FORM A: TITLE AND APPROVAL PAGE

Site-Specific Brownfields Sampling, Analysis, and Monitoring Plan

Brownfields Assessment Demonstration Pilot

Niagara County, New York

The attached U.S. EPA Region 2 Sampling, Analysis, and Monitoring Plan (SAMP) template has been submitted in compliance with the provisions of Niagara County, New York Brownfields Assessment Demonstration Pilot Cooperative Agreement No. BP99290801-6

The undersigned agrees to follow the accompanying Generic Brownfields QAPP boilerplate to prepare site-specific SAMPs using this template for remedial pilot projects funded under the U.S. EPA Region 2 Brownfields Economic Re-development Initiative.

Municipal Brownfields Pilot Project Manager Concurrence:

_____

Signature

_____

Printed Name/Date

U.S. EPA Region 2 Project Manager Approval:

_____

Signature

_____

Printed Name/Date

U.S. EPA Region 2
Site-Specific Brownfields Sampling, Analysis, and Monitoring Plan (SAMP)
Commerce Square

CONTENTS

SAMP Element

FORM B: PROJECT ORGANIZATION AND RESPONSIBILITY

B.0 Project Organization and Responsibilities

Section B.1 provides a listing of project team members including key subcontractors. Section B.2 discusses the responsibilities of the Project Task Leader and Section B.3 provides pertinent information regarding the laboratory subcontractor.

B.1 Organizational Chart

Project Team:

Project Manager/Task Leader – Peter J. Gorton (PEI) –716-821-1650
Project Engineer - John B. Berry, P.E. (PEI) – 716-821-1650
Project Geologist – Justin Ryszkiewicz (PEI) – 716-821-1650
Project Health & Safety – Peter J. Gorton CHCM (PEI) 716-821-1650
Project QA/QC – Frank Schieppati (PEI) 716- 821-1650

Subcontractors:

Analytical Laboratory – Test America
Borings/Geoprobe® - EPS of Vermont

B.2 Personnel Information

Mr. Peter Gorton is the environmental professional leading (Task Leader) the proposed site-specific Brownfields investigation and is responsible for providing technical direction to their staff concerning project objectives, sampling needs, and schedule. In this capacity, as Task Leader, he will act as the primary point of contact for the municipality with the subject environmental regulatory authorities. Hence, the Task Leader is responsible for the development and completion of this Site-Specific Brownfields SAMP, project team organization, and supervision of all project tasks.

B.3 Laboratory Information

Laboratory Name & Address	Contact & Telephone Number	Sample Analyses
Test America (formally STL) 10 Hazelwood Dr. Suite 106 Amherst, New York14228-2298	Mr., Paul Morrow 716-691-2600	VOCs (EPA 8260) SVOCs (EPA 8270) PCBs (EPA 8082) TAL Metals (EPA 6010/7471)

FORM C: PROJECT DEFINITION

C.0 Site Background

The Niagara County Department of Economic Development has contracted Panamerican Environmental, Inc. (PEI) to conduct a Limited Phase 2 Environmental Site Assessment (ESA) of the Commerce Square Site (formerly Harrison Radiator facility). PEI previously completed a Phase 1 Environmental Site Assessment of the Site in July 2006. Environmental concerns at the facility are associated with the past use of the property for the manufacturing of automobile parts including the existence of Underground Storage Tanks (USTs). The facility closure documentation (*Environmental Audit and Closure Evaluations. Prepared by O'Brien & Gere for Harrison Radiator Division, May 1987 and Harrison Radiator Asbestos Removal - Phase I Buildings 1, 2, and 3 prepared by O'Brein & Gere for Harrison Radiator, April 12, 1988)* indicates that the complex was thoroughly cleaned when Harrison Radiator ended operation.

Closure documentation identified a number of underground storage tanks (USTs) on the property (see attached facility drawing) including several USTs closed in place by filling with cement. The focus of this Limited Phase 2 ESA relates to the 12 USTs located on the property identified in the closure report including:

- Two 10,000 -gallon tanks (identified as T1 on facility drawings) are shown located west of Building 2 possibly beneath Elm Street. These tanks reportedly contained Naphtha and were closed in 1960s by filling with water and later closed in 1986 by filling with concrete.

- Four 5,500-gallon tanks (T2) are shown located east of Building 4. These tanks contained gasoline/diesel and were closed and filled with water in 1960s and filled with concrete/removed in 1986.

- One 2,500-gallon tank (T3) was shown located west of Building 3 possibly beneath Elm Street. This tank contained liquid detergent and was closed in 1960s by filling with water and later closed in 1986 by filling with concrete.

- Three 20,000-gallon tanks (T4) were shown located adjacent to the storage yard and west of the boiler house. These tanks contained fuel oil and were reportedly removed in 1987.

- One 500-gallon tank (T5) was shown located north of Building 2 beneath the Walnut Street sidewalk. This tank was reportedly closed in 1960s by filling with water and later closed in 1986 by filling with concrete.

- One 650-gallon tank (T6) was shown located north of Building 2 beneath the Walnut Street sidewalk. This tank was reportedly closed in 1960s by filling with water and later closed in 1986 by filling with concrete.

In 2005, NYSDEC Spill #9975547 indicated three USTs were excavated in the Walnut Street right-of-

way. This excavation most likely involved the previously mentioned 500 and 650-gallon USTs identified above as well as a 1,000 gallon UST removed under the Walnut Street sidewalk adjacent to building 4.The spill was reported by the City of Lockport Sewer & Water Division when petroleum odors were noted by a worker repairing a fire hydrant. During UST closure activities the three USTs were removed, 145 tons of petroleum impacted soil was removed, 12,350-gallons of water were disposed and the spill was closed in 2005.

C.1 Historical Data Review Report

PEI previously completed a Phase 1 Environmental Site Assessment of the Site in July 2006 which included historical data review. Also, facility closure documentation including an Environmental Audit and Closure Evaluations were prepared by O'Brien & Gere for Harrison Radiator Division (May 1987) and Harrison Radiator Asbestos Removal - Phase I Buildings 1, 2, and 3 prepared by O'Brein & Gere for Harrison Radiator (April 1988).

C.2 Site Reconnaissance Reports

Refer to C.1 above.

C.3 Project Definition

The Limited Phase 2 ESA includes the installation of 10-12 soil borings (refer to Figure 1) and collection of boring soil samples in the area occupied by the USTs described in Section C.1 above. The program will assess if contaminated soil conditions exist as a result of possible leaking tanks. After completing the site investigation, a report will be prepared which summarizes the field activities, analytical testing/results, and presents the findings of the program. A summary of the nature of contamination, if any, will be submitted along with conclusions and recommendations. Copies of field data, analytical test results, and other relevant information will be included.

FORM D: PROJECT DESCRIPTION

D.0 Data Use Objectives

This limited Phase 2 investigation is limited to the UST area. A more detailed Phase 2 is anticipated after this investigation to further delineate the property as a whole and identify all site wide contamination, as necessary. The County has an approved NYSDEC Environmental Restoration Program (ERP) grant which includes additional assessment efforts. As such, this Phase 2 effort is limited to the UST area of the site as one of the more potentially impacted areas of the property**.**

The soil sample analytical data collected will be used to assess if contaminated soil conditions exist as a result of possible leaking USTs. The data will also be used to determine, if possible, the nature and extent of contamination in the UST area only.

D.1 Brownfields Site Investigation Reports

After completing the site investigation, a report will be prepared which summarizes the field activities, analytical testing/results, and presents the findings of the program. A summary of the nature of contamination, if any, will be submitted along with conclusions and recommendations.

D.2 Quality of Data Needed for Environmental Data Measuring

Appropriate QA/QC procedures will be undertaken, as discussed in detail in other sections of this plan, regarding sample collection procedures, sample data analyses and data usability confirmation.

D.3 Project Description

The following tasks will be performed as part of the Phase II ESA. The text of this section describes the logistical steps and activities to be followed in completion of this program.

Subsurface Soils Investigation

Approximately 10-12 soil borings will be advanced (refer to Figure1) at the property in the area occupied by the USTs. Borings will be advanced to an average depth of 12-16 feet below ground surface (20 feet if possible based on bedrock near the 20,000-gallon UST locations) using Geoprobe® direct push technology. Continuous soil sampling will

be conducted using the Geoprobe® with a two-inch diameter sampler with four-foot lengths.

A PEI field geologist will log all samples and perform visual and field screening of all soil samples for volatile organic compound (VOC) concentrations using a photoionization detector (PID). The locations of the soil borings will be field located and are subject to accessibility and the location of underground utility lines. All soil borings will be advanced at a minimum distance of 2.5 feet away from marked utilities, where present, to reduce the possibility of accidentally damaging an underground line. All probe holes will be filled with indigenous soil or clean sand prior to leaving the location. An asphalt patch will be applied.

A record of soil stratigraphy and soil gas readings (PID) will be recorded. Four samples will be obtained, one each from the four locations showing the highest PID readings or visual and olfactory observations. The exact locations where each sample will be collected will be determined in the field based on conditions as noted above. The samples will be analyzed by Test America a NYSDOH ELAP certified laboratory for the following:

- PCBs (EPA 8082)
- TCL VOCs (EPA 8260)
- TCL SVOCs (EPA 8270)
- TAL Metals (EPA 6010/7471)

It is anticipated that unused dedicated sampling equipment will be used for each sample collected. If, however, sampling equipment is reused EPA Region 2 procedures for decontamination of sampling equipment will be followed. Since unused dedicated sampling equipment will be used for each sample no field rinsate blank will be collected. If the equipment is to be decontaminated the following procedures will be followed:

A Detergent/tap water wash
A Tap water rinse
A 10% nitric acid (ultra pure) rinse (if sampling for metals)
A Deionized/distilled water rinse
A Acetone or methanol/hexane rinse (pesticide grade or better)
A Deionized/distilled water rinse

Assessment of subsurface conditions will be based on visual/olfactory observations, volatile organic field screening of all the borings and soil sample analytical results at the four worst case locations.

Upon completion of the investigation and review of the field and analytical data, PEI will review with the County preliminary findings and recommendations. Analytical data will be compared with NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 recommended soil cleanup objectives (used by the NYSDEC for

petroleum spills) and the New York State Brownfields Cleanup Program Soil Cleanup Objectives as presented in 6 NYCRR Part 375-6.8 regulations.

Data validation will be performed on all samples analyzed and a data usability summary report (DUSR) will be prepared. Chemworld Environmental, Inc., a certified Women-Owned Business Enterprise (WBE) firm, will perform data validation which will include a DUSR on samples. The data validation will be a review of the following criteria:

- Holding times
- Data completeness
- Comparison of surrogate, spike, and duplicate recoveries to validation criteria
- Blank contamination
- Quantitation check that reported sample results are correct
- Proper sample analysis

Chemworld will provide DUSR Services utilizing USEPA Region II and NYSDEC guidelines, as required.

Preparation of Phase II Investigation Report

After completing the site investigations, a report will be prepared which summarizes the field activities, analytical testing/results, and presents the findings of the program. A summary of the nature of contamination, if any, will be submitted along with conclusions and recommendations. Copies of field data, analytical test results, and other relevant information will be included.

Three draft report copies and one electronic copy will be submitted for review by the County, USEPA and the City of Lockport. Any comments will be incorporated, as applicable into the final Report and the requested number of copies will be submitted.

FORM D: PROJECT TIME LINE

D.4Project Time Line

Activities *(Includes Products and/or Services)*	Dates *(MM/DD/YY)*	
	Activity Start Date	Activity End Date
Field Investigation	1/15/09	1/16/09
Laboratory Analysis CLP Deliverable package	1/17/09	2/17/09
Data Validation CLP Package	2/18/09	2/28/09
Report Preparation/Submission	3/1/09	4/1/09

Upon approval of the SAMP by the EPA Brownfield's Project manager the Project Timeline will be revised as appropriate.

FORM E: SAMPLING DESIGN

E.0 Sampling and Analysis

The purpose of performing this site investigation is to determine the presence and identity of contaminants, as well as, the extent to which they have become integrated into the surrounding environment. The objective of this effort will be to collect and analyze soil samples which are representative of the area adjacent to the various UST locations. The methods, procedures and equipment to be used for collecting soil samples and the analyses to be performed on each sample are discussed in Section E.1.

E.1 Sampling Design

Approximately 10-12 soil borings will be advanced at the property in the area occupied by the USTs. Borings will be advanced to an average depth of 12-16 feet below ground surface (20 feet if possible based on bedrock near the 20,000-gallon UST locations) using Geoprobe® direct push technology. Continuous soil sampling will be conducted using the Geoprobe® with a two-inch diameter sampler with four-foot lengths.

A PEI field geologist will log all samples and perform visual and field screening of all soil samples for volatile organic compound (VOC) concentrations using a photoionization detector (PID). The locations of the soil borings will be field located and are subject to accessibility and the location of underground utility lines. All soil borings will be advanced at a minimum distance of 2.5 feet away from marked utilities, where present, to reduce the possibility of accidentally damaging an underground line. All probe holes will be filled with indigenous soil or clean sand prior to leaving the location. An asphalt patch will be applied.

A record of soil stratigraphy and soil gas readings (PID) will be recorded. Assessment of subsurface conditions will be based on visual/olfactory observations and volatile organic screening of all the borings and based on analytical results at the four worst case locations. Four samples will be obtained, one each from the four locations showing the highest PID readings or visual and olfactory observations. The samples will be analyzed by Test America a NYSDOH ELAP certified laboratory for the following:

- PCBs (EPA 8082)
- TCL VOCs (EPA 8260)
- TCL SVOCs (EPA 8270)
- TAL Metals (EPA 6010/7471)

Assessment of subsurface conditions will be based on visual/olfactory observations, volatile organic field screening of all the borings and soil sample analytical results at the four worst case locations.

FORM F-1: METHOD AND SOP REFERENCE TABLE

F-1.0 Standard Operating Procedures

This section list the various sampling and laboratory SOPs utilized as part of the Phase 2 ESA.

F-1.1 Sampling SOPs

The specific sampling SOPs used for this project are listed in the reference table in section F-1.2.

F-1.2 SOP Reference Table

ANALYTICAL METHOD REFERENCE (*Include document title, method name/number, revision number, date)*
1a. EPA 8082 -PCBs SW 8463 Solid & Hazardous Waste Methods 3rd Edition 12/96
2a. EPA 8270 -TCL SVOA SW 8463 Solid & Hazardous Waste Methods 3rd Edition 12/96
3a. EPA 8260 – TCL VOC SW 8463 Solid & Hazardous Waste Methods 3rd Edition 12/96
4a. EPA 6010/7471 –TAL Metals SW 8463 Solid & Hazardous Waste Methods 3rd Edition 12/96
PROJECT ANALYTICAL SOPs (*Include document title, date, revision number, and originator's name)*
1b. Analytical Methods for GC/MS Semi volatile Samples by SW846 3RD Edition Method 8270C, September 29, 2007, Revision 7, TestAmerica (formally STL) Buffalo
2b.Analytical Methods for the GC/MS Volatile samples 8260B, May 31,2006, Revision 8, Test America (formally STL) Buffalo
3b.Analysis of PCB's-Method-8082, September 29, 2003, Revision 3, Test America (formally STL) Buffalo
4b.Method 6010B/200.7/CLP using The Thermo Jarrell Ash 61E Trace, June 13, 2006, Revision 16, Test America (formally STL) Buffalo
5b. Method 7470A, 7471A, & 245.1 Mercury Preparation and Analysis, September 26, 2006, Revision 7, Test America (formally STL) Buffalo
PROJECT SAMPLING SOPs

1c. American Society for Testing Material (ASTM), 1992, ASTM D1586-84, Standard Method for Penetration Test and Split Barrel Sampling of Soils.
2c. U.S.EPA Sampler's Guide to the Contract Laboratory Program
3c.
4c.

FORM F-2: SAMPLING AND ANALYTICAL METHODS REQUIREMENTS

F-2.0 Sampling and Analytical Parameters

Matrix (Sample Type)[1]	Number of Samples[2]	Sampling SOP[3]	Parameter/Fraction	Minimum Sample Volume	Sample Container[4]	Sample Preservation	Analytical Method[5]	Reporting Limit	Technical Holding Time
Soil (Four samples total from 10-12 Geoprobe holes)	8	1c,2c	PCBs (EPA 8082) TCL VOCs (EPA 8260) TCL SVOCs (EPA 8270) TAL Metals (EPA 6010/7471)	8 oz and 2x2oz	8 oz. amber wide-mouth glass and 2 two ounce wide mouth glass with Teflon lined cap	Cool to 4°C	SW-8463	Varies Based on Method	8270 and 8082, 7days till extraction, 40 days till analysis (soils), 8260 14 days till analysis, 6010 180 days till extraction and analysis, 7471 (digestion procedure in method)

Legend:
[1] Sample Type: insert sample location, identification number, and sample depth when necessary.
[2] The number of samples includes 4 soil samples and 4 QA/QC samples (MD, MS, MSD & Field Dup.). If sampling equipment is re-used a rinsate blank will also be collected.
[3] The reference number corresponds to the Project Sampling SOP delineated in Form F-1.
[4] All sample bottles must comply with the *U.S.EPA Specifications and Guidance for Contaminant-Free Sample Containers,* OSWER Directive #9240.0-05A, EPA 540/R-93/051.
[5] The complete analytical method citation is delineated in Form F-1.

FORM G: PREVENTIVE MAINTENANCE - FIELD EQUIPMENT

G.0 Preventative Maintenance - Field Equipment

Field screening of all soil samples for volatile organic compound (VOC) concentrations will be performed by using a portable photo ionization detector (PID). The PID that will be used is RAE Systems MiniRAE 2000 Portable VOC Monitor PGM-7600. The PID will be rented from Field Environmental Instruments, Inc. (FEI) a supplier of field environmental instruments/equipment. The PID will be fully cleaned and calibrated before sending to PEI. An Operating and Maintenance (O&M) manual for the PID accompanies the instrument. Provided in Appendix B is a copy of the MiniRAE 2000 O&M Manual table of contents. Maintenance of the PID is discussed in Section 7 of the manual. The full manual can be provided upon request.

FORM H: CALIBRATION AND CORRECTIVE ACTION - FIELD EQUIPMENT

H.0 Calibration and Corrective Action - Field Equipment

Field screening of all soil samples for volatile organic compound (VOC) concentrations will be performed by using a portable photo ionization detector (PID). The PID that will be used is RAE Systems MiniRAE 2000 Portable VOC Monitor PGM-7600. The PID will be rented from Field Environmental Instruments, Inc. (FEI) a supplier of field environmental instruments/equipment. The PID will be fully cleaned and calibrated before sending to PEI. An Operating and Maintenance (O&M) manual for the PID accompanies the instrument. Provided in Appendix B is a copy of the MiniRAE 2000 O&M Manual table of contents. Calibration and corrective action of the PID are discussed in Section 2 and 4 of the manual. The full manual can be provided upon request.

FORM I: PREVENTIVE MAINTENANCE - LABORATORY EQUIPMENT

I.0 Preventive Maintenance - Laboratory Equipment

Preventive maintenance will be in accordance with EPA SW-846 3rd Edition and Test America SOPs (F-1.2 Ref. Table Project SOP 1b-5b)

FORM J: CALIBRATION & CORRECTIVE ACTION - LABORATORY EQUIPMENT

J.0 Calibration and Corrective Action - Laboratory Equipment

The calibration procedures and corrective actions which will be employed for this site investigation will be performed in accordance with the appropriate U.S.EPA SW-8463 and Test America SOPs (F-1.2 Ref. Table Project SOP 1b-5b)

FORM K: SAMPLE HANDLING AND CHAIN OF CUSTODY REQUIREMENTS

K.0 Sample Documentation and Handling

This section details the documentation and handling procedures for soil samples collected during the site investigation.

K.1 Sample Documentation

All sample documents will be legibly written in ink. Any corrections or revisions to sample documentation shall be made by lining through the original entry and initialing any changes. To elaborate on these requirements, the following sub-sections are provided to outline sample documentation procedures which will be employed when conducting the site investigation.

K.1.1 Field Logbook

A field logbook will be maintained detailing site activities and observations. All entries will be signed by the individuals who are making them. The field logbook entries will document the following specific information:

- Site name and project number.
- Contractor name and address.
- Names of personnel on site.
- Dates and times of all entries.
- Descriptions of all site activities, including site entry and exit times.
- Noteworthy events and discussions.
- Weather conditions.

K.1.2 Field Data Sheets and Sample Labels

Field data sheets, along with corresponding sample labels, will be used to identify samples and document field sampling conditions and activities. Field data will include the following information:

- Site name.
- Contractor name and address.
- Samplers name.
- Sample location and sample identification number.
- Date and time the sample was collected.
- Type of sample collected.

- Brief description of the site.
- Weather conditions.
- Analyses to be performed.
- Sample container, preservation, and storage information.

Sample labels will be securely affixed to the sample container. They will clearly identify the particular sample, and delineate the following information:

- Site name and designated project number.
- Sample identification number.
- Date and time the sample was collected.
- Sample preservation method.
- Sample pH.
- Analysis requested.
- Sampling location.

See Appendix A for sample forms.

K.1.3 Chain of Custody Record

A chain-of-custody record will be maintained from the time of sample collection until final deposition. The chain-of-custody record will include the following information:

- Contractor name and address.
- Sample identification number.
- Sample location.
- Sample collection date and time.
- Sample information (matrix type, number of bottles collected, container type, etc).
- Names and signatures of samplers.
- Signatures of all individuals who have had custody of the samples.

See Appendix A for sample forms.

K.1.4 Custody Seals

Custody seals will be used to demonstrate that a sample container has not been opened or tampered with. The individual who has sample custody will sign, date, and affix the custody seal to the sample container in such a manner that it cannot be opened unless it is broken. When samples are not under direct control of the individual currently responsible for them, they will be stored in a locked container which is also to be affixed with a custody seal.

See Appendix A for sample forms.

K.2 Sample Handling and Shipment

All sample containers for shipment will be securely closed with a custody seal affixed to each cap. All sample containers will be labeled as described above. Subsequently, they will be placed in an appropriate transport container and packed with an absorbent material such as vermiculite. All sample containers will be packed with ice to maintain a temperature of 4°C. All sample documentation will then be affixed to the underside of each transport container lid. The transport container lid will then be closed and affixed with a custody seal accordingly. Samples will be directly delivered from the site to Test America's local laboratory.

K.3 Sample Handling and Chain of Custody Requirements

The procedures to be used will follow the chain-of-custody guidelines outlined in *NEIC Policies and Procedures*, prepared by the National Enforcement Investigations Center (NEIC) of the USEPA Office of Enforcement. Procedures include:

1) The chain-of-custody record will be completely filled out with all relevant information.
2) The white original copy of the chain-of-custody travels with the samples and will be placed in a Zip lock bag and taped inside the sample cooler.
3) Mark volume level on bottle with grease pencil.
4) Place about 3 inches of inert cushioning material (such as zonolite) in bottom of cooler.
5) Place bottles in cooler so they do not touch (use cardboard dividers).
6) Put VOA vials in Zip lock bags and place them in the center of the cooler.
7) Pack bottles, especially VOA vials, in ice in plastic bags.
8) Pack cooler with ice in Zip lock plastic bags.
9) Pack cooler with cushioning material.
10) Put paperwork in plastic bags and tape with masking tape to inside lid of cooler.
11) Tape drain shut.
12) Wrap cooler completely with strapping tape at two locations. Secure lid by taping. Do not cover any labels.
13) Place lab address on top of cooler.
14) Hand deliver samples.
    - ! Put "This side up" labels on all four sides and "Fragile" labels on at least two sides.
    - ! Affix numbered custody seals on front right and left of cooler. Cover seals with wide, clear tape.

FORM L: ANALYTICAL PRECISION AND ACCURACY

L.0 Analytical Data Quality Requirements and Assessments

Test America will use analytical methods as described in Section F-1.2 - SOP Reference Table - analytical method Reference 1a). Test America's specific requirements and limits for the Section F-1.2 EPA Methods derived from real samples is described in Test America SOPs (F-1.2 Ref. Table Project SOPs 1b-5b)

L.1 Data Acceptance/Performance Criteria

Refer to L.0 above

L.2 Analytical Precision

Refer to L.0 above

L.3 Analytical Accuracy

Refer to L.0 above

L.4 Analytical Precision and Accuracy Requirements

Refer to L.0 above

L.4.1 Fixed Laboratory Precision and Accuracy Requirements

Refer to L.0 above

L.4.2 In-situ Field Analytical Precision and Accuracy Requirements

Refer to L.0 above

FORM M: FIELD QUALITY CONTROL REQUIREMENTS

M.0 Data Measurement Quality Objectives

Data measurement quality objectives will be in accordance with PEI SOPs (F-1.2 Ref. Table of Project Sampling SOPs 1c and 2c)

M.1 Sample Collection Precision

Refer to Section M.0 above

M.2 Sample Collection Accuracy

Refer to Section M.0 above

M.3 Sample Collection Representativeness

Refer to Section M.0 above

M.4 Sample Collection Comparability

Refer to Section M.0 above

M.5 Sample Collection Completeness

Refer to Section M.0 above and Section Q-2.1 Data Verification and Validation requirements.

M.6 Sampling Quality Control Requirements

A total of three QA/QC samples will be analyzed (MD, MS and MSD). Plus one field duplicate sample

FORM N: DATA MANAGEMENT AND DOCUMENTATION

N.0 Data Reporting

The laboratory data will be reported on CLP type forms along with the raw data. The CLP type forms will have corresponding Forms 1,2,3,4 and 6 (retention time and %RSD for the curve) along with Form 8 (analytical sequence), Form 9 (continuing calibration check with %D's and retention times). Field data will be recorded in the daily log book and on other field forms as necessary.

N.1 Data Formatting

Refer to N.0 above

N.2 Field Data Reporting

All field data and observations will be reported in the project daily log book and will become part of the permanent project record.

N.3 Laboratory Data Reporting

Refer to N.0 above

N.4 Data Management and Documentation Requirements

Refer to N.0 above

N.4.1 Fixed Laboratory Data Deliverable Requirements

Refer to N.0 above

N.4.2 In-situ Field Analytical Data Deliverable Requirements

PID readings of VOCs will be recorded during soil boring operations and used as a soil sample selection criteria. All reading will be recorded in the daily log book and on the boring logs.

FORM O: ASSESSMENT AND RESPONSE ACTIONS

O.0 Quality Assurance Requirements

Test America will use analytical methods and QA requirements as described in Section F-1.2 - SOP Reference Table - analytical method Reference 1a). Test America's specific requirements and limits for the Section F-1.2 EPA Methods derived from real samples is described in Test America SOPs (F-1.2 Ref. Table Project SOPs 1b-5b)

O.1 Definitive Data Requirements

Refer to O.0 above

O.2 Analytical Error

Refer to O.0 above

O.3 Total Measurement Error

Refer to O.0 above

O.4 Assessment and Response Actions

Refer to O.0 above

O.5 Correlation of Fixed Laboratory and In-situ Field Analytical Data

PID readings of VOCs will be recorded during soil boring operations and used as a soil sample selection criteria. All reading will be recorded in the daily log book and on the boring logs.

FORM P: PROJECT REPORTS

P.0 Quality Assurance Reporting

Quality assurance activities will be recorded as appropriate on reports discussed in Section K and the Project Daily Log Book.

P.1 Roles and Responsibilities

Roles and responsibilities of key project team members will be maintained throughout the project as described in Section B.

P.2 Trip Reports

The daily field activities will be recorded in the field logbook per the requirements of Section K1.1

P.3 Project Report Requirements

The field sampling program is anticipated to be completed in one day. The daily field activities will be recorded in the field logbook per the requirements of Section K1.1 of this document. The logbook will be submitted to the Project Manager for inclusion in the Phase II ESA report.

FORM Q-1: VERIFICATION OF SAMPLING PROCEDURES

Q-1.0 Performance and Systems Audits

No field audits will be conducted since only four samples will be collected over a one day time period

Q-1.1 Verification of Sampling Procedures

The Project Manager will be in the field to oversee that the sampling program is conducted in accordance with the QAPP and the SAMP

FORM Q-2: DATA VERIFICATION AND VALIDATION

Q-2.0 Data Validation

Full data validation will be performed on all samples analyzed in accordance with EPA requirements. The data validation will include review of the following criteria:

- Holding times
- Data completeness
- Comparison of surrogate, spike, and duplicate recoveries to validation criteria
- Blank contamination
- Quantitation check that reported sample results are correct
- Proper sample analysis

Q-2.1 Data Verification and Validation Requirements

Refer to Q-2.0 above

Q-2.1.1 Fixed Laboratory Confirmatory Data Verification and Validation Requirements

Refer to Q-2.0 above

Q-2.1.2 In-situ Field Analytical Data Verification and Validation Requirements

Not applicable

FORM R: DATA USABILITY

R.0 Data Quality Assessment

Data validation will be performed on all samples analyzed and a data usability summary report (DUSR) will be prepared. The data validation will review of the following criteria:

- Holding times
- Data completeness
- Comparison of surrogate, spike, and duplicate recoveries to validation criteria
- Blank contamination
- Quantitation check that reported sample results are correct
- Proper sample analysis

R.1 Data Quality Assessment Process

This limited Phase 2 investigation is limited to the UST area. A more detailed Phase 2 is anticipated after this investigation to further delineate the property as a whole. The County has an approved NYSDEC Environmental Restoration Program (ERP) grant which includes additional assessment efforts. As such, this Phase 2 effort is limited to the UST area of the site as one of the more potentially impacted areas of the property**.**

Upon completion of the Phase 2 investigation and review of the field and analytical data, PEI will review with the County preliminary findings and recommendations. Analytical data will be compared with NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 recommended soil cleanup objectives (used by the NYSDEC for petroleum spills) and the New York State Brownfields Cleanup Program Soil Cleanup Objectives as presented in 6 NYCRR Part 375-6.8 regulations. These documents provide lists of analytical compounds with concentration value limits that if exceeded, would constitute some form of cleanup/remediation of the soils. The data from this UST Phase 2 program will be evaluated with the data generated in future investigations as discussed above from the rest of the site to form an overall assessment of the property regarding possible site remediation needs and end use objectives of the property.

R.2 Data Usability/Reconciliation Requirements

Refer to R.0 above

APPENDIX A

SAMPLE FIELD FORMS

Panamerican

Panamerican Environmental, Inc.
2390 Clinton Street
Buffalo, New York 14227
Tel: (716) 821-1650
Fax: (716) 821-1607

FIELD DATA SAMPLING SHEET

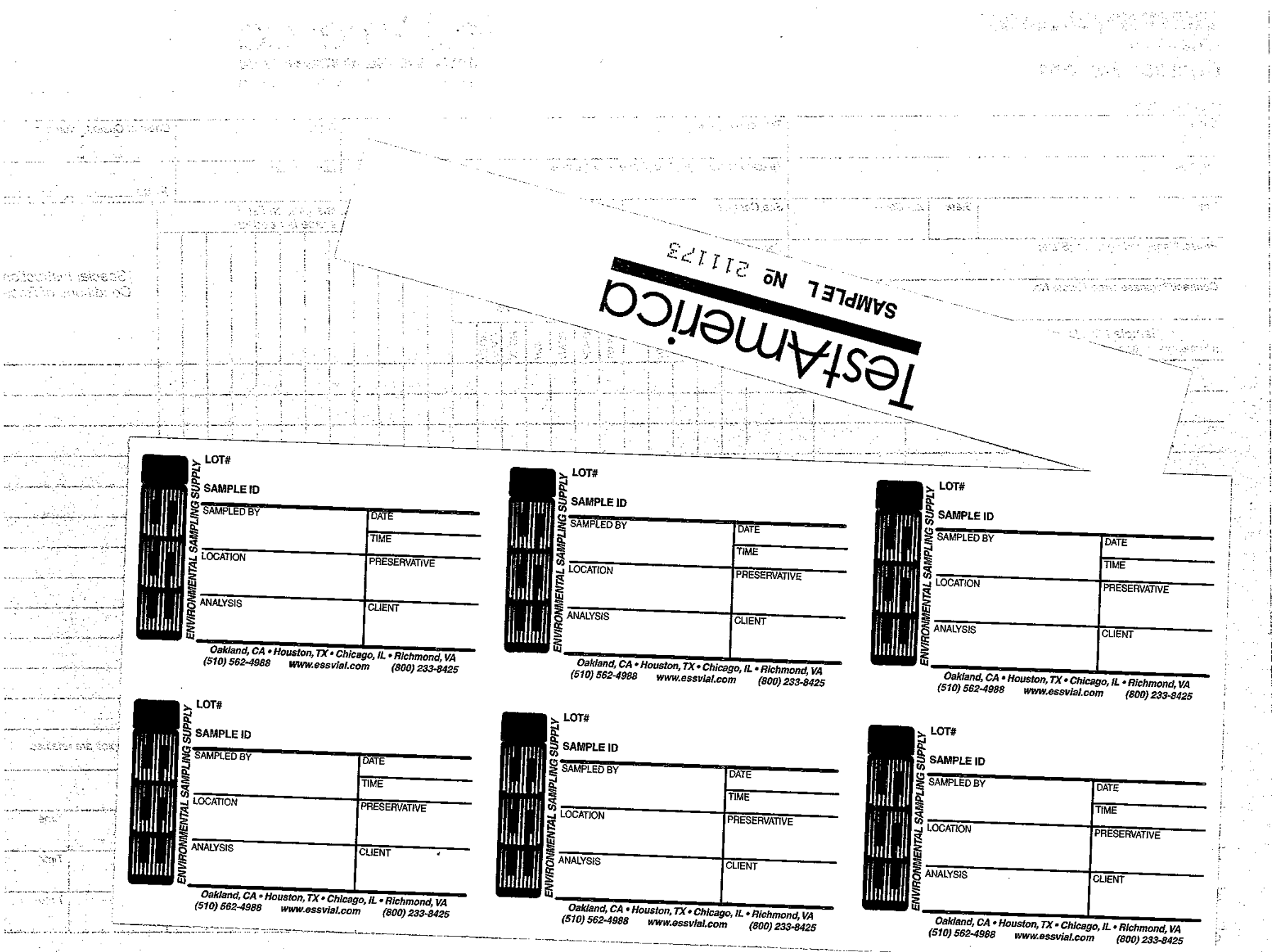
DATE:_____

PROJECT NAME/LOCATION_____

SAMPLER_____ **Weather**_____

Sample I.D. /Type and Analyses	Date	Time

Sample Container, Preservation and Storage Information:


TestAmerica
SAMPLE No 211173
ENVIRONMENTAL SAMPLING SUPPLY
LOT#
SAMPLE ID
SAMPLED BY
DATE
TIME
LOCATION
PRESERVATIVE
ANALYSIS
CLIENT
Oakland, CA • Houston, TX • Chicago, IL • Richmond, VA
(510) 562-4988 www.essvial.com (800) 233-8425

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4142 (0907)

Client	Project Manager	Date	Chain of Custody Number 388878
Address	Telephone Number (Area Code)/Fax Number	Lab Number	Page _____ of _____
City / State / Zip Code	Site Contact	Lab Contact	Analysis (Attach list if more space is needed)
Project Name and Location (State)	Carrier/Waybill Number		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Special Instructions/ Conditions of Receipt

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

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

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other_____

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

APPENDIX B

PID O&M Manual T of C

MiniRAE 2000

Portable VOC Monitor
PGM-7600
OPERATION AND MAINTENANCE MANUAL

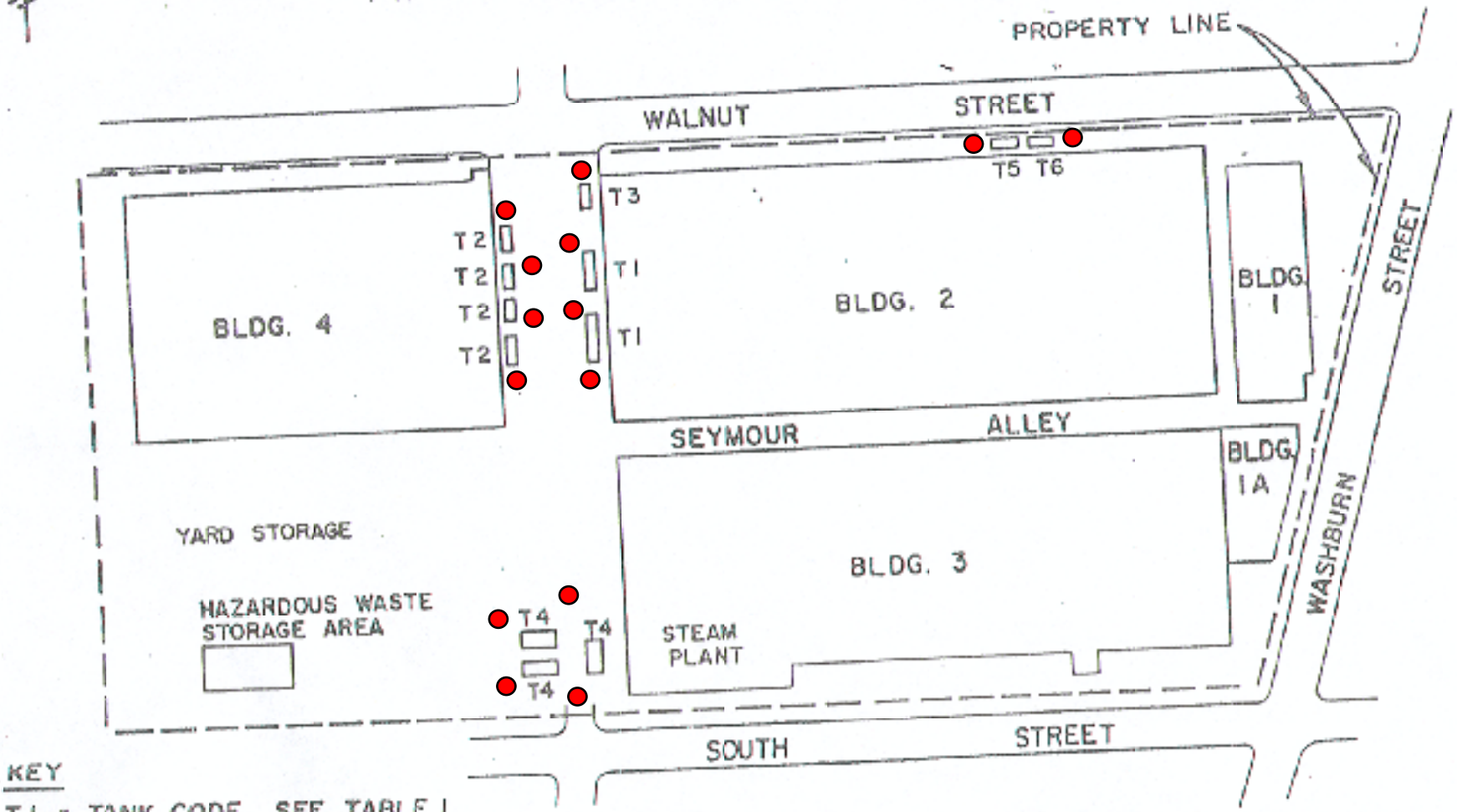
(Document No.: 011-4001)
Rev. C

RAE SYSTEMS INC.
1339 Moffett Part drive
Sunnyvale, CA 94089
November 2001

Table of Contents

HARRISON RADIATION DIVISION
LOCKPORT, NEW YORK

SITE PLAN AND UNDERGROUND STORAGE TANK DECOMMISSIONING PLAN



KEY

T I = TANK CODE, SEE TABLE I FOR DESCRIPTION AND DECOMMISSIONING ACTIVITIES

● - Tenitive Soil Boring Locations (note - actual locations will be based on field observations and underground utilities)

O'BRIEN & GERE ENGINEERS