, except for the Free Cyanide sample analyses, which will be analyzed using a method being developed by the Clarkson University Engineering Laboratory, which is not an ELAP certified laboratory.

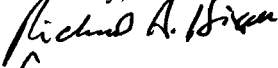
Following installation, the locations of these soil borings will be surveyed. The survey will be conducted by a licensed survey firm and include the elevations and easting/northing coordinates of each soil boring.

The results of this investigation will be presented to the NYSDEC in a letter Report. The Report will include a Data Usability Summary Report (DUSR) for the laboratory analyses, will include tables of the validated analytical data, and will include graphic presentations of the sampling data with respect to location (i.e., data box maps). The sampling data will be compared to the Soil Cleanup Objectives listed in 6 NYCRR Part 675-6.

The letter Report will provide an engineering analysis and recommendation on compliance with Part 375-6.8. The work plan detailed herein is intended to have sufficient delineation of vertical and horizontal soil quality to eliminate the need for confirmation or documentation sampling during subsequent excavation activities conducted during any IRM. National Grid requests written concurrence with this approach upon DEC/DOH approval of this work plan.

If you have any questions or comments, then please contact me at (315) 428-5652 or steven.stucker@us.ngrid.com.

Sincerely,

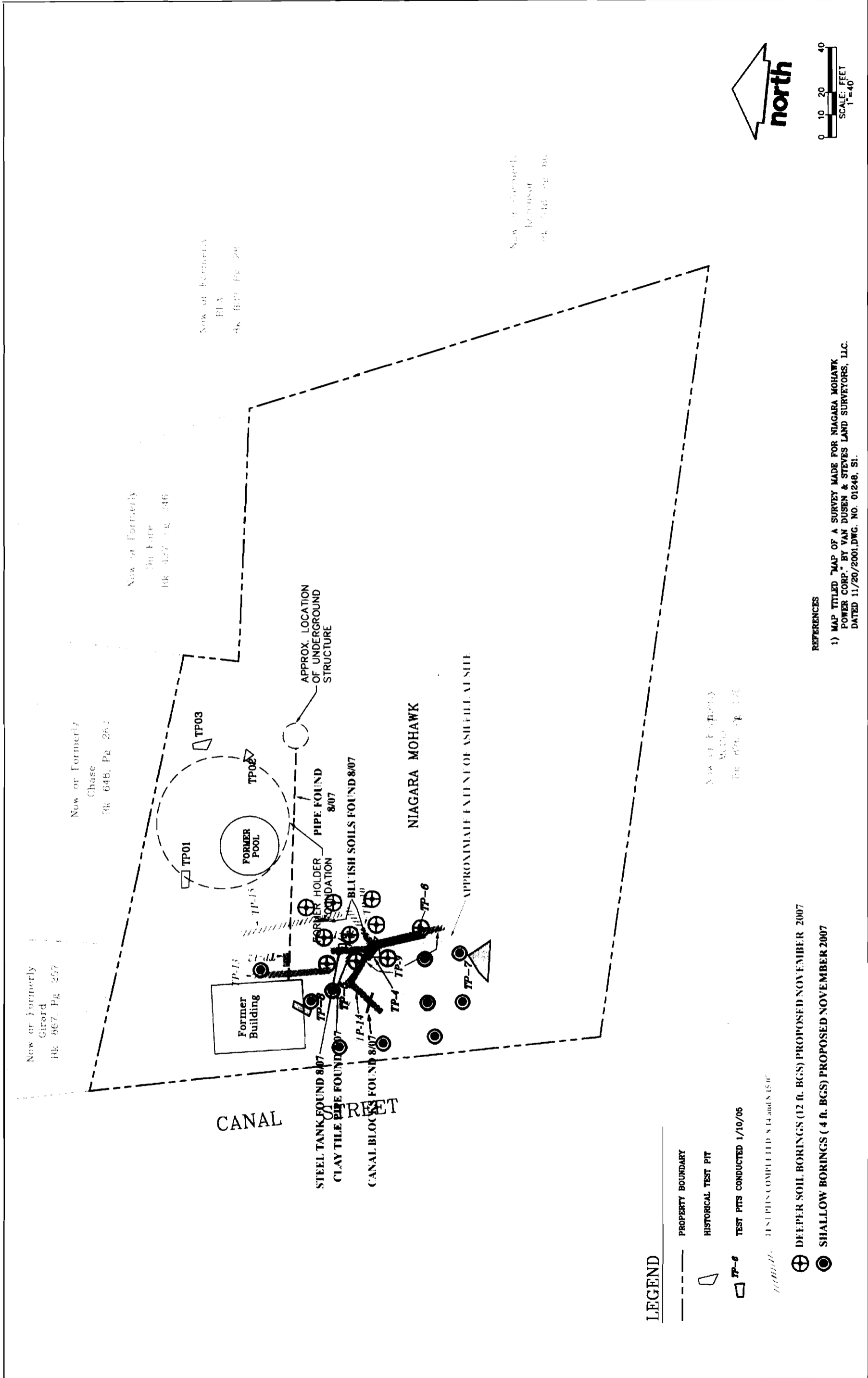

for Steven P. Stucker

Environmental Department

Cc w/att.

Deanna Ripstein-New York State Dept. of Health
William Holzhauer- National Grid
Cathy Geraci-National Grid
Rich Hixon-MWH
John Santacroce-MWH

Enc: Figure 1, IRM Pre-Design Work Plan Soil Boring Plan
Attachment I Photographic Log, Ft. Edward (Canal St.), August 14, 2007
Attachment II Photographic Log, Ft. Edward (Canal St.), August 15, 2007



LEGEND

- PROPERTY BOUNDARY
- ▭ HISTORICAL TEST PIT
- ⊕ TP-6 TEST PITS CONDUCTED 1/10/05
- ⊙ TEST PITS COMPLETED 8/14 AND 8/15/07
- ⊕ DEEPER SOIL BORINGS (12 ft. BGS) PROPOSED NOVEMBER 2007
- ⊙ SHALLOW BORINGS (4 ft. BGS) PROPOSED NOVEMBER 2007

SCALE: 1"=40'

WARNING 1/2
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

DESIGNED: _____
DRAWN: _____
CHECKED: _____

REFERENCES
1) MAP TITLED "MAP OF A SURVEY MADE FOR NIAGARA MOHAWK POWER CORP." BY VAN DUSEN & STEVES LAND SURVEYORS, I.L.C. DATED 11/20/2001.DWG. NO. 01248, SI.



NATIONAL GRID
FT. EDWARD (CANAL STREET)


IRM PRE-DESIGN WORK PLAN
SOIL BORING PLAN


FIGURE 1



Attachment I Photographic Log, Ft. Edward (Canal St.), August 14, 2007



Customer: National Grid		Project Number: 2111448	
Site Name: Ft. Edward (Canal Street)		Site Location: Fort Edward, NY	
Photograph ID: 1			
Date: Aug 14, 2007			
Location: TP-9 South			
Direction: Looking south			
Comments: Some ash at grade, no ash or other residuals noted in soils below 1 - 1.5 ft. bgs.			
Photograph ID: 2			
Date: Aug 14, 2007			
Location: TP-9 South			
Direction: Looking north			
Comments: No ash or other residuals below 1 - 1.5 ft. bgs			



Customer:	National Grid	Project Number:	2111448
Site Name:	Ft. Edward (Canal Street)	Site Location:	Fort Edward, NY

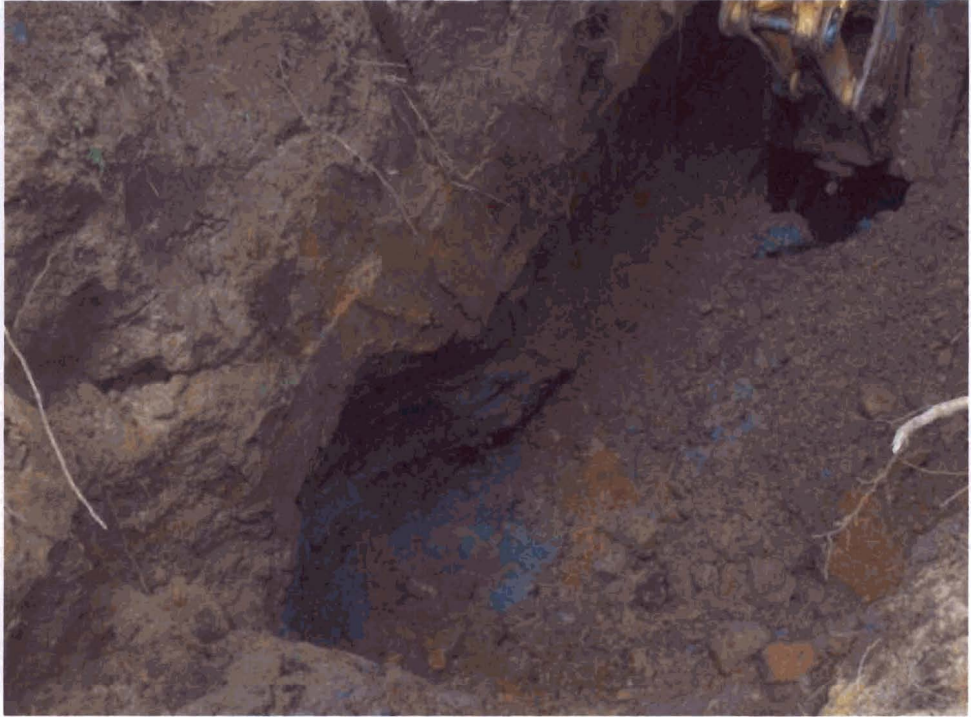
Photograph ID: 3	
Date: Aug 14, 2007	
Location: TP-9 South	
Direction: Looking north	
Comments: Groundwater entering test pit excavation at 7.5 ft. bgs	



Photograph ID: 4	
Date: Aug 14, 2007	
Location: TP-9 midway	
Direction: Looking north	
Comments: Pocket of bluish colored soils at 5.5 - 6 ft. bgs	



Customer: National Grid		Project Number: 2111448	
Site Name: Ft. Edward (Canal Street)		Site Location: Fort Edward, NY	
Photograph ID: 5			
Date: Aug 14, 2007			
Location: TP-9 midway			
Direction: Looking north			
Comments: Excavated to 9 ft. bgs. No additional MGP residual noted.			
Photograph ID: 6			
Date: Aug 14, 2007			
Location: TP-9 midway			
Direction: Looking northeast			
Comments: Close up of pocket of bluish colored soils (center of photo) at 5.5 - 6 ft. bgs			

Customer: National Grid		Project Number: 2111448	
Site Name: Ft. Edward (Canal Street)		Site Location: Fort Edward, NY	
Photograph ID: 7			
Date: Aug 14, 2007			
Location: TP-9 midway			
Direction: Looking west			
Comments: Close up of pocket of bluish colored soils (center of photo) at 5.5 - 6 ft. bgs			
Photograph ID: 8			
Date: Aug 14, 2007			
Location: TP-9 north end			
Direction: Looking west			
Comments: Ash pocket (center of photo) encountered at 1.5 - 3 ft. bgs			


Customer: National Grid	Project Number: 2111448
Site Name: Ft. Edward (Canal Street)	Site Location: Fort Edward, NY
Photograph ID: 9	
Date: Aug 14, 2007	
Location: TP-9 north end	
Direction: Looking west	
Comments: Ash pocket (white striations at center of photo) encountered at 1.5 - 3 ft. bgs	
Photograph ID: 10	
Date: Aug 14, 2007	
Location: TP-9 north end	
Direction: Looking northwest	
Comments: Block structure at endpoint of test point. Did not attempt to advance excavation past this structure.	


Customer: National Grid		Project Number: 2111448	
Site Name: Ft. Edward (Canal Street)		Site Location: Fort Edward, NY	
Photograph ID: 11			
Date: Aug 14, 2007			
Location: TP-10			
Direction: Looking north-northeast			
Comments: Pocket of bluish colored soils (center of photo) at 6 - 6.5 ft. bgs			
Photograph ID: 12			
Date: Aug 22, 2007			
Location: TP-10			
Direction: Looking north-northeast			
Comments: Close-up of bluish colored soils at 6 - 6.5 ft. bgs. Excavation opened more, some sloughing of side soils into area.			



Customer: National Grid		Project Number: 2111448	
Site Name: Ft. Edward (Canal Street)		Site Location: Fort Edward, NY	
Photograph ID: 13			
Date: Aug 14, 2007			
Location: TP-11			
Direction: Looking west			
Comments: Pocket of dark colored soils encountered along a clay tile pipe	Photograph ID: 14		
Date: Aug 14, 2007			
Location: TP-11			
Direction: Looking east			
Comments: Colored soils on eastern wall of test pit opposite clay pipe.			

Customer:	National Grid	Project Number:	2111448
Site Name:	Ft. Edward (Canal Street)	Site Location:	Fort Edward, NY
Photograph ID: 15			
Date: Aug 14, 2007			
Location: TP-11			
Direction: Looking west			
Comments: Clay pipe uncovered during test pit. Colored soils below pipe level. Ash and other fill materials above pipe.			
Photograph ID: 16			
Date: Aug 14, 2007			
Location: TP-11			
Direction: Looking south			
Comments: Extent of clay tile pipe excavated, terminating near junction point of TP-5, TP-6, and TP-9.			

Customer:	National Grid	Project Number:	2111448
Site Name:	Ft. Edward (Canal Street)	Site Location:	Fort Edward, NY

<p>Photograph ID: 17</p> <p>Date: Aug 14, 2007</p> <p>Location: TP-11</p> <p>Direction: Looking north</p> <p>Comments: Pipe (center of photo) connecting a metal drum or tank to the clay tile pipe. The metal structure was found to contain solid tar-like material.</p>	
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<p>Photograph ID: 18</p> <p>Date: Aug 14, 2007</p> <p>Location: TP-11</p> <p>Direction: Looking north</p> <p>Comments: Metal drum or tank structure at north end of TP-11. Thin metal construction with debris and tar-like material as fill in center.</p>	
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Customer: National Grid		Project Number: 2111448	
Site Name: Ft. Edward (Canal Street)		Site Location: Fort Edward, NY	
Photograph ID: 19			
Date: Aug 14, 2007			
Location: TP-11			
Direction: Looking northwest			
Comments: Eastern edge of drum or tank structure.			
Photograph ID: 20			
Date: Aug 14, 2007			
Location: TP-11			
Direction: Looking west			
Comments: Top piece or roof of metal drum or tank structure of thin metal, riveted construction. Viscous tar-like material sticking to metal piece.			

Customer:	National Grid	Project Number:	2111448
Site Name:	Ft. Edward (Canal Street)	Site Location:	Fort Edward, NY

Photograph ID: 21	
Date: Aug 14, 2007	
Location: TP-11	
Direction: Looking north	
Comments: Uncovering eastern side of metal drum or tank structure. Some tar-like material encountered.	

Photograph ID: 22	
Date: Aug 14, 2007	
Location: TP-11	
Direction: Looking north	
Comments: Close-up of debris and tar-like material seen above.	



Customer: National Grid	Project Number: 2111448
Site Name: Ft. Edward (Canal Street)	Site Location: Fort Edward, NY
Photograph ID: 23	
Date: Aug 14, 2007	
Location: TP-11	
Direction: Looking west	
Comments: Eastern edge of slope excavated to uncover metal drum or tank structure.	
Photograph ID: 24	
Date: Aug 14, 2007	
Location: TP-12	
Direction: Looking north	
Comments: Test pit opened along toe of slope from former building foundation. Additional structures and piping discovered.	

Attachment II Photographic Log, Ft. Edward (Canal St.), August 15, 2007



Customer:	National Grid	Project Number:	2111448
Site Name:	Ft. Edward (Canal Street)	Site Location:	Fort Edward, New York

Photograph ID: 1	
Date: Aug 15, 2007	
Location: TP-13	
Direction: West	
Comments: Clay pipe exiting the foundation of the former gas house. The pipe was located approximately 13 ft. from the south east corner of the foundation. No MGP residuals were observed.	

Photograph ID: 3	
Date: Aug 15, 2007	
Location: TP-13	
Direction: North	
Comments: TP-13 between the foundation and the underground tank. No pipes connecting the two structures were found.	

Customer: National Grid		Project Number: 2111448	
Site Name: Ft. Edward (Canal Street)		Site Location: Fort Edward, New York	
Photograph ID: 4			
Date: Aug 15, 2007			
Location: TP-13			
Direction: East			
Comments: Ash and coal in the top 3 ft. of TP-13. This ash layer pinches out 18 ft. to the south.			
Photograph ID: 6			
Date: Aug 15, 2007			
Location: TP-14			
Direction: West			
Comments: Start of TP-15, ash and other fill in the top 1.5 ft. to 2 ft. of the excavation.			

Customer: National Grid Project Number: 2111448 Site Name: Ft. Edward (Canal Street) Site Location: Fort Edward, New York	
Photograph ID: 7 Date: Aug 15, 2007 Location: TP-14 Direction: West Comments: Apparent structure with fill ash, brick and other non MGP related debris. Notice that native soil to the right of the wall is clean.	
Photograph ID: 8 Date: Aug 15, 2007 Location: TP-15 Direction: North Comments: No ash or MGP residuals in the shallow soil of TP-15	

Customer: National Grid		Project Number: 2111448	
Site Name: Ft. Edward (Canal Street)		Site Location: Fort Edward, New York	
Photograph ID: 9			
Date: Aug 15, 2007			
Location: TP-15			
Direction: North			
Comments: Metal pipe found in TP-15 headed in the direction of the unknown structure			
Photograph ID: 10			
Date: Aug 15, 2007			
Location: TP-15			
Direction: North			
Comments: Blue soil 6.5 ft bgs in a pocket of soil 7 to 12 feet east of the start of TP-15.			