From: Golubski, Jason <Jason.Golubski@arcadis.com>
Sent: Monday, February 08, 2021 12:19 PM
To: Spellman, John (DEC)
Cc: Beam, Steve A; Young, Terry W; Howe, Tyler
Subject: National Grid Rensselaer, 442057 - Monitoring Well Decommissioning Work Plan
Attachments: workplan.hw442057.2021-02-08.MW_Decomm.pdf

John,

Please find attached, a work plan for decommissioning monitoring wells at Rensselaer. We anticipate completing the field work later this Spring, with your approval, prior to the remedial construction activities.

As we previously noted, contractor bidding is ongoing. We are currently planning to commence remedial construction in June. Given this timing, please let us know what assistance you need from National Grid and Arcadis regarding public outreach.

Thanks
Jason

Jason Golubski, PE | Principal Environmental Engineer | jason.golubski@arcadis.com
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Professional Engineer / PE-NY, 088294

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Mr. John Spellman, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 11th Floor
Albany, New York 12233-7014

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New York 13202
Phone: 315 446 9120
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Date: February 8, 2021
Our Ref: 30004017
Subject: Well Decommissioning Plan
National Grid Rensselaer Non-Owned Former MGP Site
Site No. 4-42-057

Dear Mr. Spellman,

On behalf of National Grid, Arcadis of New York, Inc. (Arcadis) presents this work plan for the planned monitoring well decommissioning activities to be completed at the National Grid Rensselaer Non-Owned Former Manufactured Gas Plant (MGP) Site (Site No. 4-42-057). Well decommissioning will be completed in support of the forthcoming remedial construction, as described in the November 2020 Final Remedial Design Report (Final RD Report).

Details of the planned well decommissioning activities, reporting activities, and the anticipated schedule for implementing the work are presented below.

Proposed Monitoring Well Decommissioning Activities

As described in the Final RD Report, existing monitoring wells MW-101-05, MW-113R-10, and MW-102R-10 will be decommissioned prior to the remedial construction activities. Monitoring well locations are shown on Design Drawing G-104 (previously submitted as part of the Final RD Report; included herein as Attachment 1). Boring/well construction logs for the monitoring wells are provided as Attachment 2. Arcadis will conduct monitoring well decommissioning in accordance with the New York State Department of Environmental Conservation's (NYSDEC's) November 2009 Groundwater Monitoring Well Decommissioning Policy (CP-43) using the grout in-place method.

The surface of the borehole will be restored to match the surrounding area following decommissioning activities. Waste generated during the site activities will be containerized in 55-gallon DOT-approved drums for proper disposal by National Grid's waste disposal vendor. Arcadis will provide a full-time on-site geologist to perform and document the well decommissioning activities for the duration of the work.

Upon completion of the well decommissioning, Arcadis will prepare and submit a letter report to the NYSDEC documenting the completed well decommissioning activities. The letter report will include a summary of the well decommissioning activities, well decommissioning logs, and additional CP-43 forms (as appropriate).

Schedule

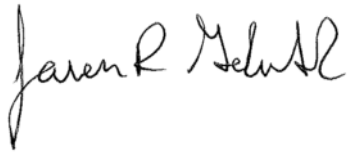
National Grid anticipates conducting the well decommissioning activities in Spring 2021, following receipt of NYSDEC approval for this work plan. Well decommissioning activities are anticipated to be completed in one day.

Mr. John Spellman, P.E.
NYSDEC
February, 2021

Consistent with previously completed site activities, well decommissioning is anticipated to be completed over a weekend, per the request of the New York State Office of Children and Family Services. The well decommissioning report will be submitted to NYSDEC within approximately one month following completion of field activities.

Please do not hesitate to call me at 315.671.9437 if you have any questions or require additional information.

Sincerely,
Arcadis of New York, Inc.



Jason Golubski, P.E.
Principal Environmental Engineer

Email: jason.golubski@arcadis.com
Direct Line: 315.671.9437
Mobile: 716.597.7260

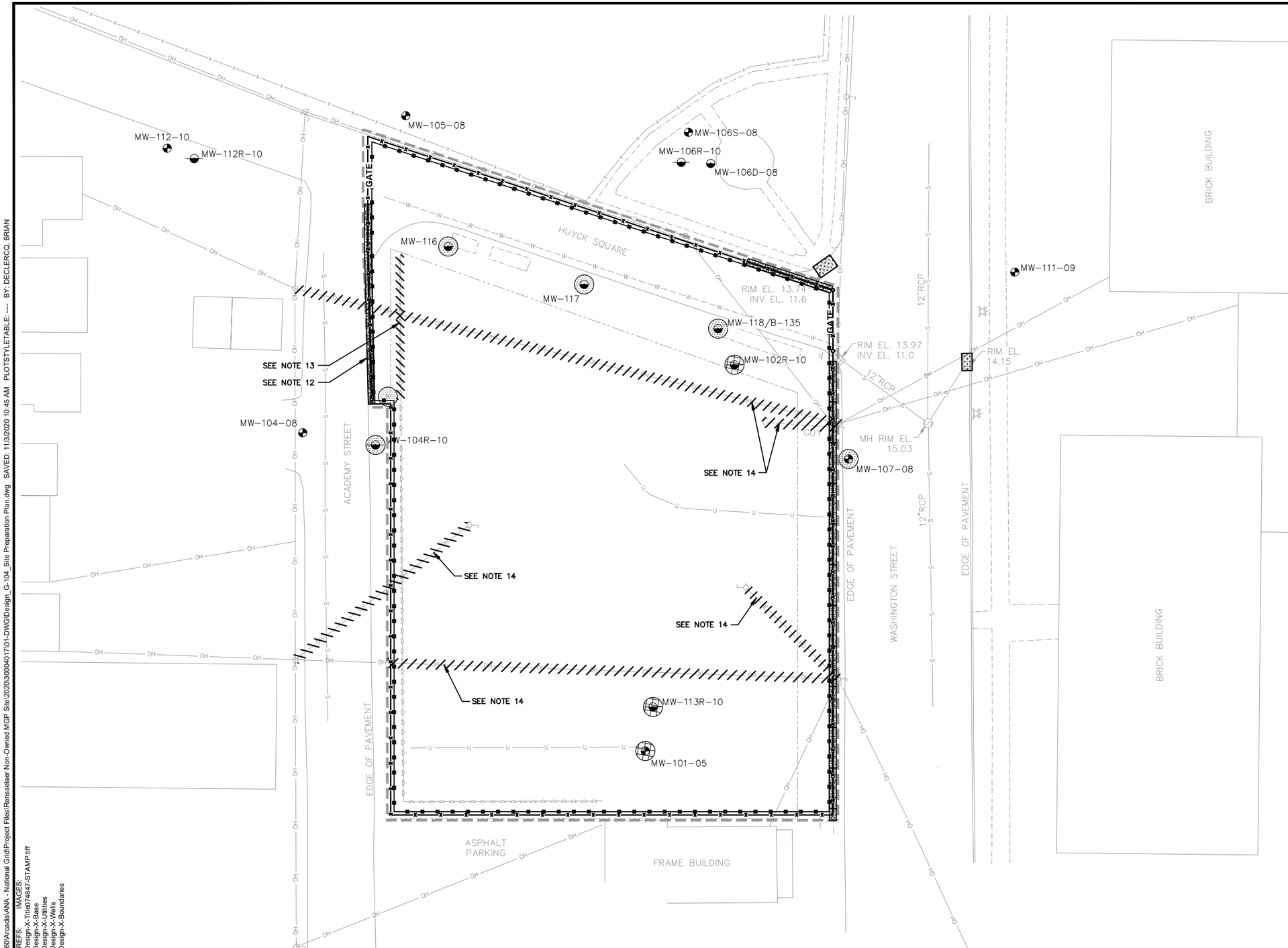
CC. Steve Beam, National Grid

Enclosures:

Attachment 1 – Design Drawing G-104
Attachment 2 – Boring/Well Construction Logs

Attachment 1

Design Drawing G-104



LEGEND:

- EXISTING SITE FEATURE TO BE REMOVED
- EXISTING MONITORING WELL TO BE REMOVED (BY OTHERS)
- EXISTING SITE FEATURE TO BE PROTECTED
- INLET PROTECTION 2/G-501
- JERSEY BARRIERS WALL WITH CHAIN LINK FENCE 1/C-503
- TEMPORARY SITE SECURITY FENCE 2,3/C-503
- EROSION AND SEDIMENT CONTROLS 1/G-501

NOTES:

1. REFER TO G-002 FOR ADDITIONAL LEGEND AND BASEMAP INFORMATION.
2. INSTALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO DISTURBING EXISTING SITE SOILS AND VEGETATION.
3. TAKE ALL NECESSARY PRECAUTIONS TO PREVENT MIGRATION OF CONSTRUCTION RELATED SOILS, DEBRIS, FUELS, SOLVENTS, LUBRICANTS, CONCRETE, LEACHATE, OR ANY OTHER POLLUTANT BEYOND THE PROJECT WORK LIMITS.
4. ACTUAL LOCATION OF EROSION AND SEDIMENT CONTROL MEASURES MAY VARY BASED ON ACTUAL SITE CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION.
5. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED AT TIME OF CONSTRUCTION TO CONTROL EROSION AND SEDIMENTATION.
6. TEMPORARY EROSION AND SEDIMENT CONTROLS DURING CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, INSPECTION, MAINTENANCE, AND INSTALLATION OF ADDITIONAL CONTROLS (AS NEEDED, AND IN COORDINATION WITH THE ENGINEER) WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
7. INSPECT ALL EROSION AND SEDIMENT CONTROL MEASURES AT A MINIMUM, ONCE EVERY SEVEN CALENDAR DAYS. REFER TO THE SWPPP FOR INSPECTION REPORT REQUIREMENTS.
8. PROPOSE SITE LAYOUT FOR SUPPORT FACILITIES (E.G., OFFICE TRAILERS, SANITARY FACILITIES, ETC.) TO BE APPROVED BY THE OWNER AND ENGINEER, PRIOR TO USE.
9. MONITORING WELLS TO BE DECOMMISSIONED (BY OTHERS) PRIOR TO CONTRACTOR MOBILIZATION.
10. EQUIP SITE SECURITY FENCING WITH 'DANGER, CONSTRUCTION AREA, AUTHORIZED PERSONNEL ONLY' SIGNS AND HANG GEOTEXTILE FROM FENCING (OR EQUIVALENT) TO PROVIDE A VISUAL BARRIER.
11. PROTECT ALL ABOVE AND BELOW GRADE UTILITIES.
12. FOLLOWING COMPLETION OF EXCAVATION AND BACKFILLING IN TAR WELL AREA, TEMPORARY SITE SECURITY FENCING AND EROSION CONTROLS WILL BE RELOCATED TO PERMIT ACCESS TO ACADEMY STREET.
13. RE-INSTALL PORTION OF GUIDE RAIL REMOVED TO FACILITATE EXCAVATION OF THE TAR WELL PRIOR TO SITE DEMOBILIZATION.
14. COORDINATE WITH APPROPRIATE UTILITY PROVIDER FOR RELOCATION OF OVERHEAD UTILITY LINES, POLES, GUYS, LIGHTS, ETC. PRIOR TO MOBILIZATION.

C:\Users\bdeclerq\BIM 360\Arcadis\ANA - National Grid\Project Files\Rensselaer Non-Owned MGP Site\2020\300040170\1-DWG\Design_G-104_Site Preparation Plan.dwg SAVED: 11/3/2020 10:45 AM PLOTSTYLETABLE: ---- BY: DECLERCQ, BRIAN

XREFS: IMAGES:
Design-X-Title074847-STAMP.tiff
Design-X-Base
Design-X-Utilities
Design-X-Wells
Design-X-Boundaries

1"=15' (15' 0 15' 30')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: TERRY W. YOUNG
Professional Engineer's No.: 074847-1

State	Date Signed	Project Mgr.
NY	11/3/2020	JRG
Designed by	Drawn by	Checked by
TLH	BKD	DJR

STATE OF NEW YORK · TERRY WILLIAM YOUNG · LICENSED PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets
ARCADIS OF NEW YORK, INC.

NATIONAL GRID • RENSSELAER, NEW YORK
RENSSELAER NON-OWNED FORMER MGP SITE
FINAL REMEDIAL DESIGN

SITE PREPARATION PLAN

ARCADIS Project No. 30004017
Date NOVEMBER 2020

ARCADIS
ONE LINCOLN CENTER
110 W FAYETTE STREET
SYRACUSE, NY 13202
TELEPHONE: 315-446-9120

G-104

Attachment 2

Boring/Well Construction Logs

MONITORING WELL LOG

BROWN AND CALDWELL	**Project Name:** Rensselaer SC/IRM **Project Number:** 128531.002 **Project Location:** 89 Washington St., Rensselaer, NY	**Permit Number:** NA	**Well No.** **MW-101** **Page** 1 **of** 1

Geologist/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
N. Krupinski/Allendale	FJW	6"	2" Slotted PVC	0.02"	14.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Split Spoon	Development Method:
6/19/05 - 6/19/05	ADT	Hammer Type: Automatic	Surge & pump

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: State Plane NAD 83	Easting: 695276.6 ft.
Ritchie Castro	4.25" Hollow-stem auger	CME-55	Vert Datum: NGVD 29	Northing: 1387532.5 ft.
			Ground Surface Elev: 17.2 ft.	TOC Elev: --

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well (Traffic Rated Vault Box)	OVM Readings (ppm)	Remarks
		SP GP	**FILL** Brown mcf SAND, some fm Gravel, trace Silt. @ 1.0' Black/red Cinders/Slag/Brick	/-5-6-6	1					0.0	0'-1' Concrete pad 1'-3' Bentonite seal
		SP GP	(cmf SAND and fm GRAVEL). Dry, loose. As above. @ 3.4' Brown-tan mfc SAND,	10-7-11-7	2					0.0	
		GP	little f Gravel (sub-rounded/sub-angular), trace (+) Silt & Clay. Damp, slightly dense.	5-2-3-3	3					0.0	4'-6' Soil sample sent for laboratory analysis.
5		SP CL	Brown-black fm Gravel, some cmf Sand, trace (+) Silt.								
		GC CL GC	**NATIVE SOILS** @ 4.8' Brown Silty CLAY, some (-) mf Gravel (sub-rounded). Loose, wet.	4-5-6-5	4					0.0	
		SM SC	Brown-tan Silt CLAY, some mf Gravel (sub-rounded), little (+) cmf Sand. Loose, wet.	1-3-5-18	5					0.0	
											3'-14' Filter Sand (#2)
10		SP GP	As above. @ 9.1' Gray-green. @ 9.5' grades to Gray-green mfc SAND, some Clay & Silt, some fm Gravel (angular, fractured pieces). Possible faint odor. Moist.	25-47-32-45	6					0.0	10'-12' Soil sample sent for laboratory analysis.
		SP GP	As above. @ 10.5' grades to dense Tan-gray mfc SAND, some mf Gravel, little (+) Silt & Clay. @ 11.2'-11.6' lense of dark Gray cmf SAND, trace Silt. Moist, dense.	34-100/0.4'	7					0.0	
			As above. Very dense. Piece of quartzite @ 12.3'. @ 12.6' Brown till.								14' End of Boring.

MONITORING WELL LOG

Brown AND Caldwell	**Project Name:** Rensselaer Non-Owned Former MGP **Project Number:** 139984.202 **Project Location:** Rensselaer, NY	**Permit Number:** NA	**Well No.** MW-113R-10 **Page** 1 **of** 2

Geologist/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
T. Joki/Albany, NY	JLM	8.25"/4"	2" PVC	.020"	46.5 ft.

Start/Finish Date	Drilling Contractor:	Sampling: 2" SS/Cont. Core	Development Method:
10/21/10 - 10/28/10	Nothnagle Drilling	Hammer Type: Auto 140lbs	Surge & Purge w/ Whale Pump

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane (NAD83/96) Easting: 695285.9 ft. Vert Datum: NGVD 1988 Northing: 1387541.9 ft. Ground Surface Elev: 17.1 ft. TOC Elev: 16.7 ft.
N. Short	HSA/Conventinal Core	CME-75	

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts RQD (%)	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well (Traffic Rated Vault Box)	PID Readings (ppm)	Remarks
			Fill	3-5-7	1		0	*0-1': Concrete Pad*
		SP	Asphalt					
		GP	Gray/brown mf SAND and cmf GRAVEL.					
	15	SP	Brown mf SAND, little (+) mf Gravel.	10-13-11-8	2		0	
		GP	Brown mf SAND, little (+) mf Gravel.					
		SP	Pulverized concrete debris					*1-31': Cement/Bentonite grout*
		GP	Tan/brown porous concrete.	1-1-1-2	3		9.2	
5		GP	**Sand and Silt**					4.7' BGS: Slight to moderate tar-like and petroleum-like odor
		SP	Brown fm SAND, trace (+) Clayey Silt.					
		ML	Brown/gray Clayey SILT, trace (+) f Sand.	24-29-10-9	4		5.9	5.2' BGS: Black staining with slight to moderate petroleum-like and tar-like odor
	10	CL	Moist					
		ML	Brown/gray Clayey SILT, trace (+) f Sand.					
		CL	Moist	3-10-29-41	5		39.4	6-8' BGS: Sporadic black staining with slight petroleum-like and tar-like odor
		SP	Gray/olive green fmc SAND and mf					
		GP	GRAVEL, little (+) Clayey Silt.					8-8.9' BGS: Sporadic blebs of NAPL and NAPL coating larger sand and gravel grains throughout, strong tar-like odor; no impacts observed in bedrock core samples.
10		SP	Gray/olive green fmc SAND and mf					
		GP	GRAVEL, little (+) Clayey Silt.	33-39-50/0.3	6			
		GP	Pulverized wet pieces of gray shale.					
	5	SP	**Glacial Till**					
		GP	Gray/olive green fmc SAND and mfc	37-50/0.3	7			
		SP	GRAVEL, little (-) clayey Silt. Gravel					
		GP	subrounded to sub angular.					
			Brown fm SAND and fm GRAVEL, little	50/0.3	8			
15		GP	(-) Silt.					
			Pulverized piece of shale. dry					
		GP	Pulverized piece of shale. wet	35-30-41-28	9		0.3	
	0							
		SM	Gray f SAND, little (+) Silty Clay, little (-) fm Gravel. (Well rounded, subangluar, flat)	6-23-50/0.3	10		0.6	
		GP	Pulverized piece of gray shale. Very					
20			compact, tight and dense.	24-50/0.1	11			
		SM	Pulverized piece of gray shale. Very					
	-5		compact, tight and dense.					
		GP	Gray f SAND, little (+) Silty Clay, little (-) f Gravel. (flattened, rounded to subangular) C GRAVEL	50/.3	12			
			Bedrock	50/.3	13			
25			Pulverized shale, smooth surface.					
	-10		Deformed gray/black shale. Fractured @ 27, 27.5, 28, 28.3, 29.2 and 29.3' Highly fractured from 29.0 to 30.4' Intensely fractured from 31 to 31.5' Pyrite mineralization on fractured surface @ 30.4' Moderately weathered @ 29.4'	63%	1		0	*26.5': Base of 4" Steel Casing*
30								

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MONITORING WELL LOG

Brown AND Caldwell	**Project Name:** Rensselaer Non-Owned Former MGP **Project Number:** 139984.202 **Project Location:** Rensselaer, NY	**Permit Number:** NA	**Well No.** **MW-113R-10** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	Graphic Log: Sample Int / Recovery / Lithology / Well	PID Readings (ppm)	Remarks
	-15		Deformed gray/black shale. Fractures @ 31.9, 32.4, 33.8, 34.8, 35.1, 35.5, 35.9 and 36.2' Intensely fractured and moderately weathered from 36.2 to 36.5' Pyrite on fracture surfaces @ 35.5 and 35.9' Most of the fracture surfaces are smooth and breaking along folded cleavage.	53%	2		0	*31-31.5': #00 Choker Sand* *31.5-34': Bentonite Seal*
35								
	-20		Deformed gray/black shale. Fractured @ 37.7, 39.5 and 39.8' Heavily fractured from 36.5 to 37.1' and 38 to 39.2' Intensely fractured from 40.4 to 41.2' Moderate weathering @ 38 and 41.2' Pyrite @ 40.7' Fracture surfaces are smooth and break along folded cleavage.	37%	3		0	*34-46.3': #1 Filter Sand*
40								
	-25		Severely fractured and deformed gray/black shale. Partially decomposed bedrock (Silt and Clay) @ 42.9 to 43.3' and 44.8 to 45.2' Subangluar fractured pieces.	0%	4		0	*36-46': 0.020" Slot PVC Screen*
45								*46-47': 1' PVC sump with bentonite in the annular space between borehole and sump* *46.3-47': Bentonite Backfill*

MONITORING WELL LOG

Brown AND Caldwell	**Project Name:** Rensselaer Non-Owned Former MGP **Project Number:** 139984.202 **Project Location:** Rensselaer, NY	**Permit Number:** NA	**Well No.** MW-102R-10 **Page** 1 **of** 2

Geologist/Office	Checked By:	Borehole Diameter:	Screen Diameter and Type:	Slot Size:	Total Boring Depth (ft)
T. Joki/Albany, NY	JLM	8.25"/4"	2" PVC	.020"	46.0 ft.

Start/Finish Date	Drilling Contractor:	Sampling: Cont. Core	Development Method:
10/28/10 - 11/2/10	Nothnagle Drilling	Hammer Type: NA	Surge & Purge w/ Whale Pump

Driller:	Drilling Method:	Drilling Equipment:	Horiz Datum/Proj: NYS Plane (NAD83/96) Easting: 695363.1 ft. Vert Datum: NGVD 1988 Northing: 1387611.2 ft. Ground Surface Elev: 16.3 ft. TOC Elev: 15.9 ft.
N. Short	HSA/Conventinal Core	CME-75	

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well (Traffic Rated Vault Box)	PID Readings (ppm)	Remarks
0	15		Split spoon samples not collected. Refer to MW-102 boring log for description of soils.								*0-1': Concrete Pad*
5	10										
10	5										*1-23': Cement/Bentonite grout* NAPL coating on bottom 10' of hollow-stem augers, strong tar-like odor; NAPL coating outside of augers from approximately 13-23' BGS.
15	0										
20	-5		**Bedrock**								*23-24': #00 Choker Sand*
25	-10		Deformed gray/black shale. Heavily fractured from 26-26.7', 27.2-27.4' and 30.5-31.0'. Fractures @ 27.9, 28.5, 29.9 and 30.2'. Pyrite found in heavily fractured area @ 26.2'. Verticle cacite vein @ 26-26.2'. Large 1/4" thick piece of calicite @ 30.9'. Highly weathered @ 27.3'	48%	1					0	*24-27': Bentonite Seal* *26': Base of 4" Steel Casing*
30											

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MONITORING WELL LOG

Brown AND Caldwell	**Project Name:** Rensselaer Non-Owned Former MGP **Project Number:** 139984.202 **Project Location:** Rensselaer, NY	**Permit Number:** NA	**Well No.** **MW-102R-10** **Page** 2 **of** 2

Depth (feet)	Elevation (feet)	USC Soil Type	Description	Blow Counts / RQD (%)	Sample No.	Graphic Log: Sample Int	Graphic Log: Recovery	Graphic Log: Lithology	Graphic Log: Well	PID Readings (ppm)	Remarks
35			Deformed gray/black shale. Fractures @ 31.6, 32.0, 32.2, 32.3, 32.5, 32.6, 33.0, 33.4, 34.3, 34.8, 35.2 and 35.6'. Large verticle calcite vein from 31-31.6' over 1" thick. Monderately weathered on fracture surfaces.	76%	2					0	*27-38.3': #1 Filter Sand* *28-38': 0.020" Slot PVC Screen*
	-20		Deformed gray/black shale. Fractures @ 36.2, 36.5, 37, 37.4, 38.7, 39.8, 40.3, 40.9'. Moderate weathering @ 37.4'	92%	3					0	
40	-25		Deformed gray/black shale. Fractures @ 41.3, 42.6, 43.4, 45.3 and 45.9' Indications of displacement (slicks) on smooth facture surfaces @ 43.4 and 45.3'	93%	4					0	*38-40': 2' PVC sump with bentonite in the annular space between borehole and sump* *38.3-46': Bentonite Backfill*
45											