



February 23, 2007

Mr. Josh Cook  
MGP Remedial Section  
Bureau of Western Remedial Action  
Division of Environmental Remediation  
New York State Department of Environmental Conservation  
625 Broadway  
Albany, New York 12233-7010

**RE: Soil Vapor Intrusion Evaluation Work Plan  
O&R Operations Center  
Port Jervis MGP Site  
NYSDEC Site No. 03-36-049V  
Port Jervis, New York**

Dear Mr. Cook:

On behalf of our client Orange and Rockland Utilities (O&R), The RETEC Group, Inc. (RETEC) has prepared this letter to present a scope of work and methods for performing soil vapor intrusion (SVI) evaluation sampling at the O&R Operations building located at the former Pike Street manufactured gas plant (MGP) site located in Port Jervis, New York. The sampling will be performed in accordance with the New York State Department of Health (NYSDOH) document entitled "*Guidance for Evaluating Soil Vapor Intrusion in the State of New York*", dated October 2006.

### **Background**

Three previous SVI sampling events have been performed at the operations center building. Sub-slab vapor samples and indoor air samples were collected in the employee break room in the western end of the building, in the hallway in the eastern end of the building, and in the storage area in the northern area of the building. The results of these sampling events were submitted to the NYSDEC and the NYSDOH in the Phase II RI Report for the Port Jervis MGP site, dated October 25, 2005, which was subsequently approved by the agencies.

The results of the sampling indicated that low-level concentrations of volatile organic compounds (VOCs) were present in the soil vapor samples collected beneath the floor of the building; however, the VOCs in indoor air that were possibly MGP-related were within the range of typical background values. Therefore there was no evidence for the intrusion of vapors from the soil vapor to the indoor air in the building. Following a review of the sampling results, the NYSDEC and the NYSDOH indicated no further action to evaluate the vapor intrusion pathway at this location was required.

Two rounds of SVI sampling was also performed at the adjacent 28 Pike Street section of the former MGP site. The concentrations of VOCs in the samples from this property that may possibly be related to MGP residuals were also found to be low indicating that potential for the migration of MGP impacted vapors to this location is unlikely. The most significant results for the sampling

performed at this property relate to the apparent vapor intrusion of tetrachloroethene (PCE) which is a dry cleaning agent that is not related to former MGP operations. The PCE concentrations in the soil vapor samples collected at this location were 160 and 110  $\mu\text{g}/\text{m}^3$  which are above NYSDOH screening criteria of 100  $\mu\text{g}/\text{m}^3$  for this compound. An additional round of SVI sampling will be performed at the operations center building to determine if PCE is present in soil vapor or indoor air in concentrations that may pose a risk to occupants or visitors of the building. Note that the sampling will continue to include MGP-indicator VOC compounds to obtain additional data to evaluate the potential vapor intrusion pathway at this location. Additional SVI sampling will also be performed at the 28 Pike Street section of the site.

### **SVI Field Activities**

The number and location of the SVI samples will be consistent with the sampling performed at the operations building during the RI. The ambient air, indoor air and sub-floor samples are summarized as follows:

#### **SVI Sampling Summary**

O&R Operations Center, Pike Street, Port Jervis MGP Site

Location	Indoor Air – Ambient	Sub-slab	Total
Ambient	1		1
Inside Building	3 plus 1 duplicate	3	7
Total	5	3	8

The approximate sampling locations are shown on the attached Figure 1. Consistent with NYSDOH specifications, a chemical inventory check will be performed to document current conditions with the regard to the storage of chemicals at the facility.

The indoor air and sub-slab vapor sampling will require two days to complete. The work will be conducted on a weekend when the facility is not occupied. On the first day, the chemical inventory check will be performed and the temporary sub-slab vapor sampling implants will be installed. On the second day, ambient air sample, indoor air samples and sub-slab vapor samples will be collected concurrently.

The sub-slab soil vapor samples will be collected from immediately below the concrete floor slabs of the buildings. The sub-slab sampling implants will be installed by drilling a  $\frac{3}{4}$ -inch diameter hole through the concrete slab and placing Teflon tubing in the hole. An air-tight seal will be created by filling the space between the tubing and the concrete with hydrated bentonite clay or modeling clay. The tubing used for sampling will be attached to the sampling canister with Swagelok™ fittings. The integrity of the seals around the implants will be confirmed by placing a helium-filled “shroud” around the insertion points. One to three volumes of air will be purged with a helium meter at a rate not to exceed 0.2 liters per minute. Detections of helium will indicate a leak in the seal, requiring that the seal be repaired or replaced. The samples will then be collected in clean, 100% certified, 6-liter canisters for a period of approximately two hours. Following the sub-slab vapor sample collection, all concrete coring holes will be sealed and patched to match the existing grade.

Mr. Josh Cook  
February 15, 2007  
Page 3

Ambient and indoor air samples will be collected at the same time and location as the sub-slab samples. The ambient air sample will be collected at a location determined to be upwind of the building.

### **Laboratory Analyses and Reporting**

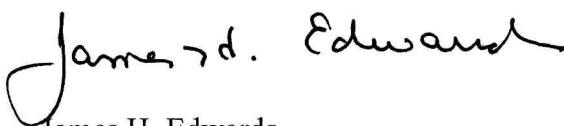
The laboratory will perform the analyses according to methods and procedures specified in the New York State Department of Environmental Conservation (NYSDEC) Analytical Services Protocols (ASP). The data package provided by the laboratory will meet the specifications of a full ASP Category B deliverable package. The methods and data package provided by the laboratory will be consistent with the specifications of the most current version of the ASP (July 2005). The laboratory performing the analyses will have current NYSDOH Environmental Laboratory Approval Program (ELAP) certification for all analyses performed. A NYSDEC Data Usability Summary Report (DUSR) will be prepared by a qualified chemist.

The laboratory samples will be analyzed for VOCs (including naphthalene) by U.S. EPA SW846 Method TO-15. The minimum reporting limit for the analysis will be at most one part per billion (1 to 7 micrograms per cubic meter depending on the molecular weight for each compound). The helium analysis will be performed using modified method ASTM D1945. In addition to the standard TO-15 list of compounds, several additional compounds will be analyzed for, including: indane, indene, thiophene, styrene, 2-methyl pentane, isopentane, 2,3-dimethyl pentane, isooctane, and methyl tert butyl ether (MTBE).

If you have any questions regarding the information presented in this letter, please do not hesitate to contact me at (607) 277-5716. Following approval of the scope of work provided in this letter, RETEC will schedule the field sampling event. A letter report with an interpretation of the data will be prepared for submittal to NYSDEC and NYSDOH.

Sincerely,

The RETEC Group, Inc.



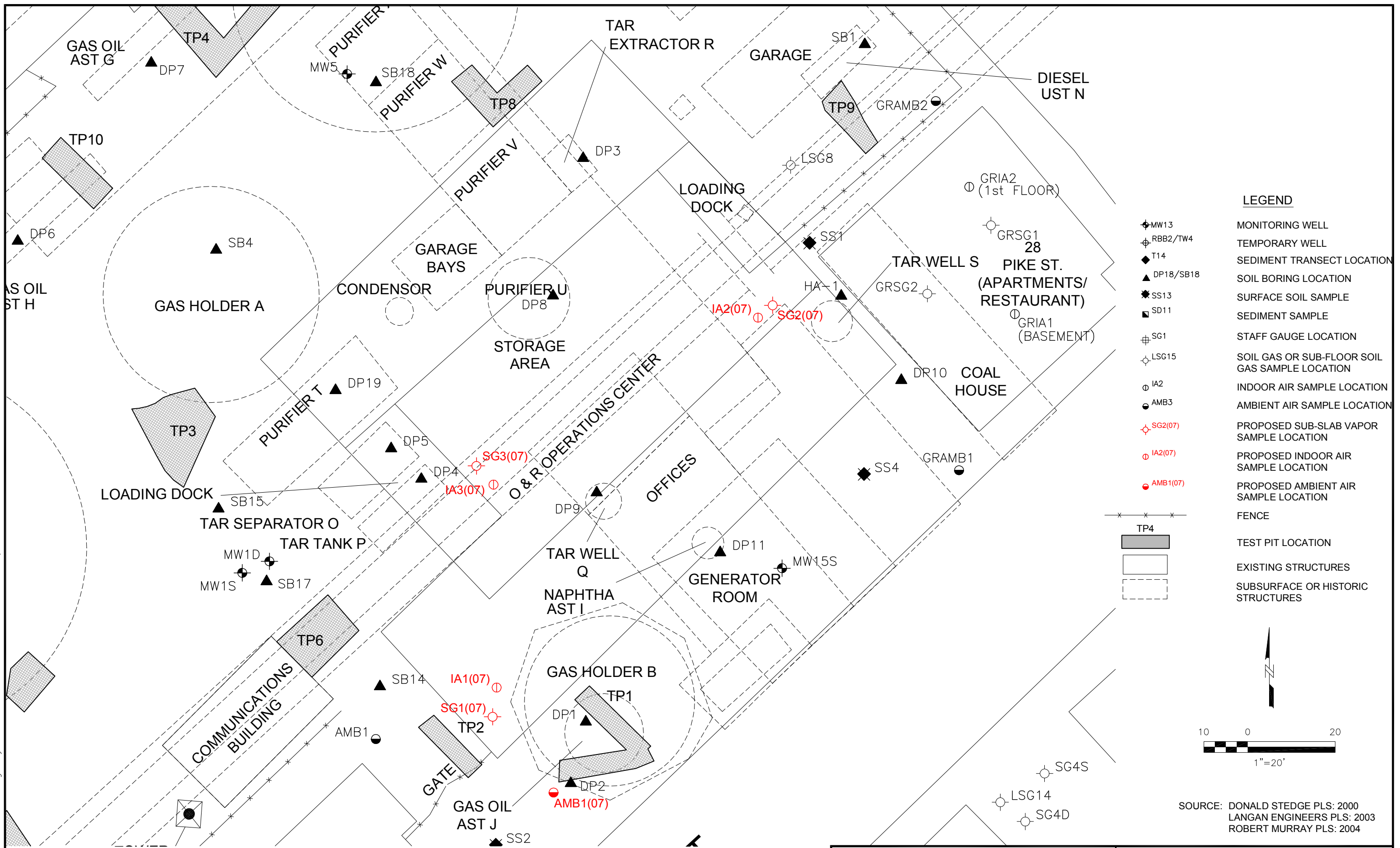
James H. Edwards  
Senior Geologist

JHE:mlr

Attachment

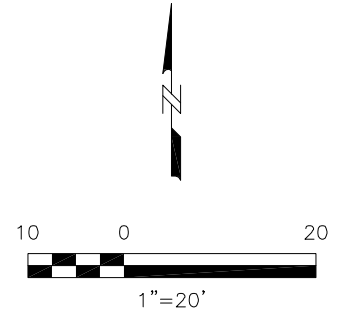
cc: Maribeth McCormick – O&R  
Kristin Kulow – NYSDOH  
Project File: ORAN2-20146

File: J:\20146\SVL\_SAMP\_LOC.dwg Layout: FIG1 User: mwilliamson Plotted: Feb 15, 2007 - 11:22am Xref's:



**LEGEND**

- ◆ MW13 MONITORING WELL
- ⊕ RBB2/TW4 TEMPORARY WELL
- ◆ T14 SEDIMENT TRANSECT LOCATION
- ▲ DP18/SB18 SOIL BORING LOCATION
- ◆ SS13 SURFACE SOIL SAMPLE
- SD11 SEDIMENT SAMPLE
- ⊕ SG1 STAFF GAUGE LOCATION
- ⊕ LSG15 SOIL GAS OR SUB-FLOOR SOIL GAS SAMPLE LOCATION
- ⊕ IA2 INDOOR AIR SAMPLE LOCATION
- AMB3 AMBIENT AIR SAMPLE LOCATION
- ⊕ SG2(07) PROPOSED SUB-SLAB VAPOR SAMPLE LOCATION
- ⊕ IA2(07) PROPOSED INDOOR AIR SAMPLE LOCATION
- AMB1(07) PROPOSED AMBIENT AIR SAMPLE LOCATION
- FENCE
- ▨ TP4 TEST PIT LOCATION
- ▭ EXISTING STRUCTURES
- - - SUBSURFACE OR HISTORIC STRUCTURES



SOURCE: DONALD STEDGE PLS: 2000  
LANGAN ENGINEERS PLS: 2003  
ROBERT MURRAY PLS: 2004



PORT JERVIS MGP SITE ORAN2-20146		<b>O&amp;R OPERATIONS BUILDING SVI SAMPLE LOCATIONS</b>
DATE: 2/15/07	DRWN: MAW/BIL	<b>FIGURE 1</b>