VIA ELECTRONIC MAIL

March 6, 2012

Ms. Tara L. Diaz
Project Manager, Bureau of Eastern Remedial Action
Division of Environmental Remediation, 11th Floor
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7015

RE: Offsite Indoor Air Evaluation Work Plan (Revision 2)
Former TransTechnology Corporation Facility Glen Head, New York

Dear Tara:

WSP Engineering of New York, P.C., on behalf of our client, Breeze-Eastern Corporation (BEC), has prepared this work plan for additional investigation at the former TransTechnology Corporation (TTC) facility at 1 Robert Lane in Glen Head, New York. The work, which includes vapor sampling within private residences west of the facility, is based on the soil gas screening data from the offsite Operable Unit 2 (OU-2) investigations performed during the first quarter of 2011 and during a subsequent onsite soil gas sampling event performed in July 2011. Several samples collected during those investigations contained chlorinated volatile organic compounds (VOCs), including trichloroethene (TCE). These data were presented to the New York State Department of Conservation (NYSDEC) and New York State Department of Health (NYSDOH) in interim reports, dated April 1 and September 6, 2011, and discussed during a meeting held with you and Guy Bobersky in Albany on October 19, 2011. At the meeting, the NYSDEC requested that BEC prepare a work plan to evaluate the indoor air quality in homes near the soil gas detections. The scope of work to assess the homes is presented below.

Background

AMEC-Geomatrix prepared a work plan in 2009 to evaluate offsite groundwater. The plan included co-located soil gas samples to assess whether dissolved chlorinated compounds partitioning into the soil gas above the groundwater plume (if present beneath the neighborhood) could potentially affect the indoor air quality of structures in the area. The plan was approved by the NYSDEC in 2010 and implemented in late 2010 and early 2011 by WSP.

The investigation results detected the presence of chlorinated VOCs in the groundwater beneath the adjacent Todd Estates neighborhood in a plume extending northwest from the site. The results also indicated that groundwater containing VOCs from the site is comingled with a regional tetrachloroethene (PCE) plume emanating from a series of dry cleaning facilities southeast (upgradient) of the facility (the significance of the comingling is discussed further in the *Approach* section below). Both TCE and PCE and their

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breakdown products (i.e., *cis*- and *trans*-1,2-dichloroethene [1,2-DCE] and vinyl chloride) were detected in the co-located soil gas samples.

Approach

Seven houses directly west of the former facility, designated as properties 17 through 23, were identified for the initial evaluation (Figure 1). These homes were chosen as part of a phased approach designed to allow a systematic selection of the number of homes that will require evaluation. The proximity of these initial homes to the elevated soil gas sample locations, and the known extent of affected groundwater, suggest that they have the highest potential for vapor intrusion to the indoor air (i.e., they represent the worst case at the site). Houses beyond those selected for the first phase of testing will only be evaluated if chlorinated compounds (specifically, TCE; see below) are detected in the first phase of testing and, based on the evaluation matrix, there is a reason to conduct additional sampling. NYSDEC and NYSDOH will be consulted regarding the necessity for additional vapor intrusion-related investigation activities.

The NYSDOH guidance states that all indoor air sampling should be conducted during the cooler parts of the year when heating systems are in operation and building windows are closed. NYSDOH suggests this provides a more conservative assessment of the risk for vapor intrusion due to the limited outside air exchange during cooler seasons. Although the operational period of heating systems differs from year to year depending on the specific weather conditions, the NYSDOH typically considers the period of November 15 through March 31 to be the “heating season” for New York.

WSP intends to complete the sampling activities before the end of the current heating season on March 31, 2012; however, given that the number of houses that will warrant testing cannot be determined ahead of time, the sampling activities may extend into the following heating season if subsequent phases of testing are required (i.e., after November 15, 2012).

Indoor Air Investigation

The sampling activities include a substantial amount of preparatory work, including a notification letter, an access agreement for each household, and a building inspection. WSP anticipates a number of visits to the homes in the study area will be required to complete the process. The scope of work for these activities is outlined below.

All of the activities will be performed in accordance with WSP’s standard operating procedures and the NYSDOH’s *Guidance for Evaluating Soil Vapor Intrusion in the State of New York,* dated October 2006. Sampling will be limited to the site-related compounds: specifically, PCE, TCE and their degradation products *cis*- and *trans*-1,2-DCE and vinyl chloride. Concentrations of PCE detected in the samples will be considered part of the regional groundwater plume issue and, thus, not the responsibility of Breeze-Eastern. In addition, the NYSDEC and NYSDOH will be consulted if TCE or other VOCS detected in the samples appear to be the result of PCE degradation.

Pre-Sampling Activities

WSP will send by certified mail a cover letter (on Breeze-Eastern letterhead) and access agreement to each property owner within the proposed sample area to request access for the sampling activities. The letter will inform the property owner of the goal to collect air samples, outline the specific activities that will be performed in their home, and provide a proposed project schedule. The access agreement will specify the conditions for granting access to conduct the proposed work.

The letters will be generated and sent to the individual households as soon as the work plan has been approved by the NYSDEC and NYSDOH. WSP will follow-up the initial mailing with phone calls to the individual homeowners or a second certified mailing, if necessary. It has been WSP's experience, however, that few homeowners will sign the access agreement without an in-person visit to further explain the details of the project and reasons for the sampling. While more labor intensive, the in-person visits provide an opportunity to allay fears that may have been generated by the mailing. The visits also afford a chance to obtain information on the construction of the residence (e.g., slab-on-grade, basement, crawl space, partial slab, or dirt floor) to assist in project planning, and schedule the sampling activities.

WSP will document all attempts to contact the homeowners regarding the sampling activities. If access is not obtained, the NYSDEC and the NYDOH will be contacted for assistance in accessing the property.

Pre-Sampling Interview, Building Inspection and Materials Inventory

A pre-sampling site inspection and materials inventory will be conducted at each property a minimum of two days before conducting the sampling activities. WSP will verify the building construction information obtained during the pre-sampling interview, complete the NYSDOH's required indoor air quality questionnaire with the homeowner, and catalogue any chemicals or other items[1] stored in the basement (if present) and first floor living spaces[2] that could potentially interfere with the vapor sampling. The volatile ingredients of each material, if available, will be recorded on the NYSDOH's building inventory form and the containers will be scanned with a photoionization detector (RAE Systems ppbRAE, or equivalent) for potential vapor emissions. If the contents of a container are not listed on the label, WSP will record the product name and manufacturer's name and address (if available) on the inventory form.

WSP will request, based on the findings of the inventory, that homeowners either remove any materials and equipment that are emitting VOCs from the structure, or seal the containers or equipment in plastic bags at least 24 hours before the scheduled sampling time. If the residents comply, this will help limit any interference with the sample collection. If the residents decline, WSP will note the presence of the materials on the sampling log. WSP will also discuss with the residents the activities that should be avoided within 24 hours of sample collection, as presented in Section 2.11.1 of the NYSDOH guidance document. A copy of the activities listed in the NYSDOH guidance will be left with the homeowner as a reminder.

[1] Materials and equipment of potential concern include, but are not limited to, petroleum products, gas-powered equipment, kerosene heaters, petroleum-based finishes, products containing petroleum distillates, cosmetics, perfumes and colognes, and pesticides.
[2] For buildings with slab-on-grade construction, only the first floor living space will be inspected and inventoried.

Sub-slab Probe Installation

In accordance with the NYSDOH guidance, WSP will collect concurrent indoor air samples and sub-slab soil gas samples, where full or partial[3] basement floor slab or slab on-grade construction exists. WSP will install a sub-slab soil gas sample probe during the building inspection and inventory to allow the soil gas to re-equilibrate with the surrounding formation after the probe has been installed. The sub-slab soil gas sample probe will be constructed of 3/8-inch outside-diameter (OD) Teflon® or Teflon®-lined tubing, a silicone rubber stopper with a 3/8-inch-diameter perforation, and a seal consisting of a non-shrinking, non-volatile material such as hydrated bentonite or modeling clay. To install the probe, an electric hammer drill will be used to drill an approximate 1-inch-diameter "outer" hole approximately 1 inch into the floor slab. Next, a 3/8-inch-diameter "inner" hole will be drilled through the remainder of the slab and approximately two inches into the underlying soil or gravel. A section of tubing will be inserted through the stopper such that the tubing does not extend below the base of the slab to prevent the tubing from being plugged. A surface seal will be installed to create a seal between the silicone stopper and the floor slab and a clamp will be placed on the end of the tubing to prevent soil gas from entering the building. The soil gas probe will be installed in a location where the floor slab is exposed, if possible, or an unobtrusive location, such as a closet or utility room. In cases where carpet or other flooring materials are present, care will be taken to repair or restore the area to its original condition (to the extent practicable).

Sampling Activities

All three sample types, indoor air, sub-slab, and ambient (outdoor) air, will be collected concurrently two days or more after performing the building inspection and probe installation activities. Indoor air samples will be collected from the basement and first floor living space of each residence, as appropriate. If the first floor living space or basement is subdivided into multiple rental units, an indoor air sample will be collected from one unit on each level. Crawl space air samples will not be collected from homes with at least a partial basement, since the first floor living space samples will address the potential for vapor intrusion from these areas.

Before the sub-slab soil gas sample is collected, a pre-sample purge will be conducted to remove dilution air from the tubing and probe assembly. One to three probe volumes of air will be evacuated from each sample location at a rate not exceeding 0.2 liter per minute using a peristaltic pump, hand pump, or syringe. The purged air will be collected in a Tedlar® bag to prevent vapors from being released into the indoor air where they could interfere with the sampling process. The sub-slab sampling probes will be removed at the conclusion of the sampling activities and the slab will be repaired with similar material.

Ambient air samples, which provide data on the site-specific background air quality, will be collected on each day that indoor air samples are collected. The outdoor air sample locations will be selected to be representative of the properties being sampled on that day. In accordance with NYSDOH guidance, each outdoor air sample will be collected approximately 3 to 5 feet above the ground and away from wind obstructions, if possible

[3] WSP, based on a review of the aerial photographs and onsite reconnaissance, does not believe that any of the homes within the potential study area are likely to have dirt floor basements, which require a subsurface soil vapor probe to be installed. In the unlikely event that a dirt-floored basement is encountered, WSP will install a subsurface sample probe using the same techniques as those used for the soil gas sampling performed in 2011 using hand tools.

(e.g., trees, brush, wooden fences). The outdoor air sample collection will begin within approximately 1 hour of the first scheduled indoor air sample for a particular day.

All of the vapor samples will be collected using evacuated 1-liter Entech Instruments, Inc., (Entech) canisters, or equivalent, fitted with a 24-hour sample flow regulator pre-set by the analytical laboratory. After 24 hours, the flow regulator will be removed from the canister to complete the sample collection. The sample name, location, time and date of sample collection, sample regulator and canister number, and the analytical method to be used will be recorded on the chain of custody form and in the field log book. Site conditions will be documented during the indoor air sampling activities in accordance with Sections 2.7.3 and 2.7.4 of the NYSDOH guidance document. The samples will be shipped, or transported by courier, under ambient conditions to a NYSDOH ELAP-approved laboratory. The samples will be analyzed for site-related VOCs (i.e., TCE, PCE, *cis*- and *trans*-1,2-dichloroethene, and vinyl chloride) by U.S. Environmental Protection Agency Method TO-15 with minimum detection limits of 0.25 microgram per cubic meter ($\mu g/m^3$) for TCE and 1 $\mu g/m^3$ for all other VOCs.

Homeowner Reporting

WSP will prepare a results letter for each homeowner once the final data has been received from the analytical laboratory. The letter will provide a schematic representation of the sample locations and a table showing the results of the vapor sampling. WSP will provide both the NYSDEC and NYDOH a draft copy of the letters for review prior to distributing to the homeowners.

Quality Assurance/Quality Control

Field QA/QC procedures for the proposed sampling activities will include the collection and analysis of blind duplicate samples, matrix spike and matrix spike duplicates (MS/MSDs), and trip blanks. The blind duplicate samples will be analyzed with the other samples to evaluate the reproducibility of the sample collection and analytical procedures, and the MS/MSD samples will be collected to evaluate the effect of the matrix on the analytical protocol. The trip blank, which is used to assess cross-contamination during transit, will accompany the sample containers during their trip to and from the laboratory. Quality assurance and quality control samples will be collected during the proposed activities in accordance with WSP's SOP 21 (Enclosure A).

Project Schedule and Reporting

WSP will prepare the notification cover letters and access agreements after receiving approval from the NYSDEC and NYSDOH. Onsite work will begin as soon as possible after receiving the access agreements. The actual sampling work is anticipated to require up to 2 weeks to complete, and is targeted for completion before the March 31st end of the heating season.

The results will be provided to the individual homeowners within six weeks of receiving the final validated data. A summary report to the NYSDEC and NYSDOH will be prepared after all of the homes have been tested.

Sincerely yours,

David P. Bouchard
Project Director

John Black, P.E.
Principal

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Enclosures

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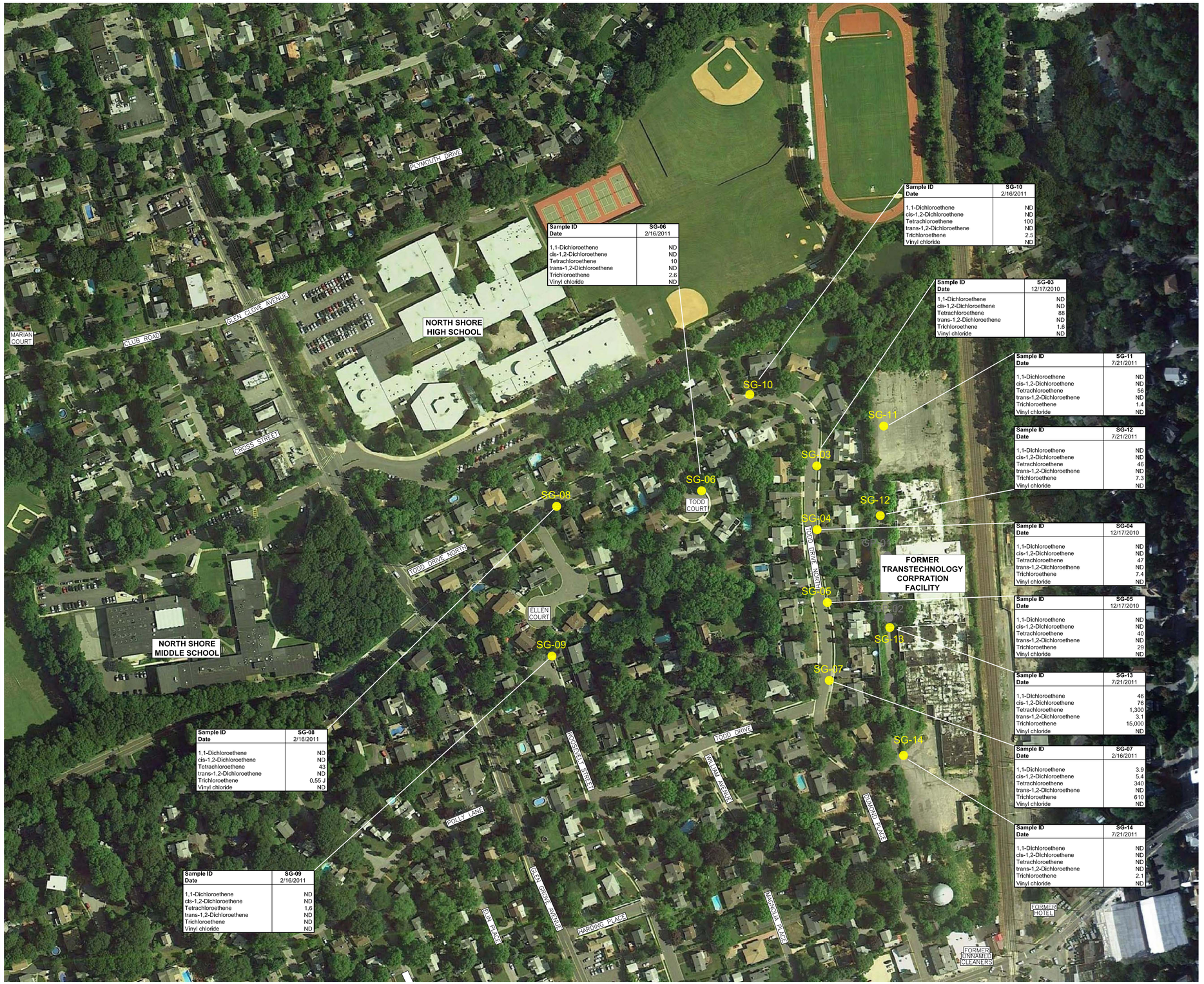
Figures



Sample ID	SG-06
Date	2/16/2011
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	10
trans-1,2-Dichloroethene	ND
Trichloroethene	2.6
Vinyl chloride	ND

Sample ID	SG-10
Date	2/16/2011
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	100
trans-1,2-Dichloroethene	ND
Trichloroethene	2.5
Vinyl chloride	ND

Sample ID	SG-03
Date	12/17/2010
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	88
trans-1,2-Dichloroethene	ND
Trichloroethene	1.6
Vinyl chloride	ND

Sample ID	SG-11
Date	7/21/2011
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	56
trans-1,2-Dichloroethene	ND
Trichloroethene	1.4
Vinyl chloride	ND

Sample ID	SG-12
Date	7/21/2011
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	46
trans-1,2-Dichloroethene	ND
Trichloroethene	7.3
Vinyl chloride	ND

Sample ID	SG-04
Date	12/17/2010
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	47
trans-1,2-Dichloroethene	ND
Trichloroethene	7.4
Vinyl chloride	ND

Sample ID	SG-05
Date	12/17/2010
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	40
trans-1,2-Dichloroethene	ND
Trichloroethene	29
Vinyl chloride	ND

Sample ID	SG-13
Date	7/21/2011
1,1-Dichloroethene	46
cis-1,2-Dichloroethene	76
Tetrachloroethene	1,300
trans-1,2-Dichloroethene	3.1
Trichloroethene	15,000
Vinyl chloride	ND

Sample ID	SG-07
Date	2/16/2011
1,1-Dichloroethene	3.9
cis-1,2-Dichloroethene	5.4
Tetrachloroethene	340
trans-1,2-Dichloroethene	ND
Trichloroethene	610
Vinyl chloride	ND

Sample ID	SG-14
Date	7/21/2011
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	ND
trans-1,2-Dichloroethene	ND
Trichloroethene	2.1
Vinyl chloride	ND

Sample ID	SG-08
Date	2/16/2011
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	43
trans-1,2-Dichloroethene	ND
Trichloroethene	0.55 J
Vinyl chloride	ND

Sample ID	SG-09
Date	2/16/2011
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	1.6
trans-1,2-Dichloroethene	ND
Trichloroethene	ND
Vinyl chloride	ND

LEGEND:

Sample ID	SG-06
Date	2/16/2011
1,1-Dichloroethene	ND
cis-1,2-Dichloroethene	ND
Tetrachloroethene	10
trans-1,2-Dichloroethene	ND
Trichloroethene	2.6
Vinyl chloride	ND

SAMPLE LOCATION ID

SAMPLE DATE

CONCENTRATION IN MICROGRAMS PER CUBIC METER (UG/M3).

ND = COMPOUND NOT DETECTED ABOVE LABORATORY REPORTING LIMITS

SOIL GAS SAMPLE LOCATION

0 120 240 360
SCALE IN FEET

D

REVISIONS

REV	DESCRIPTION	
1	Revised	Appr.:
2	Revised	Appr.:
3	Revised	Appr.:

SEAL

DRAWN BY EGC 4/17/12
CHECKED 4/17/12
APPROVED

DATE

PRELIMINARY SOIL GAS RESULTS WITH PROPOSED VAPOR INTRUSION SAMPLE LOCATIONS

FORMER TRANSTECHNOLOGY CORPORATION FACILITY
GLEN HEAD, NEW YORK

PREPARED FOR
BREEZE–EASTERN CORPORATION

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FIGURE 1

Drawing Number
00028873–001

Tables

Table 1

Soil Gas Sampling Results
Former TransTechnology Corporation OU-2
Glen Head, New York (a)

Sample ID **Date**	SG-03 12/17/2010	SG-04 12/17/2010	SG-100 (b) 12/17/2010	SG-05 12/17/2010	SG-06 2/16/2011	SG-07 2/16/2011	SG-08 2/16/2011	SG-09 2/16/2011	SG-10 2/16/2011	SG-11 7/21/2011	SG-100 (c) 7/21/2011	SG-12 7/21/2011	SG-13 7/21/2011	SG-14 7/21/2011
VOCs (µg/m^3)														
1,1-Dichloroethene	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	3.9	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	46	0.60 U
cis-1,2-Dichloroethene	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	5.4	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	76	0.60 U
Tetrachloroethene	88	47	36	40	10	340	43	1.6	100	56	49	46	1,300	1 U
trans-1,2-Dichloroethene	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	3.1	0.60 U
Trichloroethene	1.6	7.4	7.5	29	2.6	610	0.55 J	0.82 U	2.5	1.4	6.3	7.3	15,000	2.1
Vinyl chloride	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U	0.39 U

a/ VOCs = volatile organic compounds; µg/m^3 = micrograms per cubic meter; U = compound not detected, detection limit shown; J = analyte detected at or below quantitation limit.
b/ SG-100 collected on 12/17/2010 is a blind duplicate of SG-04.
c/ SG-100 collected on 07/21/2011 is a blind duplicate of SG-12.

Enclosure A – Standard Operating Procedures

Standard Operating Procedure – 21

Field Quality Assurance/Quality Control Samples

Materials:

Field logbook
Personal protective equipment (PPE)
Sample containers
Sample labels
Clear tape
Laboratory analyte free water
Clean or dedicated sampling equipment

Procedure:

1. Use appropriate PPE as specified in the site-specific health and safety plan.

2. Select the appropriate glassware for the field Quality Assurance/Quality Control (QA/QC) samples. Refer to the WSP Engineering Standard Operating Procedure for Sample Container, Preservatives, and Holding Times to determine the appropriate bottles to use.

3. Field QA/QC samples include the following:

   trip blanks
   duplicate samples
   equipment blanks

4. Trip blanks should be provided by the analytical laboratory for all projects where samples are being collected for analysis of volatile organic compounds (VOCs). Trip blanks should accompany the sample bottles from the analytical laboratory to the site, accompany the sample containers at all times during the sampling event, and return to the laboratory with the sample containers. One trip blank should be submitted to the analytical laboratory with each shipment containing samples for VOC analysis. The trip blank should be analyzed only for VOCs.

5. One duplicate sample should be collected for every 20 samples of each matrix (e.g., soil and groundwater) collected during each sampling event. Duplicate samples of soil and other solid matrices should be collected by dividing the sample material in half and alternately filling the two sample bottle sets. Duplicate samples of groundwater and other aqueous matrices should be collected by alternately filling the two sample bottle sets from the same sampling vessel (e.g., bailer). The appropriate SOP should be followed for the collection of each sample type (soil, groundwater, sediment, sludge). Duplicate samples should be analyzed for all the analytes that are being analyzed for during the sampling event.

6. One equipment blank should be collected in the field at a rate of one per type of equipment per decontamination event not to exceed one per day. If dedicated sampling equipment is used, the equipment blanks should be prepared in the field before sampling begins. If field decontamination of sampling equipment is required, the equipment blanks should be prepared after the equipment has been used and field-decontaminated at least once. Equipment blanks should be prepared by filling or rinsing the precleaned equipment with analyte-free water and

collecting the rinsate in the appropriate sample containers. The samples should be labeled, preserved, and filtered (if required) in the same manner as the environmental samples. Equipment blanks should be analyzed for all the analytes for which the environmental samples are being analyzed. Decontamination of the equipment following equipment blank procurement is not required.

7. All QA/QC samples should be submitted to the analytical laboratory with unique sample numbers. Therefore, the QA/QC samples should be labeled as separate environmental samples following the same numbering scheme used during that particular sampling event. However, the QA/QC samples should be clearly identified on WSP Engineering's copy of the chain-of-custody form and in the field logbook.