nationalgrid

Steven P. Stucker, C.P.G.
Lead Engineer

July 11, 2013

Mr. Anthony Karwiel
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C
625 Broadway
Albany, NY 12233-7013

Re: ***National Grid Hudson Water Street Site***
Hudson, New York
2013 Ground Water Monitoring Report

Dear Mr. Karwiel:

Attached for your information is the 2013 Groundwater Monitoring Report detailing the annual ground water monitoring event and OM&M activities conducted from July 1, 2012 to June 30, 2013 at the National Grid Hudson (Water Street) Site. Site activities were conducted in accordance with the NYSDEC-approved OM&M Plan (BBL/ARCADIS; January 2007) and the *Static Water Level Evaluation and Ground Water Monitoring Program Recommendation Memorandum* letter (dated August 15, 2007).

The site is in good shape. Some minor rip rap/stone repairs were made to the riverbank protection. A few of the monitoring well covers were replaced.

Please contact me at 315-428-5652 if you have any questions.

Sincerely,

Matthew D. Millias for SPS

Steven P. Stucker, C.P.G.
Lead Engineer
Environmental Department

Attachments

Cc: Matt Millias – CDM Smith

300 Erie Boulevard West, C-1, Syracuse, NY 13202
T: 315-428-5652 F: 315-428-3549 steven.stucker@us.ngrid.com www.nationalgrid.com

CDM SMITH

One General Motors Drive
Syracuse, New York 13206
tel: 315 434-3200
fax: 315 463-5100

July 11, 2013

Mr. Steven P. Stucker, C.P.G.
Lead Engineer
National Grid
300 Erie Boulevard West
Syracuse, New York 13202-4250

Subject: 2012-2013 Groundwater Monitoring Report
Hudson (Water Street) Site, Hudson, New York

Dear Mr. Stucker:

CDM Smith is pleased to submit this Groundwater Monitoring Report (July 2012 – June 2013)for the Hudson (Water Street) Site, Hudson, New York**.** This annual report includes the requirements associated with the operation, maintenance, and monitoring of the Remedial Action Plan (RA) at Operable Unit (OU) 1 of the Hudson (Water Street) Former Manufactured Gas Plant (MGP) Site located in Hudson, New York. Please refer to the Operation, Maintenance, and Monitoring Plan (OM&M Plan), January 2007 and the CDM Smith memorandum dated July 30, 2007 for quarterly well monitoring, annual sampling, quarterly site inspection requirements, and associated detailed site conditions and groundwater flow pattern documentation.

Background
The Hudson (Water Street) Former Manufactured Gas Plant Site located in Hudson, New York is comprised of approximately two acres of land and is owned by National Grid (refer to **Attachment A** for Figure 1 - Location Map and Figure 2 – Post Remediation Site Conditions). The remedial action plan in place at the site was substantially completed in December 2006 and the OM&M Plan was finalized in January 2007 to provide a method for monitoring its effectiveness.

The objective of the post-construction groundwater monitoring task within the OM&M plan is to characterize post-remedy groundwater flow patterns and assess the quality of shallow groundwater as it leaves the site. Groundwater samples are analyzed for the presence and/or extent of benzene, toluene, ethylbenzene and total xylenes (BTEX) and naphthalene.

Quarterly Site Inspections
Quarterly site inspections were conducted on September 17, 2012, December 3, 2012, March 6, 2013, and June 11, 2013. Inspections consist of the existing groundwater monitoring wells (MW-02, MW-03, MW-05, MW-06, MW-07, MW-08A, MW-09A, MW-10, MW-11, OW-2, OW-4), DNAPL monitoring wells (RW-1, RW-2, CW-01A), security fencing, surface cover areas, steel

sheeting retaining wall, and riverbank protection. In general, the site was in good condition. To date, there have been no public complaints or comments noted. The completed quarterly site inspection forms are included in **Attachment B**.

Minor settlement and erosion along the riverbank continues to be an issue. CDM Smith continues to monitor the rip rap/stone riverbank protection and recommends material placement as needed. In April 2013, approximately 65 tons of rip rap/stone was placed along the riverbank to restore adequate protection by Abscope Environmental, Inc.

Quarterly Groundwater Level Measurements and DNAPL Monitoring/Recovery
The site monitoring wells include: MW-02, MW-03, MW-05, MW-06, MW-07, MW-08A, MW-09A, MW-10, MW-11, OW-2, OW-4, CW-01A, RW-1 and RW-2. Well locations are shown on Figure 2 in **Attachment A**. Quarterly groundwater level measurements were completed. Also, the water level at the Hudson River bank was measured. The groundwater direction continues to be radially outward from the former gas holder area consistent with past groundwater elevation data. A summary table of the past four quarterly groundwater level measurement events are included in **Attachment C**.

Quarterly DNAPL monitoring was conducted at RW-1, RW-2, and CW-01A. No DNAPL product was recovered in any of the events. No odors were noted. Quarterly DNAPL monitoring and recovery tables are included in **Attachment C**. To date, no DNAPL has been recovered from these passive wells.

Annual Groundwater Sampling, Analysis, and Data Validation
Groundwater samples were collected from monitoring wells MW-03, MW-05, MW-06 and MW-11 on June 11, 2013. The wells were purged using a peristaltic pump. Field Measurements of pH, conductivity, turbidity, dissolved oxygen, temperature, total dissolved solids and oxidation-reduction potential were recorded using a Horiba water quality meter during sample collection. Samples were collected once field parameters had been stabilized. Field monitoring data is included in **Attachment D**.

Four aqueous field samples, a field duplicate, and trip blank were analyzed for BTEX and Naphthalene (USEPA Method 8260B). The samples were analyzed by Test America Laboratories of Buffalo, New York in accordance with the NYSDEC Analytical Services Protocol. The chain-of-custody record is included in **Attachment D**.

Naphthalene was detected in MW-03 at a concentration of 1.1 ug/L. This was the first detection of Naphthalene in MW-03 in the past 6 years. There was no BTEX or Naphthalene detected in the samples from monitoring wells MW-05, MW-06, or MW-11. This was the first time in the past 6 years BTEX was not detected in MW-11.

The analytical data report provided by Test America was sent to Data Validation Services of North Creek, New York for third party data validation. The primary objective of the data validation was to identify any questionable or invalid laboratory processes or data. The data

validation company generated the Data Usability Summary Report (DUSR) from review of the summary form information, with review of sample raw data and limited review of the associated QC raw data, as required for the DUSR validation package (refer to **Attachment D**).

Site Maintenance [Refer to **Attachment E** for a photo log]

- On April 29-30, 2013, Abcope Environmental, Inc. installed approximately 65 tons of rip rap/stone along the riverbank to restore adequate protection.

Conclusions and Recommendations

- ✓ Quarterly site inspection demonstrate that the site is in good condition. Minor riprap/stone settlement along riverbank was noted.

- ✓ CleanHarbors (subcontractor to CDM Smith) to remove two 5 gallon pails of purge water from the site. The pails will be transported to a National Grid-approved disposal facility.

- ✓ Quarterly static water level measurements demonstrate that the groundwater direction is radially outward from the former gas holder area.

- ✓ Quarterly DNAPL monitoring indicated no collectable product.

- ✓ The Annual groundwater sampling event (June 2013) indicated that Naphthalene was present in MW-03. There were no BTEX or Naphthalene detections in MW-05, MW-06, or MW-11.

- ✓ As of June 2013, 6 years of annual groundwater sampling have been completed. BTEX contamination had been detected in MW-11 for the first five years. The latest event showed no detections in MW-11. There was, however, a minor detection of Naphthalene in MW-03. It is recommended that the long-term OM&M activities continue. If the 2014 annual groundwater sampling results indicate no detections of BTEX or Naphthalene in any site wells, National Grid and NYSDEC could discuss the need for future events.

If you have any questions relating to these sampling events or our recommendations, please do not hesitate to contact me at 315-434-3256.

Sincerely,

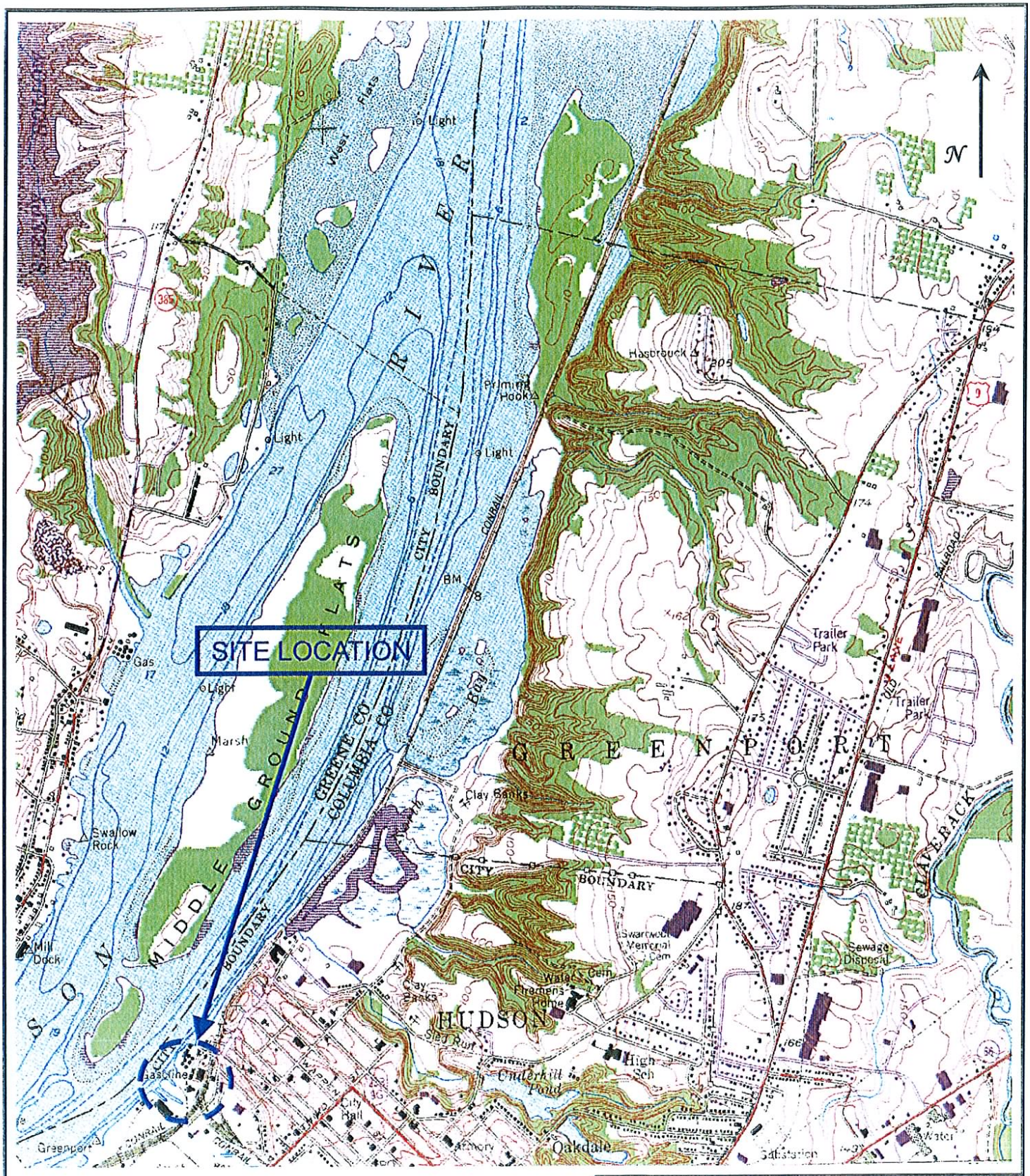
Matthew D. Millias

Matthew D. Millias, P.E., BCEE
Principal
CDM Smith

Cc: Tim Beaumont – CDM Smith

Attachment A

Site Figures



Notes:

USGS Topo. Quad. Hudson North used to create base map.

0 1000 2000 3000 4000

APPROXIMATE SCALE

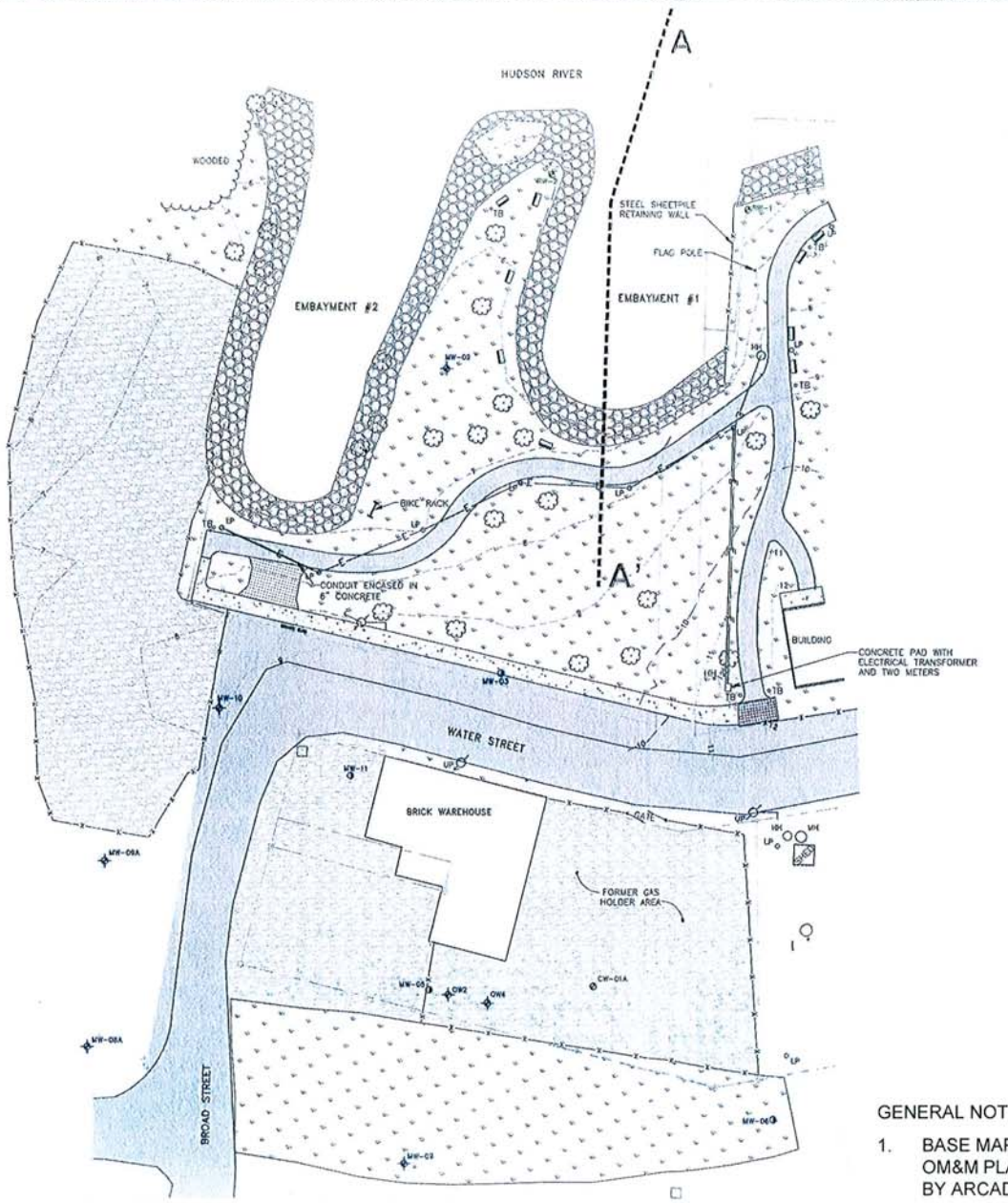
QUADRANGLE LOCATION

NATIONAL GRID
HUDSON (WATER STREET)

SITE LOCATION MAP

CDM

Figure 1



LEGEND:

- PROPERTY LINE
- MAJOR CONTOUR LINE
- MINOR CONTOUR LINE
- APPROXIMATE EDGE OF WATER (VARIES WITH TIDE)
- CHAIN-LINK FENCE
- IRON FENCE
- ELECTRICAL LINE
- RIPRAP
- CRUSHED STONE
- CONCRETE
- ASPHALT/PAVEMENT
- VEGETATED AREA
- STAMPED CONCRETE
- GRASSCRETE PAVING
- DECIDUOUS TREE
- MW-02 GROUNDWATER WATER-LEVEL MONITORING WELL
- MW-05 GROUNDWATER QUALITY MONITORING WELL
- RW-1 NAPL COLLECTION/RECOVERY WELL
- BENCH
- TB TRASH BIN
- HH HANDHOLE
- MH MANHOLE
- UP UTILITY POLE
- LP LIGHT POLE
- A' APPROXIMATE CROSS SECTION LOCATION

NOTE:

1. SURVEY DATA WAS OBTAINED FROM SURVEYS BY C.T. MALE ASSOCIATES, DATED AUGUST 23, 2005 AND NOVEMBER 15, 2005, DRAWING FILES E-ASBUILT.DWG AND W-ASBUILT.DWG, RESPECTIVELY.

GENERAL NOTES:

1. BASE MAP TAKEN FROM OM&M PLAN PREPARED BY ARCADIS BBL.

NATIONAL GRID
HUDSON (WATER STREET)

POST REMEDIATION SITE CONDITIONS

CDM

Figure
2

Attachment B

Quarterly Inspection Forms

Site Inspection
Hudson-Water Street
Operable Unit 1
Hudson, New York

Date: 9/17/2012 Time: 830

Technician: Beaumont Weather: Cloudy 60°

Surface Cover Areas			
Excessive Settlement Observed	YES	NO	COMMENTS: City has installed boat
Cracks or Potholes Observed	YES	NO	access equipment for the summer.
Depressions and/or Rutting Observed	YES	NO	
Exposed subbase materials Observed	YES	NO	

Erosion Controls (Rip-Rap or Sod)			
Exposed or damaged Geotextile layer(s) Observed	YES	NO	COMMENTS: Some rip-rap settlement.
Excessive Settlement Observed	YES	NO	
Stressed Vegetation Observed	YES	NO	

Steel Sheetpile Retaining Wall			
Settlement of Wall	YES	NO	COMMENTS:
Subsidence or Cracking of Soils Behind the Wall	YES	NO	
Cracking or Separation of Wall Joints	YES	NO	

Trees, Shrubs and other Planting Materials			
Strong Growth Observed	YES	NO	COMMENTS:

Surface Water Quality					
Sheens Observed On:	Rip-Rap	NONE	MINOR	SIGNIFICANT	COMMENTS:
	Sheetpile Wall	NONE	MINOR	SIGNIFICANT	
	Other Water Surfaces	NONE	MINOR	SIGNIFICANT	

General Comments:

Site Inspection
Hudson-Water Street
Operable Unit 1
Hudson, New York

Date: 12/3/2012 Time: 900

Technician: Beaumont Weather: Cloudy 48°

Surface Cover Areas			
Excessive Settlement Observed	YES	NO	COMMENTS: City has removed boat
Cracks or Potholes Observed	YES	NO	access equipment for the winter.
Depressions and/or Rutting Observed	YES	NO	
Exposed subbase materials Observed	YES	NO	

Erosion Controls (Rip-Rap or Sod)			
Exposed or damaged Geotextile layer(s) Observed	YES	NO	COMMENTS: Some rip-rap settlement.
Excessive Settlement Observed	YES	NO	
Stressed Vegetation Observed	YES	NO	

Steel Sheetpile Retaining Wall			
Settlement of Wall	YES	NO	COMMENTS:
Subsidence or Cracking of Soils Behind the Wall	YES	NO	
Cracking or Separation of Wall Joints	YES	NO	

Trees, Shrubs and other Planting Materials			
Strong Growth Observed	YES	NO	COMMENTS:

Surface Water Quality					
Sheens Observed On:	Rip-Rap	NONE	MINOR	SIGNIFICANT	COMMENTS:
	Sheetpile Wall	NONE	MINOR	SIGNIFICANT	
	Other Water Surfaces	NONE	MINOR	SIGNIFICANT	

General Comments:

Site Inspection
Hudson-Water Street
Operable Unit 1
Hudson, New York

Date: 3/6/2013 Time: 830

Technician: Beaumont Weather: Cloudy 36°

Surface Cover Areas			
Excessive Settlement Observed	YES	NO	COMMENTS: City has removed boat
Cracks or Potholes Observed	YES	NO	access equipment for the winter.
Depressions and/or Rutting Observed	YES	NO	
Exposed subbase materials Observed	YES	NO	

Erosion Controls (Rip-Rap or Sod)			
Exposed or damaged Geotextile layer(s) Observed	YES	NO	COMMENTS: Some rip-rap settlement.
Excessive Settlement Observed	YES	NO	
Stressed Vegetation Observed	YES	NO	

Steel Sheetpile Retaining Wall			
Settlement of Wall	YES	NO	COMMENTS:
Subsidence or Cracking of Soils Behind the Wall	YES	NO	
Cracking or Separation of Wall Joints	YES	NO	

Trees, Shrubs and other Planting Materials			
Strong Growth Observed	YES	NO	COMMENTS:

Surface Water Quality					
Sheens Observed On:	Rip-Rap	NONE	MINOR	SIGNIFICANT	COMMENTS:
	Sheetpile Wall	NONE	MINOR	SIGNIFICANT	
	Other Water Surfaces	NONE	MINOR	SIGNIFICANT	

General Comments:

Spoke with Ron Gaylord (City of Cohoes DPW Foreman-site contact) about installing riprap in the spring.

Site Inspection
Hudson-Water Street
Operable Unit 1
Hudson, New York

Date: 6/11/2013 Time: 10:00

Technician: Beaumont Weather: Cloudy 65°

Surface Cover Areas			
Excessive Settlement Observed	YES	NO	COMMENTS: City has installed the boat
Cracks or Potholes Observed	YES	NO	access equipment for the summer.
Depressions and/or Rutting Observed	YES	NO	
Exposed subbase materials Observed	YES	NO	

Erosion Controls (Rip-Rap or Sod)			
Exposed or damaged Geotextile layer(s) Observed	YES	NO	COMMENTS:
Excessive Settlement Observed	YES	NO	
Stressed Vegetation Observed	YES	NO	

Steel Sheetpile Retaining Wall			
Settlement of Wall	YES	NO	COMMENTS:
Subsidence or Cracking of Soils Behind the Wall	YES	NO	
Cracking or Separation of Wall Joints	YES	NO	

Trees, Shrubs and other Planting Materials			
Strong Growth Observed	YES	NO	COMMENTS:

Surface Water Quality					
Sheens Observed On:	Rip-Rap	NONE	MINOR	SIGNIFICANT	COMMENTS:
	Sheetpile Wall	NONE	MINOR	SIGNIFICANT	
	Other Water Surfaces	NONE	MINOR	SIGNIFICANT	

General Comments:

Installed 65tons of small rip rap stone with Abscope on 4/29-4/30.

Ron Gaylord (City of Cohoes DPW Foreman-site contact) inspected the work on 4/30/2013.

Attachment C

Quarterly Groundwater Level Measurements

Quarterly DNAPL Monitoring and Recovery Forms

Quarterly Groundwater Level Measurements

Well ID.	Top of Inner Casing	Depth to Water (feet)				Water Level Elevation (feet amsl)			
	(feet amsl)	9/17/2012	12/3/2012	3/6/2013	6/11/2013	9/17/2012	12/3/2012	3/6/2013	6/11/2013
MW-02	6.10	4.42	4.76	5.10	3.80	1.68	1.34	1.00	2.30
MW-03	8.97	1.62	2.27	2.32	1.82	7.35	6.70	6.65	7.15
MW-05	12.57	5.45	5.50	5.95	5.68	7.12	7.07	6.62	6.89
MW-06	11.84	5.28	5.80	6.19	5.00	6.56	6.04	5.65	6.84
MW-07	8.94	4.66	4.82	4.30	3.72	4.28	4.12	4.64	5.22
MW-08A	6.36	3.52	3.70	3.60	2.35	2.84	2.66	2.76	4.01
MW-09A	8.40	5.40	5.72	5.90	5.15	3.00	2.68	2.50	3.25
MW-10	8.69	2.46	3.31	3.62	3.13	6.23	5.38	5.07	5.56
MW-11	9.57	2.88	2.92	2.70	0.68	6.69	6.65	6.87	8.89
OW-2	12.82	5.50	5.54	6.10	5.76	7.32	7.28	6.72	7.06
OW-4	12.66	5.15	5.40	5.75	5.28	7.51	7.26	6.91	7.38
Hudson River	5.29	6.68	5.29	2.40	3.60	-1.39	0.00	2.89	1.69
CW-01A	9.67	2.05	2.60	1.52	0.42	7.62	7.07	8.15	9.25
RW-1	5.09	5.70	4.17	2.82	2.78	-0.61	0.92	2.27	2.31
RW-2	4.96	6.07	4.90	2.12	3.20	-1.11	0.06	2.84	1.76

Notes: amsl = above mean sea level

Quarterly DNAPL Monitoring and Recovery
09/17/12

Well Id.	DTW	DTP	DTB	Thickness	Amount Recovered	Comments
CW-01A	2.05	None	30.90	0	0	No Odors.
RW-1	5.70	None	26.50	0	0	No Odors.
RW-2	6.07	None	22.35	0	0	No Odors.

Notes:
DTP = Depth To Product
DTW = Depth To Water
DTB = Depth To Bottom

Quarterly DNAPL Monitoring and Recovery
12/03/12

Well Id.	DTW	DTP	DTB	Thickness	Amount Recovered	Comments
CW-01A	2.60	None	30.90	0	0	No Odors.
RW-1	4.17	None	26.50	0	0	No Odors.
RW-2	4.90	None	22.35	0	0	No Odors.

Notes:
DTW = Depth To Water
DTP = Depth To Product
DTB = Depth to Bottom

Quarterly DNAPL Monitoring and Recovery
03/06/13

Well Id.	DTW	DTP	DTB	Thickness	Amount Recovered	Comments
CW-01A	1.52	None.	30.90	0	0	No Odors.
RW-1	2.82	None.	26.50	0	0	No Odors.
RW-2	2.12	None.	22.35	0	0	No Odors.

Notes:
DTW = Depth To Water
DTP = Depth To Product
DTB = Depth To Bottom

Quarterly DNAPL Monitoring and Recovery
06/11/13

Well Id.	DTW	DTP	DTB	Thickness	Amount Recovered	Comments
CW-01A	0.42	None.	30.90	0	0	No Odors.
RW-1	2.78	None.	26.50	0	0	No Odors.
RW-2	3.20	None.	22.35	0	0	No Odors.

Notes:
DTW = Depth To Water
DTP = Depth To Product
DTB = Depth To Bottom

Attachment D

Field Sampling Documentation

Validated GW Data Report

National Grid
Water Street-Operable Unit 1
Hudson, New York

Annual Groundwater Sampling
June 11, 2013

Well ID.	Sample?	Well Size	Well Material	Stickup-Flush	DTP	DTW	DTP	DTB	Sump ?	Comments
MW-02	No	2"	PVC	Flush		3.80		20.50	No	Well manway needs replacement. Bolt holes all stripped unable to tap new ones.
MW-03	Yes	2"	PVC	Flush		1.82		25.50	No	
MW-05	Yes	2"	PVC	Stickup		5.68		28.10	No	
MW-06	Yes	2"	PVC	Stickup		5.00		26.10	Yes	
MW-07	No	2"	PVC	Stickup		3.72		24.55	Yes	
MW-08A	No	2"	PVC	Flush		2.35		25.85	No	Well manway needs replacement. Won't bolt down.
MW-09A	No	2"	PVC	Stickup		5.15		25.07	Yes	
MW-10	No	2"	PVC	Flush		3.13		28.70	Yes	Well manway needs replacement. Bolt holes all stripped unable to tap new ones.
MW-11	Yes	2"	PVC	Flush		0.68		8.10	Yes	Well manway needs replacement. Bolt holes all stripped unable to tap new ones.
OW-2	No	2"	PVC	Stickup		5.76		27.55	Yes	
OW-4	No	2"	PVC	Stickup		5.28		28.05	Yes	
Hudson River	No					3.60				Chiseled square adjacent to the 8th railing post on top of the sheetpile wall.
CW-01A	No	4"	Steel	Flush		0.42		30.90	Yes	
RW-1	No	4"	PVC	Flush		2.78		26.50	Yes	
RW-2	No	4"	PVC	Flush		3.20		22.35	Yes	

Purged water stored onsite in two labeled 5 gallons pails.

TestAmerica Albany
25 Kraft Road
Albany, NY 12205

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: Tim Beaumont	Lab PM: Gray-Erdmann, Peggy	Carrier Tracking No(s):	COC No: 480-36382-9421.1
Client Contact: Timothy Beaumont	Phone: 315 739 2368	E-Mail: peggy.gray-erdmann@testamericainc.com		Page: Page 1 of 1
Company: CDM Smith, Inc.				Job #:

Address: One General Motors Drive	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Syracuse	TAT Requested (days):		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: NY, 13206			
Phone:	PO #: 36380.93808		Other:
Email: beaumonttj@cdmsmith.com	WO #:		
Project Name: CDM Smith/ Event Desc: Hudson Water Street GW Wells	Project #: 48002647		
Site: New York	SSOW#:		

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - (MOD) BTEX - 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
Trip Blank	5/29/13	—	6	Water			2		
FD-0613	6/11/13	—	6	Water			3		
MW-3-0613	6/11/13	930	6	Water			3		
MW-5-0613	6/11/13	840	6	Water			3		
MW-6-0613	6/11/13	800	6	Water			3		
MW-6-0613 MS	6/11/13	800	6	Water			3		
MW-6-0613 SD	6/11/13	800	6	Water			3		
MW-11-0613	6/11/13	1010	6	Water			3		

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 6/11/13 11:40	Company CDM Smith	Received by:	Date/Time: 6/11/13 11:40	Company TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

National Grid
Water Street, Hudson, New York

Sampling Personnel: Tim Beaumont
Job Number: 36380.93808
Well Id. **MW-03**

Date: 6/11/13
Weather: Cloudy 65°
Time In: 855 Time Out: 935

Well Information

		TOC	Other
Depth to Water:	(feet)	1.82	
Depth to Product:	(feet)	—	
Depth to Bottom:	(feet)	25.50	
Length of Water Column:	(feet)	23.68	
Volume of Water in Well:	(gal)	3.79	
Three Well Volumes:	(gal)	11.37	

Well Type: Flushmount [X] Stick-Up [ ]
Well Locked: Yes [X] No [ ]
Measuring Point Marked: Yes [X] No [ ]
Well Material: PVC [X] SS [ ] Other:
Well Diameter: 1" [ ] 2" [X] Other:
Comments:

Purging Information

Purging Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Tubing/Bailer Material:		Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	
Sampling Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Average Pumping Rate:	(ml/min)	~200↓			
Duration of Pumping:	(min)	30			
Total Volume Removed:	(gal)	~2.0			

Did well go dry? Yes [ ] No [X]

Horiba U-22 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
900	2.70	16.76	7.13	-84	.893	30.7	1.43	.572
905	3.15	16.61	7.21	-91	.890	22.6	.77	.570
910	3.50	16.64	7.21	-94	.888	17.3	.51	.568
915	3.71	16.65	7.20	-95	.890	12.0	.12	.570
920	3.99	16.67	7.19	-98	.891	16.9	0	.571
925	4.27	16.68	7.19	-100	.891	14.8	0	.570
930	4.56	16.69	7.19	-101	.892	16.2	0	.570

Sampling Information:

USEPA SW-846 Method 8260 VOC's BTEX Including Naphthalene 3 - 40 mL vials Yes [X] No [ ]

Sample ID: MW-03-0613
Sample Time: 930
Duplicate? Yes [ ] No [X]
MS/MSD? Yes [ ] No [X]

Shipped: Drop-off Albany Service Center [X]
Fed-Ex [ ] UPS [ ]

Comments/Notes: No odor no sheen

Laboratory: Test America
Amherst, New York

National Grid
Water Street, Hudson, New York

Sampling Personnel: Tim Beaumont
Date: 6/11/13
Job Number: 36380.93808
Weather: Cloudy 63
Well Id. **MW-05**
Time In: 810 Time Out: 850

Well Information

		TOC	Other
Depth to Water:	(feet)	5.68	
Depth to Product:	(feet)	—	
Depth to Bottom:	(feet)	28.10	
Length of Water Column:	(feet)	22.42	
Volume of Water in Well:	(gal)	3.59	
Three Well Volumes:	(gal)	10.77	

Well Type: Flushmount [ ] Stick-Up [X]
Well Locked: Yes [X] No [ ]
Measuring Point Marked: Yes [X] No [ ]
Well Material: PVC [X] SS [ ] Other:
Well Diameter: 1" [ ] 2" [X] Other:
Comments:

Purging Information

Purging Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Tubing/Bailer Material:		Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	
Sampling Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Average Pumping Rate:	(ml/min)	~ 200 ↓			
Duration of Pumping:	(min)	30			
Total Volume Removed:	(gal)	~ 2.0			

Did well go dry? Yes [ ] No [X]

Horiba U-22 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
810	6.75	13.90	7.28	-108	.728	15.2	.63	.466
815	7.25	13.88	7.33	-114	.728	6.1	.20	.463
820	8.01	13.88	7.36	-119	.720	5.2	.13	.460
825	8.63	13.85	7.38	-123	.717	5.0	0	.459
830	9.03	13.89	7.37	-125	.717	3.6	0	.459
835	10.00	13.91	7.37	-126	.716	2.5	0	.458
840	10.63	13.92	7.37	-127	.716	2.7	0	.458

Sampling Information:

USEPA SW-846 Method 8260 VOC's BTEX Including Naphthalene 6 - 40 mL vials Yes [X] No [ ]

Sample ID: MW-05-0613 Duplicate? Yes [X] No [ ] **FD-0613** Shipped: Drop-off Albany Service Center [ ]
Sample Time: 840 MS/MSD? Yes [ ] No [X] Fed-Ex [X] UPS [ ]

Comments/Notes: No odor no sheen

Laboratory: Test America
Amherst, New York

National Grid
Water Street, Hudson, New York

Sampling Personnel: Tim Beaumont
Job Number: 36380.93808
Well Id. **MW-06**

Date: 6/11/13
Weather: Cloudy 57
Time In: 730 Time Out: 805

Well Information

		TOC	Other
Depth to Water:	(feet)	5.90	
Depth to Product:	(feet)	—	
Depth to Bottom:	(feet)	26.10	
Length of Water Column:	(feet)	21.10	
Volume of Water in Well:	(gal)	3.38	
Three Well Volumes:	(gal)	10.14	

Well Type: Flushmount ☐ Stick-Up ☒
Well Locked: Yes ☒ No ☐
Measuring Point Marked: Yes ☒ No ☐
Well Material: PVC ☒ SS ☐ Other:
Well Diameter: 1" ☐ 2" ☒ Other:
Comments:

Purging Information

Purging Method:		Bailer ☐	Peristaltic ☒	Grundfos Pump ☐	
Tubing/Bailer Material:		Teflon ☐	Stainless St. ☐	Polyethylene ☒	
Sampling Method:		Bailer ☐	Peristaltic ☒	Grundfos Pump ☐	
Average Pumping Rate:	(ml/min)	~200 ↓			
Duration of Pumping:	(min)	30			
Total Volume Removed:	(gal)	~2.0			

Did well go dry? Yes ☐ No ☒

Horiba U-22 Water Quality Meter Used? Yes ☒ No ☐

Conversion Factors				
gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
730	5.90	14.77	6.67	-47	1.06	122	1.14	.677
735	6.45	14.73	6.71	-60	1.05	6.1	.49	.670
740	6.82	14.62	6.70	-69	1.04	1.3	.20	.668
745	7.00	14.58	6.73	-72	1.04	.6	0	.668
750	7.08	1450	6.73	-74	1.04	0	0	.668
755	7.15	14.48	6.72	-77	1.04	0	0	.669
800	7.21	14.47	6.72	-79	1.04	0	0	.670

Sampling Information:

USEPA SW-846 Method 8260 VOC's BTEX Including Naphthalene 9 - 40 mL vials Yes ☒ No ☐

Sample ID: MW-06-0613
Sample Time: 800

Duplicate? Yes ☐ No ☒
MS/MSD? Yes ☒ No ☐

Shipped: Drop-off Albany Service Center ☒
Fed-Ex ☐ UPS ☐

Comments/Notes: No odor no sheen

Laboratory: Test America
Amherst, New York

National Grid
Water Street, Hudson, New York

Sampling Personnel: Tim Beaumont
Job Number: 36380.93808
Well Id. **MW-11**

Date: 6/4/13
Weather: Cloudy 65
Time In: 940 Time Out: 1015

Well Information

		TOC	Other
Depth to Water:	(feet)	.68	
Depth to Product:	(feet)	—	
Depth to Bottom:	(feet)	8.10	
Length of Water Column:	(feet)	7.42	
Volume of Water in Well:	(gal)	1.19	
Three Well Volumes:	(gal)	3.58	

Well Type: Flushmount [X] Stick-Up [ ]
Well Locked: Yes [X] No [ ]
Measuring Point Marked: Yes [X] No [ ]
Well Material: PVC [X] SS [ ] Other: ____
Well Diameter: 1" [ ] 2" [X] Other: ____
Comments:

Purging Information

Purging Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Tubing/Bailer Material:		Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	
Sampling Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Average Pumping Rate:	(ml/min)	~ 200			
Duration of Pumping:	(min)	30			
Total Volume Removed:	(gal)	~ 2.0			

Did well go dry? Yes [ ] No [X]

Horiba U-22 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
940	.75	16.77	7.07	-45	1.15	18.7	1.21	.735
945	.76	17.06	7.02	-47	1.02	20.6	.56	.617
950	.76	17.15	7.01	-48	.916	19.1	.08	.583
955	.76	17.22	6.98	-56	.855	6.0	.07	.547
1000	.76	17.26	6.99	-59	.836	0	0	.534
1005	.76	17.28	7.00	-63	.821	0	0	.519
1010	.76	17.31	7.00	-65	.817	0	0	.503

Sampling Information:

USEPA SW-846 Method 8260 VOC's BTEX Including Naphthalene — 3 - 40 mL vials Yes [X] No [ ]

Sample ID: MW-11-0613
Sample Time: 1010

Duplicate? Yes [ ] No [X]
MS/MSD? Yes [ ] No [X]

Shipped: Drop-off Albany Service Center [X]
Fed-Ex [ ] UPS [ ]

Comments/Notes: No Sheen slight odor

Laboratory: Test America
Amherst, New York

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-39925-1
Client Project/Site: CDM Smith
Sampling Event: Hudson Water Street GW Wells

For:
CDM Smith, Inc.
One General Motors Drive
Syracuse, New York 13206

Attn: Matthew Millias

Peggy Gray-Erdmann

Authorized for release by:
6/17/2013 1:37:40 PM

Peggy Gray-Erdmann, Project Manager II
peggy.gray-erdmann@testamericainc.com

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: CDM Smith, Inc.
Project/Site: CDM Smith

TestAmerica Job ID: 480-39925-1

Job ID: 480-39925-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-39925-1

Comments
No additional comments.

Receipt
The samples were received on 6/12/2013 2:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 3.1° C.

GC/MS VOA
No analytical or quality issues were noted.

Detection Summary

Client: CDM Smith, Inc.
Project/Site: CDM Smith

TestAmerica Job ID: 480-39925-1

Client Sample ID: Trip Blank — Lab Sample ID: 480-39925-1

No Detections.

Client Sample ID: FD-0613 — Lab Sample ID: 480-39925-2

No Detections.

Client Sample ID: MW-3-0613 — Lab Sample ID: 480-39925-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	1.1		1.0		ug/L	1		8260B	Total/NA

Client Sample ID: MW-5-0613 — Lab Sample ID: 480-39925-4

No Detections.

Client Sample ID: MW-6-0613 — Lab Sample ID: 480-39925-5

No Detections.

Client Sample ID: MW-11-0613 — Lab Sample ID: 480-39925-6

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: Trip Blank

Lab Sample ID: 480-39925-1

Date Collected: 05/29/13 00:00

Matrix: Water

Date Received: 06/12/13 02:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/13 16:25	1
Toluene	ND		1.0		ug/L			06/12/13 16:25	1
Ethylbenzene	ND		1.0		ug/L			06/12/13 16:25	1
m-Xylene & p-Xylene	ND		2.0		ug/L			06/12/13 16:25	1
o-Xylene	ND		1.0		ug/L			06/12/13 16:25	1
Xylenes, Total	ND		2.0		ug/L			06/12/13 16:25	1
Naphthalene	ND		1.0		ug/L			06/12/13 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*66 - 137*		*06/12/13 16:25*	*1*
Toluene-d8 (Surr)	*87*		*71 - 126*		*06/12/13 16:25*	*1*
4-Bromofluorobenzene (Surr)	*87*		*73 - 120*		*06/12/13 16:25*	*1*

Client Sample ID: FD-0613

Lab Sample ID: 480-39925-2

Date Collected: 06/11/13 00:00

Matrix: Water

Date Received: 06/12/13 02:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/13 16:45	1
Toluene	ND		1.0		ug/L			06/12/13 16:45	1
Ethylbenzene	ND		1.0		ug/L			06/12/13 16:45	1
m-Xylene & p-Xylene	ND		2.0		ug/L			06/12/13 16:45	1
o-Xylene	ND		1.0		ug/L			06/12/13 16:45	1
Xylenes, Total	ND		2.0		ug/L			06/12/13 16:45	1
Naphthalene	ND		1.0		ug/L			06/12/13 16:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*66 - 137*		*06/12/13 16:45*	*1*
Toluene-d8 (Surr)	*88*		*71 - 126*		*06/12/13 16:45*	*1*
4-Bromofluorobenzene (Surr)	*88*		*73 - 120*		*06/12/13 16:45*	*1*

Client Sample ID: MW-3-0613

Lab Sample ID: 480-39925-3

Date Collected: 06/11/13 09:30

Matrix: Water

Date Received: 06/12/13 02:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/13 17:06	1
Toluene	ND		1.0		ug/L			06/12/13 17:06	1
Ethylbenzene	ND		1.0		ug/L			06/12/13 17:06	1
m-Xylene & p-Xylene	ND		2.0		ug/L			06/12/13 17:06	1
o-Xylene	ND		1.0		ug/L			06/12/13 17:06	1
Xylenes, Total	ND		2.0		ug/L			06/12/13 17:06	1
Naphthalene	**1.1**		1.0		ug/L			06/12/13 17:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*66 - 137*		*06/12/13 17:06*	*1*
Toluene-d8 (Surr)	*93*		*71 - 126*		*06/12/13 17:06*	*1*
4-Bromofluorobenzene (Surr)	*90*		*73 - 120*		*06/12/13 17:06*	*1*

Client Sample ID: MW-5-0613

Lab Sample ID: 480-39925-4

Date Collected: 06/11/13 08:40

Matrix: Water

Date Received: 06/12/13 02:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/13 17:27	1
Toluene	ND		1.0		ug/L			06/12/13 17:27	1
Ethylbenzene	ND		1.0		ug/L			06/12/13 17:27	1
m-Xylene & p-Xylene	ND		2.0		ug/L			06/12/13 17:27	1
o-Xylene	ND		1.0		ug/L			06/12/13 17:27	1
Xylenes, Total	ND		2.0		ug/L			06/12/13 17:27	1
Naphthalene	ND		1.0		ug/L			06/12/13 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*66 - 137*		*06/12/13 17:27*	*1*
Toluene-d8 (Surr)	*89*		*71 - 126*		*06/12/13 17:27*	*1*
4-Bromofluorobenzene (Surr)	*88*		*73 - 120*		*06/12/13 17:27*	*1*

Client Sample ID: MW-6-0613

Lab Sample ID: 480-39925-5

Date Collected: 06/11/13 08:00

Matrix: Water

Date Received: 06/12/13 02:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/13 17:47	1
Toluene	ND		1.0		ug/L			06/12/13 17:47	1
Ethylbenzene	ND		1.0		ug/L			06/12/13 17:47	1
m-Xylene & p-Xylene	ND		2.0		ug/L			06/12/13 17:47	1
o-Xylene	ND		1.0		ug/L			06/12/13 17:47	1
Xylenes, Total	ND		2.0		ug/L			06/12/13 17:47	1
Naphthalene	ND		1.0		ug/L			06/12/13 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*66 - 137*		*06/12/13 17:47*	*1*
Toluene-d8 (Surr)	*96*		*71 - 126*		*06/12/13 17:47*	*1*
4-Bromofluorobenzene (Surr)	*95*		*73 - 120*		*06/12/13 17:47*	*1*

Client Sample ID: MW-11-0613

Lab Sample ID: 480-39925-6

Date Collected: 06/11/13 10:10

Matrix: Water

Date Received: 06/12/13 02:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/13 18:49	1
Toluene	ND		1.0		ug/L			06/12/13 18:49	1
Ethylbenzene	ND		1.0		ug/L			06/12/13 18:49	1
m-Xylene & p-Xylene	ND		2.0		ug/L			06/12/13 18:49	1
o-Xylene	ND		1.0		ug/L			06/12/13 18:49	1
Xylenes, Total	ND		2.0		ug/L			06/12/13 18:49	1
Naphthalene	ND		1.0		ug/L			06/12/13 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*90*		*66 - 137*		*06/12/13 18:49*	*1*
Toluene-d8 (Surr)	*91*		*71 - 126*		*06/12/13 18:49*	*1*
4-Bromofluorobenzene (Surr)	*87*		*73 - 120*		*06/12/13 18:49*	*1*

Surrogate Summary

Client: CDM Smith, Inc.
Project/Site: CDM Smith

TestAmerica Job ID: 480-39925-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		12DCE	TOL	BFB
Lab Sample ID	Client Sample ID	(66-137)	(71-126)	(73-120)
480-39925-1	Trip Blank	92	87	87
480-39925-2	FD-0613	90	88	88
480-39925-3	MW-3-0613	91	93	90
480-39925-4	MW-5-0613	92	89	88
480-39925-5	MW-6-0613	95	96	95
480-39925-5 MS	MW-6-0613	98	96	96
480-39925-5 MSD	MW-6-0613	95	94	92
480-39925-6	MW-11-0613	90	91	87
LCS 480-123473/5	Lab Control Sample	87	88	86
MB 480-123473/6	Method Blank	92	89	89

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

Client: CDM Smith, Inc.
Project/Site: CDM Smith

TestAmerica Job ID: 480-39925-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-123473/6
Matrix: Water
Analysis Batch: 123473

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			06/12/13 10:59	1
Toluene	ND		1.0		ug/L			06/12/13 10:59	1
Ethylbenzene	ND		1.0		ug/L			06/12/13 10:59	1
m-Xylene & p-Xylene	ND		2.0		ug/L			06/12/13 10:59	1
o-Xylene	ND		1.0		ug/L			06/12/13 10:59	1
Xylenes, Total	ND		2.0		ug/L			06/12/13 10:59	1
Naphthalene	ND		1.0		ug/L			06/12/13 10:59	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*66 - 137*		*06/12/13 10:59*	*1*
Toluene-d8 (Surr)	*89*		*71 - 126*		*06/12/13 10:59*	*1*
4-Bromofluorobenzene (Surr)	*89*		*73 - 120*		*06/12/13 10:59*	*1*

Lab Sample ID: LCS 480-123473/5
Matrix: Water
Analysis Batch: 123473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	25.0	25.5		ug/L		102	71 - 124
Toluene	25.0	25.5		ug/L		102	80 - 122
Ethylbenzene	25.0	25.5		ug/L		102	77 - 123
m-Xylene & p-Xylene	50.0	50.8		ug/L		102	76 - 122
o-Xylene	25.0	25.0		ug/L		100	76 - 122

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*87*		*66 - 137*
Toluene-d8 (Surr)	*88*		*71 - 126*
4-Bromofluorobenzene (Surr)	*86*		*73 - 120*

Lab Sample ID: 480-39925-5 MS
Matrix: Water
Analysis Batch: 123473

Client Sample ID: MW-6-0613
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		25.0	27.6		ug/L		111	71 - 124
Toluene	ND		25.0	26.8		ug/L		107	80 - 122
Ethylbenzene	ND		25.0	27.1		ug/L		108	77 - 123
m-Xylene & p-Xylene	ND		50.0	54.4		ug/L		109	76 - 122
o-Xylene	ND		25.0	26.5		ug/L		106	76 - 122

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*66 - 137*
Toluene-d8 (Surr)	*96*		*71 - 126*
4-Bromofluorobenzene (Surr)	*96*		*73 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-39925-5 MSD
Matrix: Water
Analysis Batch: 123473

Client Sample ID: MW-6-0613
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		25.0	28.5		ug/L		114	71 - 124	3	13
Toluene	ND		25.0	27.8		ug/L		111	80 - 122	4	15
Ethylbenzene	ND		25.0	28.2		ug/L		113	77 - 123	4	15
m-Xylene & p-Xylene	ND		50.0	55.4		ug/L		111	76 - 122	2	16
o-Xylene	ND		25.0	27.2		ug/L		109	76 - 122	3	16

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*66 - 137*
Toluene-d8 (Surr)	*94*		*71 - 126*
4-Bromofluorobenzene (Surr)	*92*		*73 - 120*

QC Association Summary

Client: CDM Smith, Inc.
Project/Site: CDM Smith

TestAmerica Job ID: 480-39925-1

GC/MS VOA

Analysis Batch: 123473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-39925-1	Trip Blank	Total/NA	Water	8260B	
480-39925-2	FD-0613	Total/NA	Water	8260B	
480-39925-3	MW-3-0613	Total/NA	Water	8260B	
480-39925-4	MW-5-0613	Total/NA	Water	8260B	
480-39925-5	MW-6-0613	Total/NA	Water	8260B	
480-39925-5 MS	MW-6-0613	Total/NA	Water	8260B	
480-39925-5 MSD	MW-6-0613	Total/NA	Water	8260B	
480-39925-6	MW-11-0613	Total/NA	Water	8260B	
LCS 480-123473/5	Lab Control Sample	Total/NA	Water	8260B	
MB 480-123473/6	Method Blank	Total/NA	Water	8260B	

Lab Chronicle

Client: CDM Smith, Inc.
Project/Site: CDM Smith

TestAmerica Job ID: 480-39925-1

Client Sample ID: Trip Blank — Lab Sample ID: 480-39925-1

Date Collected: 05/29/13 00:00 — **Matrix: Water**
Date Received: 06/12/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	123473	06/12/13 16:25	CDC	TAL BUF

Client Sample ID: FD-0613 — Lab Sample ID: 480-39925-2

Date Collected: 06/11/13 00:00 — **Matrix: Water**
Date Received: 06/12/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	123473	06/12/13 16:45	CDC	TAL BUF

Client Sample ID: MW-3-0613 — Lab Sample ID: 480-39925-3

Date Collected: 06/11/13 09:30 — **Matrix: Water**
Date Received: 06/12/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	123473	06/12/13 17:06	CDC	TAL BUF

Client Sample ID: MW-5-0613 — Lab Sample ID: 480-39925-4

Date Collected: 06/11/13 08:40 — **Matrix: Water**
Date Received: 06/12/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	123473	06/12/13 17:27	CDC	TAL BUF

Client Sample ID: MW-6-0613 — Lab Sample ID: 480-39925-5

Date Collected: 06/11/13 08:00 — **Matrix: Water**
Date Received: 06/12/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	123473	06/12/13 17:47	CDC	TAL BUF

Client Sample ID: MW-11-0613 — Lab Sample ID: 480-39925-6

Date Collected: 06/11/13 10:10 — **Matrix: Water**
Date Received: 06/12/13 02:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	123473	06/12/13 18:49	CDC	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: CDM Smith, Inc.
Project/Site: CDM Smith

TestAmerica Job ID: 480-39925-1

Laboratory: TestAmerica Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	04-01-14

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	m-Xylene & p-Xylene
8260B		Water	o-Xylene

Method Summary

Client: CDM Smith, Inc.
Project/Site: CDM Smith

TestAmerica Job ID: 480-39925-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: CDM Smith, Inc.
Project/Site: CDM Smith

TestAmerica Job ID: 480-39925-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-39925-1	Trip Blank	Water	05/29/13 00:00	06/12/13 02:00
480-39925-2	FD-0613	Water	06/11/13 00:00	06/12/13 02:00
480-39925-3	MW-3-0613	Water	06/11/13 09:30	06/12/13 02:00
480-39925-4	MW-5-0613	Water	06/11/13 08:40	06/12/13 02:00
480-39925-5	MW-6-0613	Water	06/11/13 08:00	06/12/13 02:00
480-39925-6	MW-11-0613	Water	06/11/13 10:10	06/12/13 02:00

TestAmerica Albany
25 Kraft Road
Albany, NY 12205

Chain of Custody Record

TestAmerica

Client Information	Sampler: Tim Beaumont	Lab PM: Gray-Erdmann, Peggy	Carrier Tracking No(s):	COC No: 480-36382-9421.1
Client Contact: Timothy Beaumont	Phone: 315 739 2368	E-Mail: peggy.gray-erdmann@testamericainc.com		Page: Page 1 of 1
Company: CDM Smith, Inc.				Job #:
Address: One General Motors Drive	Due Date Requested:			
City: Syracuse	TAT Requested (days):			
State, Zip: NY, 13206				
Phone:	PO #: 36380.93808			
Email: beaumonttj@cdmsmith.com	WO #:			
Project Name: CDM Smith/ Event Desc: Hudson Water Street GW Wells	Project #: 48002647			
Site: New York	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B - (MOD) BTEX - 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
Trip Blank	5/29/13	—	6	Water			2		
FD-0613	6/11/13	—	6	Water			3		
MW-3-0613	6/11/13	930	6	Water			3		
MW-5-0613	6/11/13	840	6	Water			3		
MW-6-0613	6/11/13	800	6	Water			3		
MW-6-0613 MS	6/11/13	800	6	Water			3		
MW-6-0613 SD	6/11/13	800	6	Water			3		
MW-11-0613	6/11/13	1010	6	Water			3		

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by:	Date/Time: 6/11/13 11:40	Company CDM Smith	Received by:	Date/Time: 6/11/13 11:40	Company TA		
Relinquished by:	Date/Time: 6/11/13	Company	Received by:	Date/Time: 6.12.13 0200	Company TA BLAT		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 3.1 #1

Login Sample Receipt Checklist

Client: CDM Smith, Inc.

Job Number: 480-39925-1

Login Number: 39925

List Source: TestAmerica Buffalo

List Number: 1

Creator: Wienke, Robert

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	CDM Smith
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Attachment E

Photo Documentation

National Grid Hudson Water Street Site
Photographic Log

Rip Rap/Stone Riverbank Protection Improvements.
Photos Taken: 4/20/13

Well Cover Replacement and Rip Rap/Stone Riverbank Protection
Photos Taken: 6/10/13