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Albany, NY 12233-7014

Subject: Rensselaer Non-Owned Former MGP Site (V00488)
Revised Work Plan Addendum, Additional RI Activities

Dear Ms. Verrigni:

This letter will serve as an addendum to the work plan "Remedial Investigation Work Plan, Rensselaer Non-Owned Former Manufactured Gas Plant Site (V00488), 89 Washington Street, Rensselaer, New York" dated November 2008 by Brown and Caldwell Associates. It describes additional remedial investigation (RI) activities to further define the nature and extent of MGP-related impacts identified during the initial RI activities conducted from November 2008 through June 2009. The results of the initial RI are documented and discussed in the report "Data Summary Report , Remedial Investigation, Rensselaer Non-Owned Former Manufactured Gas Plant Site (V00488), Rensselaer, New York" (referred to herein as the "DSR") dated June 15, 2009 by Brown and Caldwell Associates. Data gaps and the scope of supplemental RI activities were discussed during the July 6, 2009 meeting between representatives of National Grid, Brown and Caldwell Associates, NYSDEC and NYSDOH. Additional recommendations from the DEC's Division of Fish, Wildlife and Marine Resources (DFWMR) were provided by your email of July 15, 2009 to Edward Neuhauser, Ph.D. of National Grid. A summary of the identified data gaps is provided below, followed by a description of the additional RI activities and a schedule for their implementation.

Data Gaps

North of Site

The initial RI data do not fully delineate the northern extent of MGP-related impacts, including NAPL and aqueous phase BTEX/naphthalene compounds in groundwater in areas downgradient from the former MGP. Visual and olfactory indications of MGP-related impacts (tar-like odors, sheens, NAPL coatings/blebs) were noted in soil borings B-104-05, B-110-08, B-111-08, MW-102-05, MW-103-05,

MW-105-08, MW-106S/D-08, and MW-107-08, and test pits TP-103-05 and TP-105-08. The vertical distribution of NAPL in the general vicinity of Huyck Square (see DSR, Figure 4, hydrogeologic cross-sections A-A' and B-B') suggests that MGP-related DNAPL may have migrated northeasterly from the northern gas holder and/or the tar well, through coarser zones in the silt and sand deposit, and penetrated coarser, less dense glacial till in the vicinity of MW-106S/D-08. In this area DNAPL-impacted till lies directly on the bedrock surface, indicating a potential for impacts within the bedrock. As discussed at the July 6, 2009 meeting, potential bedrock impacts will be investigated after further delineation of impacts in overburden soils and groundwater.

Groundwater elevations measured on December 19, 2008 and April 27, 2009 indicate that the overburden groundwater flows north-northeasterly toward Huyck Stream (see DSR, Table 2, Figures 5 and 6). There is an upward gradient in the overburden in the area of Huyck Stream, indicating that there is a component of groundwater flow in the overburden that discharges to Huyck Stream. MGP-related constituents, including BTEX compounds and naphthalene, were detected above the Class GA groundwater quality criteria in samples from monitoring wells MW-102-05, MW-103-05, MW-105-08 and MW-107-08 (wells MW-106S/D were not sampled due to the presence of NAPL in the wells). The available water level data are not sufficient to evaluate the degree to which overburden groundwater from the site may discharge to Huyck Stream or flow under the stream toward the north, and it is not known whether dissolved MGP-constituents have migrated to the area north of the stream.

Deeper Soil Adjacent to Huyck Stream

Analyses of sediment samples (0-6 inch depth interval) collected in Huyck Stream indicate the absence of MGP-related impacts in the shallow sediments. In addition, hand auger borings advanced along the south shore of Huyck Stream to 4 feet bgs (approx. 4 feet NGVD) did not encounter visual or olfactory indications of MGP impacts. With the exception of low concentrations of three carcinogenic PAHs detected in one sample from the hand auger borings, no BTEX or PAH compounds were detected above the applicable Part 375 Soil Cleanup Objectives (SCOs). Because the NAPLs in the vicinity of MW-106S/D may have migrated toward Huyck Stream by a pathway below 4 feet NGVD (undetected by the hand auger borings), there is a potential pathway to the deeper stream sediments or to areas north of the stream that has not been evaluated.

East of Washington Street

Along the east boundary of the former MGP site, NAPL coatings or blebs were noted in a test pit and several soil borings (test pit TP-104-05, borings B-104-05, B-110-08, MW-102-05, MW-106S/D-08, MW-107-08). Boring B-112-08, located immediately east of TP-104-05 did not encounter NAPL, but the soil sample from

8-12' bgs had a strong hydrocarbon odor and BTEX/PAH concentrations in excess of the applicable Part 375 SCOs. Across Washington Street, in boring B-109-08, a sheen with a slight tar-like odor was noted on the outside of the split spoon sampler retrieved from 14-16' bgs but not within the soil sample itself. None of the samples from B-109-08 exhibited positive PID readings. It is not known if MGP and petroleum-derived NAPLs migrated to other areas east of Washington Street, or whether aqueous phase constituents migrated in a northeasterly direction beyond Washington Street and its underlying sewer system.

Soil Vapor.

Based on available data, the presence of site-related soil vapors at concentrations of concern in areas south and west of the site appears unlikely. With the exception of trace levels of benzene (0.36J- 0.95J ug/L), no volatile organic compounds (VOCs) were detected in groundwater samples from well MW-101-05, located between the site and the adjacent 2-story office building located to the south, or well MW-104-05, located between the site and the residential yards on Academy Street. The potential presence of MGP-related VOCs in soil vapor beyond the site perimeter has not been directly measured. Soil vapor sampling will be conducted on the south, west and north sides of the site; however, sampling east of the site will be postponed until the delineation of potential soil and groundwater impacts east of Washington Street has been completed.

Additional Investigation

Additional field investigations will be conducted to address the data gaps described above. All work will be conducted in accordance with the approved November 2008 RI Work Plan and the following plans:

- Generic Field Sampling Plan for Site Investigations at Non-Owned Former MGP Sites, (Foster Wheeler, November, 2002) (referred to as "FSP").
- Generic Quality Assurance Project Plan for Site Investigations at Non-Owned Former MGP Sites, (Foster Wheeler, November, 2002) (referred to as "QAPP").
- Generic Health & Safety Plan for Site Investigations at Non-Owned Former MGP Sites (Foster Wheeler, November 2002) as modified by Attachment with Site-Specific Health & Safety Information (Brown and Caldwell, June 2005) (referred to as "Health and Safety Plan" or "HASP").

Locations of proposed soil borings, monitoring wells and soil vapor sampling points are shown on Figure 1. The purpose and target depth of each boring, monitoring well and soil vapor sampling point are summarized in Table 1. The planned laboratory analyses of soil and groundwater samples are summarized in Table 2, and the planned laboratory analyses of soil vapor samples are summarized in Table 3.

Property Access

As described below, planned activities include the drilling of soil borings and the installation of monitoring wells on properties located north of Huyck Square and Huyck Stream, on the public right-of-way along Washington Street, and on private properties located on Washington Street. The activities also include measuring of water levels in, and collecting groundwater samples from the monitoring wells on these properties. Upon approval of this RI Work Plan, National Grid will attempt to establish (or renew as necessary) access agreements with the owners of these properties. The City of Rensselaer will be contacted to obtain permission to install borings and monitoring wells in the public right of way bordering Washington Street.

Utility Clearance

Prior to conducting the intrusive activities described below, the locations for these activities will be marked in the field. New York Dig Safely will be contacted to obtain utility clearance for the subscribed underground utilities, while the City of Rensselaer will be contacted to obtain clearance for utilities that they maintain (e.g., sewer and water). The owners of the properties will be requested to identify and locate known on-site private utilities. Some of the proposed drilling locations may be adjusted to provide for adequate clearance from underground utilities. If the alignments of underground utilities can not be confidently identified, a vacuum truck may be used to remove the first several feet of soil at drilling locations. The final locations of all soil borings and monitoring wells, particularly those in road-side locations, will also be subject to drilling rig clearance requirements for overhead power and telephone lines.

Soil Borings

Two soil borings (B-113-09, B-114-09) will be advanced in the flood plain south of Huyck Stream using hollow-stem auger or direct push drilling methods. The purpose of the borings will be to assess whether NAPL identified in the overburden at MW-106S/D-08 may have migrated toward Huyck Stream or areas to the north by a pathway below the depth previously investigated with hand auger borings. The borings will be advanced to the top of the bedrock surface. Upon completion of each boring, BC will evaluate the feasibility of converting it to a monitoring well for the purpose of evaluating groundwater quality and surface water/groundwater interaction. The primary considerations in this evaluation will be the nature of the shallow soils in this wet, flood prone area, the ability to construct stable well pads and protective casings, and the ability to access the wells for sampling.

Three soil borings (B-115-09, B-116-09, B-117-09) will be advanced along the east side of Washington Street to assess the potential for on-site NAPL to have migrated to this area. The specific impacts targeted by each soil boring are listed in Table 1.

Two (2) soil samples from each of the 10 soil boring locations will be selected for chemical analysis based on the results of previous borings (e.g., depth of localized NAPL in adjacent boring) and/or results of field screening.

Monitoring Wells

Three monitoring wells (1 shallow well, 1 well couplet) will be installed north of Huyck Stream to evaluate groundwater quality in an area that is potentially down gradient from the site. Depending on factors such as the seasonal variability of stream and groundwater levels, Huyck Stream may intercept some or all of groundwater flowing north from the site. After drilling soil borings to the bedrock surface, monitoring well MW-108-09 and MW-109S-09 will be constructed with screens that straddle the water table. Well MW-109D-09 will be constructed with a screen set at our near the surface of the bedrock to intercept deeper groundwater that may carry dissolved constituents from the deeper NAPL identified in MW-106D-08. The shallow and deep well pair will also facilitate hydrologic understanding of groundwater/surface water interaction in this area and whether overburden groundwater from the site discharges to Huyck Stream. Depending on conditions observed during drilling, it may be necessary to modify the deeper well or install an additional deeper well to evaluate groundwater quality and flow.

After drilling soil borings to the bedrock surface, two monitoring wells will be installed east of Washington Street. MW-110-09 is intended to evaluate groundwater quality in an area that is potentially downgradient or cross-gradient from impacts along the east side of the site, including the apparent MGP and petroleum hydrocarbon impacts at MW-107-08. MW-111-09 is intended to evaluate groundwater quality in a location potentially cross-gradient from the site but adjacent to boring B-109-08, where a sheen with a slight tar-like odor was noted.

After development, all new monitoring wells will be slug tested to evaluate hydraulic conductivity in accordance with procedures specified in the previously referenced work plans.

Staff Gauge Installation

Two staff gauges will be installed in Huyck Stream at locations as close as practicable to monitoring wells MW-108-09 and MW-109-09. The purpose of the staff gauges will be to facilitate the evaluation of groundwater gradients between the wells and the stream and groundwater/surface water interaction.

Soil Vapor Sampling Activities

Soil vapor sampling will be conducted north, west and south of the site at the five soil vapor sampling point locations shown on Figure 1 (SV-1-09 through SV-5-09). The sampling point locations may be adjusted if the proposed location is not

practical due to access difficulties. Adjustments, if any, will be made in consultation with the NYSDEC.

Samples of ambient air will be collected at three to four locations during the soil vapor sampling. Analytical results from the ambient air samples will be used to evaluate background air concentrations and will be compared to the results of the soil vapor samples. The sampling flow rate will be calibrated to collect the ambient air samples over an eight-hour period. At least one of the outdoor air samples will be collected from an area upwind of the site. The others will be placed in the area of the residential properties along Academy Street and the building adjacent to the south side of the site. The actual positions of the ambient air samples will be finalized on the day of the soil vapor sampling to take into account wind, weather and site conditions.

The soil vapor and ambient air samples will be collected in accordance with the draft document titled Standard Operating Procedures for Soil Vapor Intrusion Evaluations at National Grid MGP Sites in New York State (O'Brien & Gere, September 2007). This document was developed in consideration of NYSDOH's Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH, October 2006), input from NYSDEC and NYSDOH, National Grid's experience at sites in New York and New England, and the SVI experience of various environmental consulting firms. Information regarding the procedures for installation of the soil vapor sampling points and collection of soil vapor and ambient air samples is provided in Appendices A and B of the above referenced document.

The soil vapor sampling points will be installed by advancing an implant Anchor/ Drive Point (PR 14) to a desired depth using a direct push (e.g., GeoProbe®) rig. The soil vapor sampling points will consist of six inch stainless steel screens attached to food grade tubing through which the soil vapor will be drawn. The screens will be placed at depth intervals above the seasonally high water table. Filter pack material (appropriately sized glass beads) will be placed in the annular space surrounding the soil vapor implant and tubing to a depth of approximately one to two feet above the top of the stainless steel screen. A two to three foot bentonite seal will be placed in the annulus above the filter pack material followed by a flush mounted surface completion set into concrete.

Prior to the collection of soil vapor samples, the potential for ambient air to be introduced into the soil vapor sample will be assessed using a tracer gas (helium) and a field meter capable of detecting the tracer gas. Procedures for the tracer gas evaluation are described in Appendix A of the document referenced above (O'Brien & Gere, September 2007).

The soil vapor and ambient air samples will be collected using six (6) liter Summa® passivated stainless steel canisters. The Summa® canisters will be batch certified as

clean by the laboratory. Flow controllers will also be provided by the laboratory and will be pre calibrated for the desired flow rate (approximately 0.2 liters per minute for the soil vapor samples) or duration of sample collection (approximately eight hours for the ambient air samples). To the extent practical, sampling of both media (soil vapor and ambient air) will be conducted concurrently. Applicable field data including weather conditions, initial and final vacuum pressures for the Summa® canisters, purge rates and volumes, and the results of the tracer gas evaluation, will be recorded on field forms. A copy of the field forms that will be used are provided in Attachment A to this letter.

Appropriate QA/QC samples will be collected, including a duplicate sample for soil vapor. The samples will be analyzed using USEPA Method TO 15, including n-alkanes and tentatively identified compounds (TICs). The analyte list is provided in Table 3. Analysis of the samples will be conducted by a NYSDOH ELAP certified laboratory.

Survey

Each of the new soil boring, monitoring well, staff gauge and soil vapor sampling point locations will be surveyed. The survey will include location coordinates, ground surface elevation, and in the case of the wells, top of casing elevation data. The elevation of the reference points on the two stream gauges will also be surveyed. Coordinates will be referenced to the State Plane coordinate system for New York using the North American Datum of 1983 (NAD 1983) in units of feet. Elevations will be referenced to the National Geodetic Vertical Datum (NGVD) of 1929 in units of feet. The survey will be performed by a New York licensed surveyor.

Groundwater Monitoring and NAPL Gauging

Two (2) rounds of groundwater sampling from the new and existing monitoring wells will be conducted. The first round will be initiated after at least one week has passed since well development and after water levels in the wells have stabilized. The second round will be conducted approximately three months (one quarter) after the first round, preferably in an interval of the seasonal hydrologic cycle that contrasts with the first round. For example, if the first round is conducted during a period when the water table is relatively high, it would be preferable to schedule the second round for a period when the water table is relatively low. If a time period greater than approximately 3 months between sampling events is required to achieve this objective, National Grid will notify the NYSDEC of the schedule adjustment. Prior to groundwater sampling, depth to water measurements and NAPL gauging will be conducted. A summary of the planned groundwater sample analyses is provided in Table 2.

Chemical Analysis of Soil and Groundwater Samples

All soil and groundwater samples will be analyzed for Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), Total Cyanide, and free cyanide. A summary of the planned soil analyses is provided in Table 2. All analyses will be performed by a laboratory certified under the NYSDOH Environmental Laboratory Approval Program (ELAP).

Water Level Measurements

Water level measurements will be obtained at all existing and new monitoring wells and the staff gauges. The measurements will be obtained on a monthly basis at least through the collection of the second round of groundwater samples. Huyck Stream flows over a dam located downstream from the site, and thus stream levels adjacent to the site do not fluctuate with the tidal cycle of the Hudson River. If it becomes evident that other factors cause the stream level to fluctuate such that single water level measurements are unrepresentative of longer term conditions, it may be necessary to continuously monitor water levels with data logging pressure transducers.

Data Evaluation and Reporting

Data will be evaluated in accordance with Section 3.3 of the November 2008 RI Work Plan. All analytical data, including results for the soil vapor and ambient air samples, will be forwarded to a data validation service for preparation of a Data Usability Summary Report (DUSR). The DUSR will provide a summary of data usability, including a discussion of qualified and rejected data and will provide recommendations for resampling/reanalysis, as applicable.

Following completion of the DUSR, a RI Data Summary Report will be prepared and submitted to the DEC along with a summary of the findings and recommendations for further work. Following DEC's review and acceptance of the RI Data Summary Report, National Grid will prepare a work plan to conduct a bedrock investigation, additional soil vapor sampling, or other field investigations warranted by the RI findings. If, after the soil vapor evaluation and bedrock evaluation, the NYSDEC and National Grid concur that sufficient data are available to complete the RI, exposure assessments will be performed and a full RI report will be prepared.

Schedule

Field activities are anticipated to commence on approximately November 9, 2009, depending on approval of this revised work plan addendum, completion of necessary property access agreements, contractor availability, weather and site conditions. It is anticipated that approximately three (3) to four (4) weeks will be required to

complete the soil borings, soil vapor sampling point installation and sampling, monitoring well installations, monitoring well development, and slug testing. The initial round of water level measurements, NAPL gauging and groundwater sampling will be conducted approximately 10 days after completion of the monitoring well development and slug testing. It is anticipated that the laboratory analyses and the DUSR will be complete within approximately six (6) to eight (8) weeks of completion of the second round of groundwater sampling. The supplemental RI Data Summary Report will be submitted approximately two (2) months after the DUSR is received from the data validator.

Very truly yours,

Brown and Caldwell Associates

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Enclosures

cc: B. Donovan, NYSDOH
E. Neuhauser, Ph.D., National Grid
R. O'Neill, Brown and Caldwell
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TABLES

TABLE 1
RATIONALE FOR SOIL BORING, MONITORING WELL and SV MONITORING POINTS
ADDITIONAL REMEDIAL INVESTIGATION
RENSSELAER NON-OWNED FORMER MGP SITE
RENSSELAER, NEW YORK

Location ID	Purpose	Target Depth
SOIL BORINGS		
B-113-09	Assess whether NAPL identified in soil at MW-106S/D-08 may be closer to Huyck Stream, in deeper soils, than previously investigated with hand auger borings in this area.	Surface of bedrock, estimated to be approximately 16 feet bgs. If stream side conditions permit, consideration will be given to converting boring to monitoring well.
B-114-09	Assess whether NAPL identified in soil at MW-106S/D-08 may be closer to Huyck Stream, in deeper soils, than previously investigated with hand auger borings in this area.	Surface of bedrock, estimated to be approximately 16 feet bgs. If stream side conditions permit, consideration will be given to converting boring to monitoring well.
B-115-09	Assess whether NAPL identified in soil at MW-106S/D-08 may extend to the east side of Washington Street.	Surface of bedrock, estimated to be approximately 25 feet bgs.
B-116-09	Assess whether NAPL identified in soil at MW-107-08 may extend to the east side of Washington Street. .	Surface of bedrock, estimated to be approximately 25 feet bgs.
B-117-09	Assess whether NAPL and/or BTEX/PAH impacts in the vicinity of TP-104-05 and B-112-08 may extend to the east side of Washington Street.	Surface of bedrock, estimated to be approximately 25 feet bgs.
MONITORING WELLS		
MW-108-09	Evaluate groundwater quality and flow on the north side of Huyck Stream. Locate near crest of stream bank, adjacent to parking lot.	Straddle water table with 10' screen. Total depth of well is anticipated to be approximately 20 feet below grade. Soil boring will be advanced to spoon refusal on bedrock, then grouted to depth of monitoring well.
MW-109S/D-09	Evaluate groundwater quality and flow on the north side of Huyck Stream. Locate near crest of stream bank, adjacent to parking lot.	Shallow well will straddle water table with 10' screen. Total depth of shallow well is anticipated to be approximately 20 feet below grade. Deep well will be screened in overburden immediately above bedrock, similar to MW-106D-08.
MW-110-09	Assessment of groundwater quality at location potentially downgradient or cross-gradient from east side of MGP site. Improve understanding of groundwater flow.	Straddle water table with 10' screen. Total depth of well is anticipated to be approximately 20 feet below grade. Soil boring will be advanced to spoon refusal on bedrock, then grouted to depth of monitoring well.
MW-111-09	Assessment of groundwater quality at location potentially downgradient or cross-gradient from MW-107-08 and in vicinity of sheen and slight tar-like odor identified in B-109-08. Improve understanding of groundwater flow.	Straddle water table with 10' screen. Total depth of well is anticipated to be approximately 20 feet below grade. Soil boring will be advanced to 20' bgs. If impacts are noted at this depth, boring will be advanced to bedrock, then grouted to depth of monitoring well.

TABLE 1
RATIONALE FOR SOIL BORING, MONITORING WELL and SV MONITORING POINTS
ADDITIONAL REMEDIAL INVESTIGATION
RENSSELAER NON-OWNED FORMER MGP SITE
RENSSELAER, NEW YORK

Location ID	Purpose	Target Depth
STAFF GAUGES		
SG-1-09	Measure surface water elevations for the purpose of assessing groundwater gradients between MW-109S/D-09 and the stream.	N/A
SG-2-09	Measure surface water elevations for the purpose of assessing groundwater gradients between MW-108-09 and the stream.	N/A
SOIL VAPOR MONITORING POINTS		
SV-1-09	Evaluate potential VOC concentrations in soil gas at south side of site.	Screen to be placed above seasonally high water table and saturated soils based on field observations at the time of installation. Targeted screen depth is 4-4.5 feet bgs. Estimated depth of water table is approximately 5-6 feet bgs.
SV-2-09	Evaluate potential VOC concentrations in soil gas west of site, in city ROW on west side of Academy Street.	Screen to be placed above seasonally high water table and saturated soils based on field observations at the time of installation. Targeted screen depth is 4-4.5 feet bgs. Estimated depth of water table is approximately 5-7 feet bgs.
SV-3-09	Evaluate potential VOC concentrations in soil gas west of site, in city ROW on west side of Academy Street.	Screen to be placed above seasonally high water table and saturated soils based on field observations at the time of installation. Targeted screen depth is 4-4.5 feet bgs. Estimated depth of water table is approximately 5-7 feet bgs.
SV-4-09	Evaluate potential VOC concentrations in soil gas north of site.	Screen to be placed above seasonally high water table and saturated soils based on field observations at the time of installation. Targeted screen depth is 5.5-6 feet bgs. Estimated depth of water table is approximately 10-11 feet bgs.
SV-5-09	Evaluate potential VOC concentrations in soil gas north of site.	Screen to be placed above seasonally high water table and saturated soils based on field observations at the time of installation. Targeted screen depth is 5.5-6 feet bgs. Estimated depth of water table is approximately 10-11 feet bgs.

Note: Suffix "09" after location ID designates year of installation (2009)

TABLE 2
SUMMARY OF LABORATORY ANALYSES FOR SOIL AND GROUNDWATER
ADDITIONAL REMEDIAL INVESTIGATION
RENSSELAER NON-OWNED FORMER MGP SITE
RENSSELAER, NEW YORK

Media and Sample Type	TCL VOCs Method 8260	TCL SVOCs Method 8270	Total Cyanide	Free Cyanide
SOIL				
Soil Boring Samples (10 borings, 2 samples each)	20	20	20	20
Duplicate[1]	1	1	1	1
MS/MSD[1]	1	1	1	1
Trip Blank[2]	--	--	--	--
Equipment Blank[1]	1	1	1	1
Groundwater (13 wells, 2 events)[3]				
Samples (1 per well)	26	26	26	26
Duplicate [1]	2	2	2	2
MS/MSD [1]	2	2	2	2
Trip Blank [2]	±4	--	--	--
Equipment Blank [1]	2	2	2	2

Notes:
(1) - Per the QAPP, one duplicate sample, one MS/MSD pair, and one equipment blank will be submitted and analyzed for every Sample Deliver Group (maximum 20 samples).
(2) - Per the QAPP, one trip blank will be included in every shipment of water samples to be analyzed for VOCs, and subsequently analyzed.
(3) - If NAPL is identified in well, groundwater samples will not be analyzed.

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TABLE 3
SOIL VAPOR AND AMBIENT AIR ANALYTES
REMEDIAL INVESTIGATION
RENSSELAER (NON-OWNED) FORMER MGP SITE
RENSSELAER, NEW YORK

Primary Analytes			
	RL (µg/m^3)[1]		RL (µg/m^3)
Acetone	12	Hexachlorobutadiene	2.1
Benzene	0.64	Isopropyl Alcohol	12.5
Bromodichloromethane	13	Isopropylbenzene	TBD
Bromoethene	0.87	Methyl Butyl Ketone	2.05
Bromoform	2.1	Methyl Ethyl Ketone	1.5
Bromomethane	0.78	Methyl Isobutyl Ketone	2.05
1,3-Butadiene	0.49	Methylene chloride	1.7
Carbon disulfide	1.6	Methyl tert-butyl ether	1.8
Carbon tetrachloride	1.3	Naphthalene	2.9
Chlorobenzene	0.92	Styrene	0.85
Chloroethane	0.53	tert-Butyl Alcohol	15
Chloroform	0.98	1,1,2,2-Tetrachloroethane	1.4
Cloromethane	0.41	Tetrachloroethene	1.4
3-Chloropropene	0.63	Toluene	0.75
2-Chlorotoluene (o-Chlorotoluene)	1.04	1,2,4-Trichlorobenzene	3.7
Cyclohexane	0.69	1,1,1-Trichloroethane	1.1
Dibromochloromethane	2.0	1,1,2-Trichloroethane	1.1
1,2-Dibromoethane (EDB)	1.5	Trichloroethene	1.07
1,2-Dichlorobenzene	1.2	Trichlorofluoromethane	1.1
1,3-Dichlorobenzene	1.2	1,1,2-Trichloro-1,2,2-trifluoroethane	1.5
1,4-Dichlorobenzene	1.2	1,2,4-Trimethylbenzene	0.98
Dichlorodifluoromethane	0.99	1,3,5-Trimethylbenzene	0.98
1,1-Dichloroethane	0.81	Vinyl chloride	0.51
1,2-Dichloroethane	0.81	m-Xylenes & p-Xylene	0.87
1,1-Dichloroethene	0.79	o-Xylene	0.87
cis-1,2-Dichloroethene	0.79	n-Butane [2]	TBD
trans-1,2-Dichloroethene	0.79	n-Decane [2]	TBD
1,2-Dichloropropane	0.92	n-Dodecane [2]	TBD
cis-1,3-Dichloropropene	0.91	n-Heptane [2]	0.83
trans-1,3-Dichloropropene	0.91	n-Hexane [2]	0.70
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.4	n-Nonane [2]	TBD
1,4-Dioxane	18	n-Octane [2]	TBD
Ethylbenzene	0.87	n-Pentane [2]	TBD
4-Ethyltoluene (p-Ethyltoluene)	0.98	n-Undecane [2]	TBD

Tentatively Identified Compounds (TICs) [3]			
	RL (µg/m^3)		RL (µg/m^3)
Butylcyclohexane [4]	TBD	Indene	TBD
2,3-Dimethylheptane [4]	TBD	Tetramethylbenzene isomers	TBD
2,3-Dimethylpentane [4]	TBD	Thiophenes	TBD
Isopentane [4]	TBD	1,2,3-Trimethylbenzene	0.98
2,2,4-Trimethylpentane [4]	1.08	1-Methylnaphthalene	TBD
Indane	TBD	2-Methylnaphthalene	TBD

Notes:

(1) -Actual reporting limits may be higher due to sample dilution by the laboratory to quantify compunds at elevated concentrations. If diluted runs are necessary for quantifying certain compunds, the results of both the diluted and undiluted runs will be provided by the laboratory.

(2) - Noted compounds are straight-chain alkanes

(3) - Compounds will be reported as TICs if detected

(4) - Noted compounds are branched-chain alkanes

RL - Reporting limit

TBD - To be determined

µg/m^3 - micrograms per cubic meter

FIGURES

Legend

- Ground Surface Elevation Contour (ft above MSL)
- Property Line
- Pavement Edge
- Water
- Sewer Line
- Overhead Lines
- Former MGP Structure Location.
- Monitoring Well
- Soil Boring
- Sediment Sample Location
- Surficial/Subsurrface Soil Sample Location
- Test Pit
- Proposed Monitoring Well
- Proposed Soil Boring
- Proposed Staff Gauge
- Proposed Soil Vapor Probe

N

SOIL-1-08
SED-1-08
MW-109S-09
MW-109D-09
MW-108-09
SG-1-09
SG-2-09
HUYCK STREAM
SED-2-08
SOIL-2-08
B-114-09
SED-3-08
SOIL-3-08
SOIL-4-08
B-113-09
SOIL-6-08
SOIL-5-08
MW-105-08
SV-4-09
MW-106S-08
MW-106D-08
HUYCK SQUARE
SV-5-09
MW-103-05
B-111-08
SOIL-7-08
TAR WELL
TP-105-08
MW-102-05
SV-3-09
TP-103-05
B-110-08
TP-101-05
MW-104-08
RETORT HOUSE
B-104-05
GAS HOLDER
ACADEMY STREET
COAL SHED
B-108-08
PURIFIER & CONDENSER ROOMS
GAS HOLDER
B-105-05
SV-2-09
B-106-05
TP-102-05
METER ROOM
TP-104-05
B-112-08
B-107-08
MW-101-05
SOIL-8-08
SV-1-09
SOIL-9-08
WASHINGTON STREET
MW-110-09
B-115-09
B-109-08
MW-111-09
SOIL-10-08
B-116-09
MW-107-08
B-117-09

0 25 50 100 Feet

FIGURE 1

PROPOSED ADDITIONAL RI LOCATIONS

RENSSELAER NON-OWNED FORMER MGP SITE
RENSSELAER, NEW YORK

DATE 08/25/09

PROJECT NUMBER 136501.104

BROWN AND CALDWELL ASSOCIATES

P:/GIS/National_Grid/Rensselaer_Proposed_SRI_Locs_0809.mxd

ATTACHMENT A

Field Forms

nationalgrid

Ambient Air (Canister) Sample Collection Field Form

Project # _____ Consultant _____

Project Name _____ Collector _____

Sample ID _____

Vacuum gauge "zero" ("Hg) _____

Start Date/Time _____ Start Pressure ("Hg) _____

End Date/Time _____ End Pressure ("Hg) _____

Canister ID _____ End pressure > "zero"? _____

Flow controller ID _____ Sampling duration (intended) _____

Tubing type used _____ Length of tubing _____ cm Tubing volume _____ cc

Volume purged _____ cc @ _____ min 1 to 3 volumes purged @ < 200cc/min? _____

Weather Conditions at Start of Sampling:

Air temperature (^{o}F) _____ Rainfall _____ Wind direction _____

Barometric pressure _____ Relative humidity _____ Wind speed (mph) _____

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

_____

_____

Site Plan showing sample location, building(s) being sampled, building HVAC inlet, outdoor air sources, wind direction

Comments: _____

_____

_____

_____

_____

nationalgrid

Soil Vapor (Canister) Sample Collection Field Form

Project # _____ Consultant _____

Project Name _____ Collector _____

Sample ID _____

Vacuum gauge "zero" ("Hg) _____

Start Date/Time _____ Start Pressure ("Hg) _____

End Date/Time _____ End Pressure ("Hg) _____

Canister ID _____ End pressure > "zero"? _____

Flow controller ID _____ Sampling duration (intended) _____

Associated ambient air sample ID _____ Depth of sample point below grade _____

Tubing type used _____ Length of tubing _____ cm Tubing volume _____ cc

Volume purged _____ cc @ _____ min 1 to 3 volumes purged @ < 200cc/min? _____

Chamber tracer gas conc. _____ Tracer gas conc. during purging _____

Weather Conditions during Probe Installation:

Air temperature (^{o}F) _____ Rainfall _____ Wind direction _____

Barometric pressure _____ Wind speed (mph) _____

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Weather Conditions at Start of Sampling:

Air temperature (^{o}F) _____ Rainfall _____ Wind direction _____

Barometric pressure _____ Wind speed (mph) _____

Substantial changes in weather conditions during sampling or over the past 24 to 48 hrs:

Site Plan showing sample location, buildings, landmarks, potential soil vapor and outdoor air sources, preferential pathways

Comments: _____