Phase II Off-site Vapor Intrusion Evaluation Report
Kodak Park
Rochester, New York

Prepared by:

EnviroGroup Limited
Centennial, Colorado

Prepared for:

NPEC, Inc.
Rochester, New York

December 11, 2007

Project No. EK-0468

EnviroGroup Limited
The environmental solutions company

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EnviroGroup Limited
The environmental solutions company

NPEC, Inc.

3800 Dewey Avenue, #317, Rochester, New York 14616-2579

December 20, 2007

Mr. Lawrence M. Thomas
Senior Engineering Geologist
Engineering Geology Section
New York State
Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7252

Subject: **Work Plan for Phase III Off-site Vapor Intrusion Evaluation, Kodak Park, Rochester, New York**

Dear Mr. Thomas,

Please find attached the work plan for the Phase III Off-site Vapor Intrusion Evaluation, Rand Street Area; Kodak Park, Rochester, New York, as prepared by EnviroGroup Limited. Following Agency review and input on the work plan, Kodak is prepared to initiate this work early in the coming year.

During your review, should you have any questions regarding the content of the work plan, please contact me at 585-588-2117. After the turn of the year, I will contact you to arrange a conference call to discuss the work plan and receive the Agency's initial input.

Sincerely,

David J. Mitchell

Quantum Management Group, Inc.

DJM
Attachment

c:Thomas Marriott, NYSDEC
Susan Shearer, NYSDOH
Joseph Albert, MCDOH

David J. Mitchell, P.G., P.E., Kodak Park Corrective Action Program Manager, Tel: (585) 588-2117 Fax: (585) 588-2161

EnviroGroup Limited
The environmental solutions company

EK-0468

December 19, 2007

Mr. David J. Mitchell, P.G., P.E.
Quantum Management Group, Inc.
3800 Dewey Avenue, #317
Rochester, New York 14616-2579

Subject: **Phase III Off-site Vapor Intrusion Evaluation**
Rand Street Area
Kodak Park, Rochester, New York

Dear Mr. Mitchell:

This letter provides a work plan for a Phase III off-site vapor intrusion investigation at Kodak Park in Rochester, New York to be conducted by EnviroGroup Limited (EnviroGroup) personnel on behalf of NPEC, Inc., (NPEC) a wholly-owned subsidiary of Eastman Kodak Company. An initial Phase I investigation to evaluate the potential for vapor intrusion in certain off-site areas around the perimeter of Kodak Park was conducted by EnviroGroup personnel in October and November 2006 and results were presented in the "Off-site Vapor Intrusion Evaluation Report" (EnviroGroup, 2006). An additional Phase II off-site vapor intrusion evaluation, and subsequent confirmatory re-sampling, was conducted by EnviroGroup personnel in October and November 2007 and results were presented in the "Phase II Offsite Vapor Intrusion Evaluation Report" (EnviroGroup, 2007). The additional Phase II vapor intrusion investigation was conducted to fill data gaps, confirm previous analytical results, and evaluate the nature and extent of contaminants of concern in certain off-site areas around the perimeter of Kodak Park.

This Phase III work plan describes additional investigation activities to evaluate the presence and nature and extent of certain volatile organic compounds (VOCs) in soil vapor along the southern boundary of Kodak Park (Figure 1).

The following sections of this letter describe the Rand Street investigation area, the scope of work, investigation procedures, the investigation team, and the proposed schedule.

Summary of Rand Street Investigations

During the October and November 2006 Phase I off-site vapor intrusion investigation, six soil vapor probes (SVRS1D, SVRS2D, SVRS3D, SVRS4D, SVRS5D, and SVRS4S) were installed to confirm the findings of previous studies. Soil vapor samples were collected from

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www.envirogroup.com

probes SVRS1D, SVRS4D, SVRS4S, and SVRS5D and analyzed by H&P Mobile Geochemistry for VOCs by EPA Method TO-15. Soil vapor samples could not be collected from probes SVRS2D or SVRS3D due to the presence of groundwater in the soil vapor probe tubing. Analytical results indicated the presence of tetrachloroethene (PCE) in probes SVRS1D, SVRS4D, SVRS4S, and SVRS5D and trichloroethene (TCE) in probe SVRS5D.

During the October 2007 Phase II off-site vapor intrusion investigation, existing soil vapor probes SVRS4D and SVRS5D were sampled to confirm the previous detections of PCE and TCE, respectively. Two previously installed soil vapor probes (SVRS2D and SVRS3D) which previously could not be sampled due to the presence of groundwater within each probe, were also sampled. Additionally, three new soil vapor probes (SVRS6D, SVRS7D, and SVRS8D) were installed near probe SVRS5D and sampled to investigate the source and extent of the concentrations of TCE observed in probe SVRS5D. Soil vapor samples were collected from probes SVRS2D, SVRS3D, SVRS4D, SVRS5D, SVRS6D, SVRS7D, and SVRS8D and analyzed by Centek Laboratories LLC (Centek) for VOCs and 1,4-Dioxane by EPA Method TO-15. Analytical results indicated the presence of PCE and TCE in all sampled soil vapor probes.

In November 2007, five soil vapor probes with TCE analytical results greater than 5.0 ug/m^3 (micrograms per cubic meter) (i.e. SVRS3D, SVRS5D, SVRS6D, SVRS7D, and SVRS8D) were resampled to confirm October 2007 analytical results. Soil vapor samples were collected and analyzed by TestAmerica Analytical Laboratories (TestAmerica) and Centek for VOCs and 1,4-Dioxane by EPA Method TO-15. Analytical results indicated the presence of PCE in probes SVRS3D, SVRS5D, SVRS6D, and SVRS8D and TCE concentrations greater than 5.0 ug/m^3 in probes SVRS5D and SVRS8D, although concentrations were substantially lower than those detected in October.

Ambient air samples were also collected at the same time as soil vapor samples during each vapor intrusion investigation and analyzed for VOCs by EPA Method TO-15. Analytical results indicated low levels of PCE in ambient air during the October 2006 sampling event, PCE and TCE in ambient air during the October 2007 sampling event, and TCE in ambient air during the November 2007 sampling event.

As a result of the Phase II findings, additional Phase III investigation activities are proposed to evaluate the presence and nature and extent of certain VOCs in soil vapor along the southern boundary of Kodak Park.

Scope of Work

The following scope of work includes the installation of up to 27 new, permanent soil vapor probes approximately 1 to 2 feet above the water table in the Rand Street area, re-sampling six existing soil vapor probes installed during previous investigations, and the installation of up to four new, permanent soil vapor probes in the bedding material above the crown of the sewer line(s) within and adjacent to Kodak Park. In addition, Kodak will collect up to five sewer headspace air samples from sewer line(s) within and adjacent to Kodak Park and

sample 20 existing groundwater monitoring wells in the Rand Street area and along Kodak's southern boundary. Proposed sample locations are presented on Figure 1.

Soil Vapor

Under this proposed scope of work, Kodak will install up to 27 new, permanent soil vapor probes approximately 1 to 2 feet above the water table along the southern Kodak Park boundary and along Rand Street, Aster Street, and Steko Avenue to further investigate the source and extent of TCE concentrations observed in soil vapor probes SVRS3D, SVRS5D, SVRS6D, SVRS7D, and SVRS8D. Additionally, Kodak will install up to four new, permanent soil vapor probes in the bedding material above the crown of the sewer line(s) within and adjacent to Kodak Park, as presented on Figure 1. The total number of soil vapor probes installed during this investigation will be based on real-time analytical data and New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) approval. All soil vapor probes will be constructed in accordance with NYSDOH guidance (NYSDOH, 2006).

To optimize the number and locations of new soil vapor probes, a mobile laboratory provided by H&P Mobile Geochemistry will be utilized to provide real-time laboratory analysis of soil vapor samples to guide the installation of each new soil vapor probe location. The mobile lab will perform soil vapor analysis utilizing EPA Method 8021 with nominal reporting limits of 5.0 ug/m^3. The final number and extent of new soil vapor probes will be determined based on TCE analytical results, which will be used to guide the installation of probe locations.

Upon completion of the installation of new soil vapor probes and mobile laboratory analysis, soil vapor samples will be collected from each new soil vapor probe and six existing soil vapor probes (SVRS3D, SVRS4D, SVRS5D, SVRS6D, SVRS7D, and SVRS8D) in accordance with NYSDOH guidance documents and submitted to a fixed-based, Environmental Laboratory Approval Program (ELAP)-certified laboratory (i.e. Centek) for analysis. All samples will be analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15.

If a good correlation between the mobile lab (8021) and Centek (TO-15) results is demonstrated, only a subset of the new soil vapor probes may be sampled for confirmatory TO-15 analysis, as approved by the NYSDEC and NYSDOH (agencies).

Sewer Headspace

Sewer headspace air samples will be collected from sewer line(s) within and adjacent to Kodak Park to assess VOC concentrations within the sewer line(s), as presented on Figure 1. The sewer headspace samples will be screened in the field using the mobile lab (8021), with select samples sent to Centek for confirmatory TO-15 analyses as approved by the agencies.

Groundwater

Groundwater samples will be collected from 20 existing groundwater monitoring wells in the Rand Street and southern Kodak Park area to assess VOC concentrations in the underlying aquifers, as presented on Figure 1. Prior to groundwater sampling activities, water levels will be measured in each well. Upon completion of water level measurements, each well will be sampled consistent with approved Kodak standard operating procedures pursuant to the RCRA corrective measures program. Groundwater samples will be submitted to an ELAP-certified laboratory (i.e. TestAmerica) and analyzed for VOCs by EPA Method 524.2.

Ambient Air Sampling

Ambient air samples will be collected at the same time as soil vapor in the Rand Street area. One ambient air sample will be collected per day, from a representative/upwind location, submitted to an ELAP-certified laboratory, (i.e. Centek) and analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15 to provide information on potential background levels of compounds of concern due to ambient air.

Investigation Procedures

All activities described in this work plan will be conducted in accordance with NYSDOH guidance documents (NYSDOH, 2006).

Soil Vapor Probe Installation, Sampling, and Analysis

Permanent soil vapor probes will be installed during investigation activities in accordance with NYSDOH guidance. Soil vapor probe installation, sampling, and analysis procedures are described in NPEC's "Vapor Intrusion Evaluation, Proposed Off-Site Investigations" letter, dated August 30, 2006 with supplemental information and modifications previously provided to the agencies on September 25, September 28, and September 29, 2006.

Soil vapor samples will be collected in 1000 mL Summa® (or equivalent) canisters supplied and certified clean (i.e. batch certification) to reporting limit levels by an ELAP-certified laboratory. Soil vapor samples will be shipped under chain-of-custody documentation to an ELAP-certified laboratory and analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15 with minimum reporting limits of 1µg/m^3 or less.

Additionally, prior to the installation of each new soil vapor probe, the Nylaflow® tubing and stainless steel screens will be assembled and connected to a cylinder of Ultra High Purity (UHP) nitrogen provided by Centek. UHP nitrogen will be passed through each soil vapor probe assembly at approximately 30 psi for 1 minute to purge the probe assembly of potential contaminants. Upon completion of purging activities, and using freshly-gloved hands, each probe assembly will be immediately placed into the borehole by drilling personnel and completed consistent with NYSDOH guidance (NYSDOH, 2006).

Soil Vapor Probe Equipment Quality Assurance and Control

Prior to deployment to Kodak Park, all soil vapor sample Summa® canisters (or equivalent) and flow regulators will be cleaned and blank checked by Centek according to Method TO-15 standards. To avoid cross contamination, each soil vapor probe location will have its own dedicated, laboratory-set flow regulator that will not be reused at any other location during this sampling event.

Prior to commencement of soil vapor probe installation activities, a newly purchased 500 foot length of Nylaflow® tubing will be "blank checked" by an ELAP-certified laboratory prior to installation. The blank check shall consist of passing UHP nitrogen through the tubing and collecting the purge gas in a Summa® (or equivalent) canister for VOCs and 1,4-Dioxane analysis by EPA Method TO-15. The UHP nitrogen will be passed through the tubing for the blank check at the same rate that the soil vapor samples will be collected at Kodak Park (~100 mL/min). Additionally, the UHP nitrogen used to perform the blank check will be sampled and analyzed by Method TO-15 for comparison to the tubing blank results. Sample tubing will be deemed clean if there are no detections greater than three times the level detected in the UHP nitrogen blank. Any parameter reported at a concentration greater than three times the UHP nitrogen blank, or the reporting limit, whichever is higher, will be considered a detection and the tubing will not be used. Upon completion of purging and sampling, the ends of the each length of tubing will be capped and the tubing placed inside an air-tight storage bag or container and kept away from solvents, hydrocarbons, and truck exhaust. During the installation of soil vapor probes, all tubing will remain capped except during installation and will be stored inside the cab of the EnviroGroup vehicle.

All stainless steel screens will also be "blank checked" by an ELAP-certified laboratory prior to installation. All stainless steel screens will be rinsed with a small quantity of reagent grade methanol, baked in a gas chromatograph for 15 minutes at 100° Celsius, and placed into an air-tight storage bag. UHP nitrogen will then be passed through the bag at (~100 mL/min). A sample will then be collected in a Summa® (or equivalent) canister and analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15. Upon completion of purging and sampling, the screens will remain inside an air-tight storage bag and stored inside the cab of the EnviroGroup vehicle away from hydrocarbons and truck exhaust.

New valves will be used to connect the soil vapor probe tubing to the Summa® (or equivalent) canisters at each soil vapor sample location. A minimum of three probe volumes (i.e., the volume of probe screen and tubing) will be purged from each soil vapor probe location prior to sample collection.

Ambient Air Sample Collection and Analysis

Ambient air samples will be collected in 1000 mL Summa® (or equivalent) canisters supplied and certified clean (i.e. batch certification) by an ELAP-certified laboratory. Samples will be collected over approximately the same time period as the soil vapor samples in the same area. Ambient air samples will be shipped under chain-of-custody documentation to an ELAP-

certified laboratory and analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15 with minimum reporting limits of 1$\mu g/m^3$ or less.

Quality Assurance and Control

Quality control procedures will be consistent with NYSDOH guidance (NYSDOH, 2006), including sample log sheets and collection of duplicate samples and trip blanks (1 in 20), and standard laboratory quality control tests and procedures pursuant to EPA Method requirements.

Laboratories will provide complete data packages as defined under the requirements of the NYSDEC Analytical Services Protocol Category B or EPA Contract Laboratory Program deliverables. Soil vapor, ambient air, and groundwater data will be reviewed, validated, and verified in terms of their ability to satisfy quality assurance requirements. Quality control procedures will be reviewed to verify consistency with NYSDOH guidance (as presented in the NYSDEC guidance for development of a Data Usability Summary Report).

Investigation Team Key Personnel

A summary of relevant experience for each team member of the investigation team is provided below.

Project Management

The project manager responsible for implementation of this work plan will be David Folkes of EnviroGroup Limited, a recognized expert in the field of vapor intrusion. Mr. Folkes has worked on over 30 vapor intrusion projects across the country, including project management of the Redfield Site, one of the earliest and largest vapor intrusion sites in the US. Because of his experience, Mr. Folkes was invited by EPA to speak at the National RCRA Meetings in 2000 and 2002 on general vapor intrusion issues and at the EPA vapor intrusion guidance training seminars in 2002 and 2003. Since that time, he has helped train numerous state regulatory officials on vapor intrusion evaluation procedures, including members of the New England Waste Management Official's Association. Mr. Folkes is a member of the Interstate Technology and Regulatory Council (ITRC) Vapor Intrusion internet training team, which also developed comprehensive vapor intrusion guidance, and is co-chair of an American Society of Testing Methods (ASTM) work group committee developing standards for evaluating vapor intrusion during Phase 1 environmental site assessments.

Garry Stanley of EnviroGroup Limited will assist Mr. Folkes with day to day coordination of project work, including field arrangements, coordination with subcontractors, data validation and evaluation, and reporting. Mr. Stanley has a Master's degree in Hydrogeology and over 8 years experience, including the installation of numerous soil vapor probes and monitoring wells, and oversight of long-term monitoring programs at major contamination sites.

Field Team

Eric Lovenduski of EnviroGroup will supervise the installation of the soil vapor probes. Mr. Lovenduski has over eight years of experience in environmental consulting, including the installation of numerous soil vapor probes. He is skilled in planning and completing complex environmental investigations, reports, and evaluating corrective actions as well as developing cost and time effective solutions to contaminated site redevelopment projects. Mr. Lovenduski has worked for a number of years as a consultant in New York and is experienced with vapor intrusion evaluations under NYSDEC and NYSDOH protocols. Mr. Stanley will provide backup support to Mr. Lovenduski if additional field support is required.

Flint Kinkade will collect the soil vapor samples from the probes following NYSDOH guidance procedures. Mr. Kinkade has collected thousands of soil vapor samples following state-of-the-art procedures.

Other EnviroGroup staff are available to provide field and office support, if needed.

Laboratories

H&P Mobile Geochemistry will provide the mobile laboratory and perform the EPA Method 8021 analyses on soil vapor samples, under the direction of Dr. Blayne Hartman. H&P Mobile Geochemistry's soil vapor standard operating procedures using EPA Method 8021 is provided as Attachment 1. Centek, an ELAP-certified laboratory, will be utilized as the fix-based laboratory and perform the EPA Method TO-15 analyses on all soil vapor, sewer headspace, and ambient air samples. TestAmerica, an ELAP-certified laboratory will analyze groundwater samples for VOCs by EPA Method 524.2. Centek and Test America's current ELAP-certifications are provided as Attachment 2.

Schedule

Kodak is prepared to begin the implementation steps of this work plan as soon as approved by the agencies. Soil vapor probe installation should commence within three to four weeks of agency approval, off-site access and availability of drilling equipment permitting. Soil vapor, sewer headspace air samples, and ambient air analytical results are expected within one week of sample delivery to Centek with the associated Category B package expected within 21 days of sample delivery. Groundwater analytical results are expected within three weeks of sample delivery. Analytical results will be submitted to the agencies in a data report by Kodak within four weeks of receipt of the Category B package in anticipation of follow-up meeting(s) with the agencies to review analytical results and discuss the potential need for any additional data collection and/or investigation activities.

December 19, 2007

Sincerely,
EnviroGroup Limited

David J. Folkes, P.E.
Principal

Cc: Project File EK-0468

Attachments

Attachment 1

H&P Mobile Geochemistry
Soil Vapor Standard Operating Procedures Using EPA Method 8021

MOBILE GEOCHEMISTRY

H&P

Soil Vapor Standard Operating Procedures Using EPA Method 8021

Revision 5

January 2007

Prepared by:

H&P Mobile Geochemistry

760-804-9678

Analytical Methodology

Operating Conditions and Instrumentation

Chloirinated Hydrocarbons by EPA Modified 8021

Instrument: Shimadzu GC-14 or SRI 8610 Gas Chromatograph
Column: 15 to 60 meter megabore capillary.
Carrier flow: Helium or nitrogen at 15 ml/min.
Detectors: Photoionization and Electron Capture Detectors.

Standard Preparation

- **Primary (stock) standards:** Vapor standards purchased from certified supplier.
- **Secondary (working) Standards:** Made by diluting primary standard with clean air or nitrogen. Typical concentration range 2 ppbv to 100 ppbv.

Certificates and preparations of all secondary standards are recorded on a log sheet and kept in the mobile laboratory.

Initial Multi-Point Calibration Curve

An initial calibration curve of a minimum of 3 points will be performed at the start of the project.

Calibration curves for each target component are prepared by analyzing low, mid, and high calibration standards covering the expected concentration range. The lowest standard concentration will not exceed 5 times the reporting limit for each compound.

A linearity check of the calibration curve for each compound is performed by computing an average response factor. If a percent relative standard deviation (%RSD) of $\pm$ 20% is obtained, an average response factor is used over the entire calibration range.

Continuing Calibration (Daily Mid-point Calibration Check)

Continuing calibration standards prepared from a traceable source will be analyzed at the beginning of each day. Acceptable continuing calibration agreement is set at $\pm$ 20% to the average response factor from the calibration curve. When calibration checks fall outside this acceptable range for analytes detected on the site, corrective action, consisting of verification of the standard and/or a new calibration curve for the analytes out of specifications is performed by the on-site chemist.

Detection Limits

Reporting limits for this program are defined as 5 times lower than the lowest concentration standard of the calibration curve and will be approximately 5 ug/m3 for trichloroethylene,:

Injection of Soil Gas Samples

Vapor samples are withdrawn from the sampling syringe with a 1 cc syringe and injected directly into a sampling port on the gas chromatograph. The injection syringe is flushed 2 times with the sample prior to injection. Injection syringes are flushed several times with clean air or discarded between injections.

Laboratory Data Logs

The field chemist maintains analytical records including date and time of analysis, sampler's name, chemist's name, sample id number, concentrations of compounds detected, calibration data, and any unusual conditions.

Quality Control Procedures

Compliance With Standards

Sampling and analytical procedures used by H&P complied with the American Society for Testing and Materials' *Standard Guide for Soil Gas Monitoring in the Vadose Zone* (ASTM D5314-93).

Staff Responsibilities

Staff responsibilities regarding operating and quality assurance procedures are assigned as follows:

Field Supervisor/Chemist:

- daily maintenance, startup and calibration of analytical equipment
- daily performance of quality control protocol
- sample and QA/QC sample analysis
- preparation of standards for linearity checks
- sample collection
- Chain-of-Custody Report completion
- documentation of analyses, problems, QA, maintenance of project files
- preparation of preliminary analytical report

Laboratory Director Responsibility:

- preparation of SOPs and QA/QC protocol
- implementation of QA program and technical training of personnel
- document control, security and confidentiality
- technical application and development
- verification of project data completeness
- verification of QA/QC compliance
- verification of client requirements
- preparation of QA report to include: technical difficulties, QA/QC results and conclusions

Analytical Quality Control

Method Blanks

Method blanks are performed at the start of each day and at the end of each day by drawing clean air through the sampling equipment and analyzing. These blanks verify all components of the sampling and analytical system are free of contamination. Additional blanks are performed more often as appropriate depending upon the measured concentrations, at a minimum 1 every 20 samples. The results of all blank analyses are recorded in the data tables. If a blank shows a measurable amount of any target compound, the on-site chemist will investigate and determine the source, and resolve the contamination problem prior to analyzing any samples.

Duplicate Samples

Duplicate (repetitive) analysis of a sample is performed when inconsistent data are observed, but at least one every 20 samples. Because vapor duplicates can vary widely, nominal relative percent difference (RPD) acceptance criteria is $\pm$ a factor of 2.

Phase II Off-site Vapor Intrusion Evaluation Report

Kodak Park

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Prepared by:

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Rochester, New York

December 11, 2007

Project No. EK-0468

Prepared by	12/11/2007 Date
Dave Folkes by KS Reviewed by	12/11/2007 Date
Dave Folkes by KS Approved by	12/11/2007 Date

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1.0 INTRODUCTION

This report presents the results of the Phase II Off-site Vapor Intrusion Investigation conducted by EnviroGroup Limited (EnviroGroup) personnel at Kodak Park in Rochester, New York on behalf of NPEC, Inc., a wholly-owned subsidiary of Eastman Kodak Company. The scope of work was presented in Envirogroup's "Phase II Vapor Intrusion Evaluation, Proposed Off-Site Investigations" work plan, dated June 25, 2007 (EnviroGroup, 2007). The proposed work plan was reviewed by the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) with comments provided to NPEC on July 26, 2007. NPEC responded to NYSDEC and NYSDOH comments on August 15, 2007 and received approval of the work plan on August 22, 2007. The purpose of the investigation was to fill data gaps and confirm analytical results from the Phase I investigation (EnviroGroup, 2006), and to evaluate further the nature and extent of contaminants of concern in certain off-site areas around the perimeter of Kodak Park (Figure 1.1).

The following sections of the report present the field investigation and laboratory procedures (Section 2.0); the results of the investigation (Section 3.0); an investigation summary (Section 4.0); and references (Section 5.0).

2.0 FIELD INVESTIGATION AND LABORATORY PROCEDURES

This section presents a description of the field investigations and laboratory procedures used by EnviroGroup at Kodak Park.

2.1 INVESTIGATION AREAS

This section discusses the investigation activities within specific areas of Kodak Park and its perimeter where soil vapor probes were installed to evaluate potential offsite vapor impacts.

2.1.1 West Ridge Plaza and Devitt Street

Seven soil vapor probes (SVCP4D through SVCP10D) were installed in West Ridge Plaza to investigate the source and extent of trichloroethene (TCE) observed in previously installed probe location SVCP1D. Soil vapor probes were located approximately 50 feet west, north, and east, and 25 feet south of probe SVCP1D with three additional probe locations further downgradient (east/northeast) in the direction of groundwater flow. Additionally, existing soil vapor probe SVCP1D was sampled to confirm the previous Phase I detection of TCE in this location. Figure 2.1 presents the West ridge Plaza probe locations.

Existing soil vapor probe SVDV1D, located on Devitt Street, was also sampled as part of the current investigation (see Figure 2.1).

2.1.2 Lake Avenue

Previously installed soil vapor probe SVLA1D1, which could not be sampled during the Phase I evaluation due to presence of groundwater in the tubing (EnviroGroup Limited,

2006), was sampled as part of the Lake Avenue investigations. Soil vapor probe SVLA1D2, which was sampled during the Phase I evaluation, could not be re-sampled due to the presence of groundwater in the tubing. The Lake Avenue soil vapor probe locations are shown on Figure 2.2.

2.1.3 Rand Street

Seven soil vapor probes (SVRS6D through SVRS12D) were proposed for installation to investigate the source and extent of the low concentrations of tetrachloroethene (PCE) and TCE observed in previously installed probe location SVRS5D. The locations of the Rand Street probes are shown on Figure 2.3. Three soil vapor probes (SVRS6D, SVRS7D, and SVRS8D) were installed approximately 50 feet west, north, and east of SVRS5D within Kodak Park. Four soil vapor probes (SVRS9D, SVRS10D, SVRS11D, and SVRS12D) were proposed south of SVRS5D on the adjacent residential properties south of Kodak Park. As of the date of this report, access agreements between Kodak Park and the adjacent residents have not been signed by the residents, consequently the four proposed offsite probes at this location were not installed.

Existing soil vapor probes (SVRS2D and SVRS3D), which could not be sampled during the Phase I evaluation due to presence of groundwater in the tubing (EnviroGroup Limited, 2006), were also sampled. Additionally, soil vapor probe SVRS4D was also sampled as part of the Phase II evaluations.

2.1.4 Koda Vista

Prior to investigation activities, two existing soil vapor probes (SVKV3D and SVKV4D) located at the southern end of Corona Road were inspected by Kodak personnel and found to contain groundwater. Consequently, two replacement soil vapor probes (SVKV3S and SVKV4S) were installed and sampled at this location to confirm the results of previous investigations.

As part of the Phase II investigation, existing soil vapor probes (SVKV1S and SVKV2D), which could not be sampled during the Phase I evaluation due to presence of groundwater in the tubing (EnviroGroup Limited, 2006), were sampled. Existing soil vapor probe, SVKV1D was also sampled as part of this investigation. Koda Vista area probe locations are shown on Figure 2.4.

2.2 FIELD INVESTIGATION PROCEDURES

This section discusses the field investigation procedures used to install soil vapor probes and to collect soil vapor and ambient air samples at the areas of investigation.

2.2.1 Borehole Drilling

Prior to drilling activities, Kodak Park personnel located and cleared on-site underground utilities at each proposed borehole location and Nothnagle Drilling (Nothnagle) contacted Dig Safely New York to locate and clear underground utilities at all proposed off-site borehole locations. Drilling and soil vapor probe installation activities were completed by Nothnagle. Twelve soil vapor probes were drilled to depths ranging from 7.0 to 16.0 feet below ground surface (bgs) using a track-mounted Geoprobe® with 2 1/8 inch outer diameter (O.D.) and 1 7/8 inch inner diameter (I.D.) Macro-Core® sampling barrels at locations approved by NPEC personnel.

Subsurface soil data were obtained during the drilling of each borehole. Borehole soil samples and cuttings were logged lithologically on borehole logs. Soil samples were collected by continuous sampler from ground surface to the total depth of each borehole and were logged for visual descriptions and screened for the presence of organic vapors utilizing a MiniRae 2000® photoionization detector (PID) and recorded in parts per million (ppm) on borehole logs.

Borehole Logs are provided in Appendix A.

2.2.2 Soil Vapor Probe Installation

Boreholes for 12 soil vapor probes were advanced to total depth and completed with soil vapor probe materials.

Soil vapor probes were constructed utilizing 1/4 inch diameter by 6 inch long, stainless steel screens connected to 1/4 inch I.D. Teflon tubing consistent with NYSDOH guidance (NYSDOH, 2006). Screens were placed at the desired sampling depth (typically in the middle of the sampling zone, described below) and the tubing extended up the center of the borehole to approximately 6 inches above ground surface and fitted with an air-tight valve. The length of each soil vapor sampling zone varied slightly (typically two feet in length) based on soil stratigraphy and moisture content. Stainless steel screens were centered within each sampling zone and the annulus surrounding each screen backfilled with typically two feet of glass beads, 60 – 120 sieve size. Soil vapor probe sampling zones were then sealed with a bentonite seal. Granular bentonite was installed in nominal 8 inch lifts (with distilled water hydration following each lift) to a height of approximately two feet above the glass beads. The remaining annulus was backfilled to grade with granular bentonite, installed in two foot lifts (with distilled water hydration between each lift). A five inch diameter flush-mount well vault was concreted around the top of each soil vapor probe tube to minimize infiltration of water or outdoor air. Soil cuttings generated during soil vapor probe installation activities were placed adjacent to each soil vapor probe location for management and final disposition by Kodak Park personnel.

Twelve soil vapor probes were installed during investigation activities in accordance with the project work plan and consistent with the proposed work plan and NYSDOH guidance (EnviroGroup, 2007; NYSDOH, 2006). As indicated above, due to the inability

of obtaining access agreements from the property owners, proposed soil vapor probes SVRS9D through SVRS12D could not be installed in the Rand Street investigation area.

2.2.3 Soil Vapor Sampling Procedures

In October 2007, soil vapor samples were collected from 12 new and 10 existing soil vapor probes. Soil vapor samples could not be collected from one existing soil vapor probe (SVLA1D2) due to the presence of groundwater within the soil vapor probe. Based on the laboratory results for the October 2007 sampling event, eight soil vapor probes (SVCP1D, SVCP4D, SVCP10D, SVRS3D, SVRS5D, SVRS6D, SVRS7D, and SVRS8D) were re-sampled in November 2007 to confirm October 2007 analytical results. All soil vapor samples were collected in accordance with NYSDOH guidance (NYSDOH, 2006).

Soil vapor samples were collected by utilizing the same sampling procedure at each location. The following procedures were used during soil vapor sampling:

- soil vapor probes were not disturbed for at least 24 hours after installation and before sampling;
- three probe volumes (i.e., the volume of probe screen and tubing) were calculated based on the diameter of the tubing (i.e. new soil vapor probes were constructed utilizing 0.25 inch I.D. Teflon tubing and existing soil vapor probes were constructed utilizing 0.17 inch I.D. polyethylene tubing) and purged prior to sample collection (Teflon tubing was selected for the new soil vapor probes based on its lower adsorption characteristics and enhanced chemical resistance properties. Both Teflon and polyethylene are approved materials under NYSDOH soil vapor guidance (NYSDOH, 2006);
- the flow rate for purging did not exceed 0.1 liters per minute;
- the flow rate for sampling did not exceed 0.1 liters per minute and was controlled by laboratory-set regulators installed on the sample canisters;

- soil vapor samples were collected in 1 liter stainless steel canisters certified clean by the laboratory (Centek Laboratories, LLC, (Centek) or TestAmerica, Inc. (TestAmerica)) Environmental Laboratory Approval Program (ELAP)-certified laboratories;
- sample canisters were connected to the probe tubing by an air-tight valve, which allowed purging and tracer gas testing using a 60 milliliter (ml) calibrated gas-tight syringe;
- duplicate and replicate samples were collected from soil vapor probes using a "T" configuration;
- the volume of each soil vapor sample collected exceeded the minimum volume required to achieve the minimum reporting limit; and
- a helium tracer gas was used when collecting soil vapor samples to verify that appropriate sampling techniques were being implemented.

During soil vapor sampling activities, a clean, small stainless steel shroud with two small ports was placed over each soil vapor probe. An air-tight seal of hydrated bentonite was placed on the ground surface around the edge of the shroud where it contacted the ground.

At new soil probe locations, the soil vapor tube was cut just below ground surface (due to potential "kinking" of the Teflon tubing in the flush-mount well vault) and an extension consisting of 0.25 inch I.D. Teflon tubing and a 1 inch long piece of 0.25 inch I.D. laboratory grade tygon tubing were connected to bring the soil vapor probe tubing above grade. Each connection was located inside the shroud and the tubing extended through the air-tight seal of hydrated bentonite to the exterior side of the shroud. All extension tubing was purged in the field with ultra high purity (UHP) nitrogen gas provided by Centek prior to use. At existing soil vapor probe locations, the soil vapor probe tubes, which were fitted with an air-tight valve, were also extended up through the air-tight seal of hydrated bentonite to the exterior side of the shroud. Each soil vapor tube was then

connected to an air-tight 3-way valve with a tedlar bag attached to one side of the valve and the sampling tube on the other side of the valve (both outside of the shroud).

Prior to purging or sampling activities, helium tracer gas was released via a small diameter tube through a port located on the top of the shroud into the enclosure beneath the shroud. A sample of the air inside the shroud was measured through the second port using a portable helium detector to determine the concentration of helium within the enclosure beneath the shroud.

Three purge volumes (calculated based on the volume of probe tubing and screen) were purged from the soil vapor tube through the shroud and into the tedlar bag. The tedlar bag was then connected to a portable helium detector to measure for the presence of helium gas in the purged vapors. Immediately after soil vapor purging and prior to sampling, a soil vapor sample was collected by syringe through the air-tight valve in the sample tubing and analyzed in the field for the presence of helium gas using a portable monitoring device. If high concentrations (>10% of the shroud concentration) of helium were observed in the soil vapor sample, the soil vapor probe seal and shroud seal were checked and/or enhanced to reduce the infiltration of ambient air into the enclosure and another sample collected. If helium concentrations were less than 10%, a soil vapor sample was collected in a 1 liter sample canister and submitted for laboratory analysis. All helium gas concentrations measured during soil vapor sampling activities were less than 1%.

Helium gas concentrations and soil vapor sample information are provided on Soil Vapor Survey Log Sheets in Appendix B.

2.2.4 Ambient Air Sampling Procedures

Ambient air samples were collected from five investigation areas as presented on Figures 2.1, 2.2, 2.3, and 2.4. Ambient air samples were collected by EnviroGroup with

assistance by Viridian, Inc. (Viridian) personnel utilizing the same sampling procedure at each location.

The following procedures were used during ambient air sampling:

- ambient air samples were collected in 1 liter stainless steel canisters certified clean by the ELAP-certified laboratory (Centek or TestAmerica);
- the flow rate for each sample was controlled by laboratory-set regulators which were quick-connected to each sample canister; twenty minute, thirty minute, two hour, or three hour regulators were provided by the laboratories and selected for use in the field based on the projected number of soil vapor probes to be sampled within each investigation area;
- ambient air samples were collected at representative/upwind locations concurrently with all soil vapor samples within each investigation area;
- ambient air samples were collected at ground level to be representative of air in contact with the ground;
- duplicate and replicate samples were collected using a "T" configuration; and
- the volume of each ambient air sample collected exceeded the minimum volume required to achieve the minimum reporting limit.

2.3 LABORATORY PROCEDURES

This section discusses laboratory procedures used for soil vapor and ambient air testing included in the investigation.

2.3.1 Analytical Testing - Soil Vapor

Soil vapor samples from the October 2007 sampling event were analyzed by Centek. Soil vapor samples collected during the November 2007 sampling event were analyzed by TestAmerica and selected replicates analyzed by Centek. Soil vapor samples

collected from the West Ridge Plaza and Devitt Street investigation areas were analyzed for chlorinated volatile organic compounds (CVOCs) and 1,4-Dioxane by Environmental Protection Agency (EPA) Method TO-15. Soil vapor samples collected from the Lake Avenue, Rand Street, and Koda Vista investigation areas were analyzed for volatile organic compounds (VOCs) by EPA Method TO-15.

2.3.2 Analytical Testing – Ambient Air

Ambient air samples collected during the October 2007 sampling event were analyzed by Centek. Ambient air samples collected during the November 2007 sampling event were analyzed by TestAmerica and selected replicates analyzed by Centek. Ambient air samples collected from the West Ridge Plaza and Devitt Street investigation areas were analyzed for CVOCs and 1,4-Dioxane by EPA Method TO-15. Ambient air samples collected from the Lake Avenue, Rand Street, and Koda Vista investigation areas were analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15.

2.3.3 Laboratory Quality Control Samples

Laboratory quality control (QC) samples collected prior to investigation activities during the October, 2007 sampling event included air samples collected from four rolls of new Teflon tubing (i.e. Tubing Roll 1, Tubing Roll 2, Tubing Roll 3, and Tubing Roll 4) and two groups of new stainless steel screens (i.e. Group 1 Probes and Group 2 Probes).

To minimize the potential for introduction of contaminants of concern from soil vapor probe construction materials into the subsurface, new soil vapor probe supplies (i.e. four 50 foot rolls of Teflon tubing and 18 stainless steel screens), ordered from Geoprobe® Systems, were shipped directly to Centek for cleaning and analysis prior to investigation activities. Each roll of tubing was purged by Centek with UHP nitrogen. Each group of stainless steel screens (i.e. nine per group) were cleaned by Centek utilizing a rinse with a small quantity of methanol and baked in a gas chromatograph for 15 minutes at 100°

Celsius. Samples were then collected by passing UHP nitrogen through each item (i.e. roll or group) at less than 0.1 liters per minute. Samples were collected from each roll and group and analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15.

Upon collection of each sample, the ends of each roll of tubing were fitted with plastic end caps to trap the UHP nitrogen within the tubing and placed into individual, clean, air-tight storage bags. Each group of stainless steel screens were also placed into individual, clean, air-tight storage bags filled with UHP nitrogen. Soil vapor probe supplies were hand-delivered by Centek personnel to EnviroGroup personnel on October 1, 2007 and stored inside the cab of the EnviroGroup vehicle, which was not used to store or transport any solvent materials, for the duration of the drilling investigation.

2.3.4 Field Quality Control Samples

During the October 2007 sampling event, field QC samples collected during soil vapor sampling included two soil vapor trip blanks (Trip Blank-SV1 and Trip Blank-SV2), two duplicate soil vapor samples (SVCP8D DUP and SVRS5D DUP), two field equipment blank samples (EB-01 and EB-02), one ambient air trip blank (Trip Blank-AA), and one UHP nitrogen blank (Nitrogen Blank). Field equipment blank samples were collected to evaluate potential contributions of new Teflon tubing installed during this investigation to potential VOC concentrations and are discussed below.

During the November 2007 sampling event, field QC samples collected included one soil vapor trip blank (Trip Blank-SV1) and one ambient air trip blank (Trip Blank-AA).

Prior to the installation of each new soil vapor probe, the Teflon tubing and stainless steel screen were assembled and connected to a cylinder of UHP nitrogen provided by Centek. UHP nitrogen was passed through all but one soil vapor probe assembly at approximately 30 pounds per square inch (psi) for 1 minute to purge the probe assembly of potential contaminants. UHP nitrogen was passed through the probe assembly for SVRS8D at 30

psi for 40 seconds before the UHP nitrogen cylinder was emptied. Upon completion of purging activities, and using freshly-gloved hands, each probe assembly was immediately placed into the borehole by Nothnagle personnel and completed consistent with NYSDOH guidance (NYSDOH, 2006).

After purging probe assemblies for soil vapor probes SVCP10D and SVRS7D, the stainless steel screen was removed from the probe assembly. One end of the Teflon tubing was connected to the cylinder of UHP nitrogen using an air-tight fitting and the other end of the tubing was connected (under positive pressure) via quick-connect fitting to a 1 liter sample canister. Field equipment blank samples EB-01 and EB-02 were collected from tubing (Roll 1 and Roll 2) used for probes SVCP10D and SVRS7D (the third and twelfth soil vapor probe installations of the investigation), respectively. Additionally, sample (Nitrogen Blank), was collected from a second cylinder of UHP nitrogen. The second cylinder, also provided by Centek when the first cylinder was emptied, was used to purge the final soil vapor tubing and stainless steel screen assembly installed as SVRS7D.

During the October 2007 sampling event, soil vapor QC samples (Trip Blank-SV1 and Trip Blank-SV2) were analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15. Soil vapor QC sample SVCP8D DUP was analyzed for CVOCs and 1,4-Dioxane by EPA Method TO-15. Soil vapor QC samples SVRS3D DUP and SVRS5D DUP were analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15. Field equipment blank QC samples EB-01 and EB-02 were analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15. Ambient air QC sample (Trip Blank - AA) was analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15 and sample (Nitrogen Blank) was analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15.

During the November 2007 sampling event, soil vapor QC sample (Trip Blank-SV1) and ambient air trip blank (Trip Blank-AA) were analyzed for VOCs and 1,4-Dioxane by EPA Method TO-15.

2.3.5 Data Validation

October and November 2007 field sample and laboratory results were reviewed, validated, and verified in terms of their ability to satisfy quality assurance (QA) and QC requirements. QC procedures followed were consistent with the approved work plan and NYSDOH guidance (as presented in the NYSDEC guidance for development of a Data Usability Summary Report, NYSDEC, 1997). A least one in twenty samples for each media were tracked through the field logbook, other field forms, chain of custody documents, and laboratory confirmation sheets to check for errors or discrepancies. All samples were analyzed within the specified holding times. For the October 2007 sampling event, trip blanks results for soil vapor and ambient air were reported below laboratory detection limits indicating proper shipping and field handling procedures. However, for the November 2007 sampling event, acetone and methyl ethyl ketone were detected in both the soil vapor and ambient air trip blanks provided and analyzed by Test America. Associated acetone results for samples SVRS6D, SVRS6D REP, SVRS8D, AARS, AARS DUP, and AARS REP and methyl ethyl ketone results for samples SVRS6D and AARS DUP, have been flagged with a "T" (see Section 3.0). For the October 2007 sampling event, equipment blank samples were collected from materials used to construct soil vapor probes to investigate detections of similar analytes in soil vapor samples collected from different investigation areas. Additional details regarding data validation are included in Section 3.3.

3.0 RESULTS OF INVESTIGATION

This section summarizes the conditions encountered and the results of soil vapor and ambient air analyses for each investigation area of this Phase II investigation. A minimum of one soil vapor sample was collected from each investigation area. Ambient air samples were collected from all proposed investigation areas. Table 3.1 presents a summary of soil vapor investigation locations. Table 3.2 presents a summary of laboratory and field QC analytical results. Table 3.3 summarizes October and November 2007 soil vapor analytical results from the West Ridge Plaza, Devitt Street, Lake Avenue, and Koda Vista investigation areas. Table 3.4 summarizes October and November 2007 soil vapor analytical results from the Rand Street investigation area. For general reference, the minimum NYSDOH sub-slab vapor matrix values (NYSDOH, 2006) and EPA 10^{-6} generic shallow soil gas screening levels (EPA, 2002) have been added to Tables 3.3 and 3.4. These will be referenced to hereinafter as the NYSDOH sub-slab and the EPA soil-gas values. Table 3.5 summarizes all ambient air analytical results. Figures 3.1 through 3.4 present results of soil vapor and ambient air analyses for each investigation area of this evaluation.

Complete laboratory analytical data for soil vapor and ambient air samples collected during October and November 2007 are provided in compact disk format in Appendix C.

3.1 SOIL VAPOR RESULTS

Soil vapor probe installation information, borehole stratigraphic information, soil vapor probe sampling information, and soil vapor results are discussed for each investigation area in the following sections.

3.1.1 West Ridge Plaza and Devitt Street

Seven soil vapor probes (SVCP4D through SVCP10D) were installed in West Ridge Plaza to investigate the source and extent of TCE observed in SVCP1D (see probe location on Figure 3.1). Additionally, soil vapor probe SVCP1D was sampled in October 2007 to confirm the previous detection of TCE in this probe. In November 2007, soil vapor probes SVCP1D, SVCP4D, and SVCP10D were re-sampled to confirm October 2007 analytical results.

In general, soils encountered in these boreholes ranged from clays and silts to fine-grained sands with gravel and cobbles. Groundwater was encountered in five of the seven boreholes and ranged in depth from 4.0 feet bgs in borehole SVCP8D to 11.0 feet bgs in borehole SVCP5D. Shallow groundwater was not encountered in boreholes SVCP4D or SVCP7D. The total depth of borehole SVCP7D was 7.0 feet bgs due to drill rig refusal.

A slight petroleum hydrocarbon odor was noted in borehole SVCP4D at a depth of 5.1 to 6.4 feet bgs. A PID reading of 1.2 ppm was measured in the soil core at 6.4 feet bgs. Elevated borehole PID readings of 294 and 206 ppm were also measured at borehole SVCP4D at 2.8 and 6.4 feet bgs, respectively. Slightly elevated borehole PID readings ranging from 0.4 to 3.9 ppm were also measured in boreholes SVCP6D and SVCP7D. These elevated readings may by due to recent application of asphalt sealant over the entire West Ridge Plaza parking lot, as the odor was present during drilling activities. Black organic staining and iron oxide staining were observed in soils collected from boreholes SVCP5D and SVCP10D. No other odors, stains, or PID readings were observed in soils encountered in West Ridge Plaza.

During the October 2007 sampling event, 17 CVOCs were detected in soil vapor probes from the West Ridge Plaza and Devitt Street area. Of these, nine exceeded associated ambient air concentrations by a factor of 2 or more. Of these nine CVOCs, only one

(TCE maximum 76 ug/m^3) was detected above the respective minimum NYSDOH sub-slab value of 5 ug/m^3 and only two additional compounds without NYSDOH values (bromodichloromethane and chloroform, maximum 8.2 and 520 ug/m^3) exceeded their EPA soil-gas values of 1.4 and 1.1 ug/m^3, respectively. 1,4-Dioxane was not detected in any soil vapor samples collected from this investigation area.

During the November 2007 sampling event 14 CVOCs were detected in one or more soil vapor probes. Of these, seven exceeded associated ambient air concentrations by a factor of two or more. Of these seven CVOCs, only one (TCE, maximum 25 ug/m^3) was detected above the respective minimum NYSDOH sub-slab value of 5 ug/m^3 and only two additional compounds without NYSDOH values (bromodichloromethane and chloroform, maximum 3.0 and 270 ug/m^3) exceeded their EPA soil-gas values of 1.4 and 1.1 ug/m^3, respectively. 1,4-Dioxane was not detected in any soil vapor samples collected from this investigation area.

The soil vapor probes where CVOCs were detected at concentrations which moderately exceed associated matrix or screening values are located in a localized zone near the West Ridge Plaza building, remote from Devitt Street and in an area where other potential sources of these compounds exist. Furthermore, CVOCs detected during the November 2007 sampling event were at significantly lower concentrations than those detected during the October 2007 sampling event.

3.1.2 Lake Avenue

In October 2007, existing soil vapor probe SVLA1D1 was sampled for VOCs. A soil vapor sample could not be collected from existing soil vapor probe SVLA1D2 due to the presence of groundwater in the soil vapor probe tubing. No new soil vapor probes were installed at Lake Avenue. Lake Avenue probe locations are presented on Figure 3.2.

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(TCE, maximum 76 ug/m^3) was detected above the respective minimum NYSDOH sub-slab value of 5 ug/m^3 and only two additional compounds without NYSDOH values (bromodichloromethane and chloroform, maximum 8.2 and 520 ug/m^3) exceeded their EPA soil-gas values of 1.4 and 1.1 ug/m^3, respectively. 1,4-Dioxane was not detected in any soil vapor samples collected from this investigation area.

During the November 2007 sampling event 14 CVOCs were detected in one or more soil vapor probes. Of these, seven exceeded associated ambient air concentrations by a factor of two or more. Of these seven CVOCs, only one (TCE, maximum 76 ug/m^3) was detected above the respective minimum NYSDOH sub-slab value of 5 ug/m^3 and only two additional compounds without NYSDOH values (bromodichloromethane and chloroform, maximum 3.0 and 270 ug/m^3) exceeded their EPA soil-gas values of 1.4 and 1.1 ug/m^3, respectively. 1,4-Dioxane was not detected in any soil vapor samples collected from this investigation area.

The soil vapor probes where CVOCs were detected at concentrations which moderately exceed associated matrix or screening values are located in a localized zone near the West Ridge Plaza building, remote from Devitt Street and in an area where other potential sources of these compounds exist. Furthermore, CVOCs detected during the November 2007 sampling event were at significantly lower concentrations than those detected during the October 2007 sampling event.

3.1.2 Lake Avenue

In October 2007, existing soil vapor probe SVLA1D1 was sampled for VOCs. A soil vapor sample could not be collected from existing soil vapor probe SVLA1D2 due to the presence of groundwater in the soil vapor probe tubing. No new soil vapor probes were installed at Lake Avenue. Lake Avenue probe locations are presented on Figure 3.2.

original

Eighteen VOCs were detected in soil vapor sample SVLA1D1. Of these, six exceeded associated ambient air concentrations by a factor of 2 or more. Of these six VOCs, none exceeded the associated minimum NYSDOH sub-slab or EPA soil-gas values. Of the remaining VOCs, one compound (chloroform, 1.4 ug/m^3), exceeded the EPA soil-gas value of 1.1 ug/m^3. 1,4-Dioxane was not detected in soil vapor sample SVLA1D1.

Soil vapor samples were not collected from this area during November 2007.

3.1.3 Rand Street

Three additional soil vapor probes (SVRS6D, SVRS7D, and SVRS8D) were installed and sampled in October 2007 to investigate the source and extent of the concentrations of PCE and TCE previously observed in SVRS5D (probe locations are shown on Figure 3.3). Due to the inability to obtain access agreements from the property owners, four proposed soil vapor probes (SVRS9D, SVRS10D, SVRS11D, and SVRS12D), located south of SVRS5D on the adjacent residential properties south of Kodak Park could not be installed during this investigation. Additionally, soil vapor probes SVRS2D, SVRS3D and SVRS4D were sampled in October 2007. In November 2007, soil vapor probes SVRS3D, SVRS5D, SVRS6D, SVRS7D, and SVRS8D were re-sampled to confirm October 2007 analytical results.

Soils encountered in these boreholes ranged from clays and silts to fragments of asphalt and fill-materials. Perched groundwater was encountered in borehole SVRS7D (located in the grass berm of former Parking Lot 50) at 5.6 feet bgs and shallow groundwater was encountered in boreholes SVRS6D and SVRS7D at 9.2 and 13.8 feet bgs, respectively. Groundwater was not encountered in borehole SVRS8D; however a moist soil zone was observed between 8.0 and 9.3 feet bgs. No odors or PID readings were observed in soils encountered in this investigation area. Up to 10.3 feet of fill material used for berm construction was identified in borehole SVRS7D. A trace of black organic staining was observed in soils from borehole SVRS6D.

During the October 2007 sampling event, 33 VOCs were detected in soil vapor samples collected from the Rand Street area. Of these, 14 exceeded associated ambient air concentrations by a factor of 2 or more. Of these 14 VOCs, four compounds (1,1,1-trichloroethane (1,1,1-TCA), PCE, TCE, and vinyl chloride, maximum 260, 230, 1600, and 300 ug/m^3, respectively) were detected above the respective minimum NYSDOH sub-slab values of 100, 100, 5, and 5 ug/m^3. Three additional compounds without NYSDOH values (1,2-dichloroethane, benzene, and chloroform, maximum 5.6, 27, and 33 ug/m^3, respectively) exceeded their respective EPA soil-gas values of 0.94, 3.1, and 1.1 ug/m^3. 1,4-Dioxane was not detected in soil vapor samples from the Rand Street area during October 2007.

During the November 2007 sampling event, 31 VOCs were detected in soil vapor samples collected from the Rand Street area. Of these, 14 exceeded associated ambient air concentrations by a factor of 2 or more. Of these 14 VOCs, four compounds (1,1,1-TCA, PCE, TCE, and vinyl chloride, maximum 120, 100, 410, and 31 ug/m^3, respectively) were detected above the respective minimum NYSDOH sub-slab values of 100, 100, 5, and 5 ug/m^3. Two additional compounds without NYSDOH values (1,2-dichloroethane and chloroform, maximum 1.2 and 15 ug/m^3, respectively) exceeded their respective EPA soil-gas values of 0.94 and 1.1 ug/m^3. 1,4-Dioxane was not detected in soil vapor samples from the Rand Street area during November 2007.

VOCs detected during the November 2007 sampling event were at significantly lower concentrations than those detected during the October 2007 sampling event.

3.1.4 Koda Vista

Soil vapor samples could not be collected from existing probes SVKV3D and SVKV4D during previous investigations due to the presence of groundwater in the soil vapor probe tubing. Therefore, two shallower soil vapor probes (SVKV3S and SVKV4S) were

installed adjacent to SVKV3D and SVKV4D to confirm the results of previous investigations. The Koda Vista area probes are shown on Figure 3.4. Existing probes (SVRS2D and SVRS3D), which could not be sampled during the Phase I evaluation due to presence of groundwater in the tubing (EnviroGroup Limited, 2006), were sampled in October 2007. Soil vapor probe SVRS4D was also sampled in October 2007.

Soils encountered in boreholes SVKV3S and SVKV4S ranged from clays and silts to very fine and fine-grained sands with small pebbles. During drilling activities, perched/shallow groundwater was encountered in boreholes SVKV3S and SVKV4S at 6.0 and 4.8 feet bgs, respectively. No odors, stains, or PID readings were observed in soils encountered in this investigation area.

During the October 2007 sampling event, 27 VOCs were detected in soil vapor samples collected from the Koda Vista area. Of these, 17 exceeded associated ambient air concentrations by a factor of 2 or more. Of these 17 VOCs, none exceeded the respective minimum NYSDOH sub-slab value and only two additional compounds without NYSDOH values (benzene and chloroform, maximum 5.8 and 8.5 ug/m^3) exceeded their EPA soil-gas values of 3.1 and 1.1 ug/m^3, respectively. 1,4-Dioxane was not detected in soil vapor samples from the Koda Vista area during October 2007.

No soil vapor samples were collected from this area during November 2007.

3.2 AMBIENT AIR RESULTS

Ambient air results are discussed for each investigation area. Ambient air samples were collected at representative/upwind locations concurrently with all soil vapor samples within each investigation area at locations shown on Figures 3.1, 3.2, 3.3 and 3.4.

3.2.1 West Ridge Plaza and Devitt Street

During the October 2007 sampling event, ambient air sample AACP was collected concurrently with soil vapor samples SVCP1D, SVCP4D, SVCP6D, SVCP7D, SVCP8D, SVCP8D DUP, SVCP9D, and SVCP10D in the West Ridge Plaza investigation area utilizing a three hour laboratory-set regulator. The final field canister reading for ambient air sample AACP reached 0 inches of mercury (Hg) at 11:10 A.M.; four minutes prior to the end sample collection time of associated soil vapor sample SVCP5D at 11:14 A.M. Sample AACP was collected at ground surface 35 feet southwest of SVCP4D and was completed in 2:48 minutes. Five CVOCs were detected in ambient air sample AACP. 1,4-Dioxane was not detected in sample AACP.

During the November 2007 sampling event, ambient air sample AACP was collected concurrently with soil vapor samples SVCP1D, SVCP1D REP, SVCP4D, SVCP10D, and SVCP10D REP in the West Ridge Plaza investigation area utilizing a 20 minute laboratory-set regulator. The 20 minute flow regulator was to be set by the laboratory for 2 hours of sample collection time, but was inadvertently set for a six-liter sample canister, resulting in drawing a sample six times faster than anticipated. The final field canister reading for ambient air sample AACP reached 0 inches of Hg at 11:05 A.M.; two minutes prior to the end of sample collection time of associated soil vapor samples SVCP10D and SVCP10D REP at 11:07 A.M.. Sample AACP was collected at ground surface 35 feet southwest of SVCP4D and was completed in 22 minutes. Two CVOCs were detected in the November ambient air sample AACP. 1,4-Dioxane was not detected in the November sample AACP.

Ambient air sample AADV was collected concurrently with soil vapor sample SVDV1D in the Devitt Street investigation area utilizing a 30 minute laboratory-set regulator. Sample AADV was collected at ground surface 25 feet east of soil vapor probe SVDV1D and completed within 30 minutes. Five CVOCs were detected in ambient air sample AADV. 1,4-Dioxane was not detected in sample AADV.

3.2.2 Lake Avenue

Ambient air sample AALA was collected concurrently with soil vapor sample SVLA1D1 in the Lake Avenue investigation area utilizing a 30 minute laboratory-set regulator. Sample AALA was collected at ground surface 10 feet west of soil vapor probe SVLA1D1 and completed within 30 minutes. Eleven VOCs were detected in ambient air sample AALA. 1,4-Dioxane was not detected in sample AALA.

3.2.3 Rand Street

During the October 2007 sampling event, ambient air samples AARS and AARS DUP were collected concurrently with soil vapor samples SVRS2D, SVRS3D, SVRS4D, SVRS5D, SVRS5D DUP, SVRS6D, SVRS7D, and SVRS8D in the Rand Street investigation area utilizing three hour laboratory-set regulators. Samples AARS and AARS DUP were collected at ground surface 15 feet west of soil vapor probe SVRS2D and completed within 3 hours. Nineteen VOCs were detected in ambient air sample AARS and twenty VOCs were detected in ambient air sample AARS DUP. 1,4-Dioxane was not detected in samples AARS or AARS DUP.

During the November 2007 sampling event, ambient air samples AARS, AARS DUP and AARS REP were collected concurrently with soil vapor samples SVRS3D, SVRS3D REP, SVRS5D, SVRS6D, SVRS6D REP, SVRS7D, SVRS8D, and SVRS8D REP in the Rand Street investigation area utilizing 20 minute and 2 hour laboratory-set regulators. The 20 minute flow regulators (AARS, AARS DUP) were to be set by the laboratory for 2 hours of sample collection time, but were inadvertently set for a six-liter sample canister, resulting in drawing a sample six times faster than anticipated. Samples AARS, AARS DUP and AARS REP were initially collected at ground surface 35 feet west of SVRS3D and ran for 29 minutes during collection of soil vapor samples SVRS3D, SVRS3D DUP and SVRS5D, then were shut off for 63 minutes. A chemical odor was noted in the vicinity of soil vapor probe SVRS6D (not noted during the October, 2007 sampling event). As such, the sample canisters were moved east, to approximately 30

feet west of soil vapor probe SVRS6D and turned back on for 17 minutes during collection of soil vapor samples SVRS6D, SVRS6D REP, SVRS7D, SVRS8D, and SVRS8D REP. Four, five, and sixteen VOCs were detected in ambient air sample AARS, AARS DUP and AARS REP, respectively. Ambient air samples AARS and AARS DUP were analyzed by TestAmerica, whereas AARS REP was analyzed by Centek. Each laboratory has slightly different Reporting Limits (RL) for each compound. As a result, seven of the detected compounds in sample AARS REP are attributable to Centek's lower RL for these compounds. 1,4-Dioxane was not detected in these ambient air samples.

3.2.4 Koda Vista

Ambient air sample AAKV was collected concurrently with soil vapor samples SVKV1D, SVKV1S, SVKV2D, SVKV3S, and SVKV4S in the Koda Vista investigation area utilizing a two hour laboratory-set regulator. Sample AAKV was collected at ground surface adjacent to existing groundwater monitoring well GQB317N located approximately 975 feet east of soil vapor probe SVKV2D and completed within 2 hours. Fourteen VOCs were detected in ambient air sample AAKV. 1,4-Dioxane was not detected in sample AAKV.

3.3 DATA QUALITY

This section discusses data quality for soil vapor and ambient air samples collected during the Phase II Off-site Vapor Intrusion investigation and documents that the NYSDEC's Data Usability requirements have been met.

As discussed in Section 2.3.5, October and November 2007 field sample and laboratory results were reviewed, validated, and verified in terms of their ability to satisfy QA and QC requirements. The usability of the data provided for each medium (i.e., soil vapor

and ambient air) is discussed in the following sections. In all cases, holding times were met and data were generated using established and agreed upon analytical protocols.

3.3.1 Soil Vapor

October 2007

Centek provided complete data packages as defined under the requirements of the NYSDEC Analytical Services Protocol (ASP) Category B or USEPA Contract Laboratory Program (CLP) deliverables.

Method blank results were all non-detect at the RL. Instrument tuning procedures were documented. For the reported compounds, calibration standard results and calibration verification results were generally acceptable. On the few occasions when the continuing calibration standards were not met, all other QC requirements met criteria, or all other compounds of interest met criteria for the associated dilutions, or the compounds were not of interest for the associated dilutions. Further, the associated compounds were not detected in any of the associated samples. For the reported compounds, some surrogate recoveries were outside control limits. Such samples were analyzed further as dilutions with results meeting criteria or analyzed further as dilutions with similar results. For the reported compounds, some Relative Percent Differences (RPDs) between the Laboratory Control Samples (LCS) and LCS Duplicates (LCSD) were outside acceptable ranges. However, in such instances, the compound of interest was not detected in the associated samples and the results would have been biased high, or all other compounds of interest met criteria and the laboratory control spike was not needed for the associated dilutions.

Sample handling and chain of custody documents were maintained by Centek. Soil vapor samples were relinquished and hand-delivered by EnviroGroup personnel to Centek personnel on October 5, 2007. Samples were received by laboratory personnel on October 5, 2007 and logged in by laboratory personnel on October 8, 2007.

Soil vapor trip blank results were all non-detect. Soil vapor field duplicate results compared well with the corresponding sample, except for carbon disulfide and PCE in samples SVRS5D (6.0 and 5.7 $\mu g/m^3$, respectively) and SVRS5D DUP (3.3 and 3.0 $\mu g/m^3$, respectively). Due to the sample concentration exceeding 5 times the RL and the corresponding duplicate result was greater than 50% of the RPD, the associated results have been flagged with a "P".

The final field canister readings for soil vapor samples SVKV4S and SVRS7D were 0 inches Hg; however, the initial post test lab vacuum readings indicated that a vacuum actually remained in these canisters.

Although the samples of UHP nitrogen that were run through the laboratory-cleaned tubing and probes were all non detect for VOCs and 1,4-dioxane on September 21, 2007, acetone, cis-1,2-dichloroethene, toluene, and TCE were detected at low concentrations in equipment blank samples EB-01 and EB-02 collected in the field during the October 2007 event. Chloromethane and m&p-xylene were also detected at low concentrations in EB-02. All VOCs detected in equipment blanks (EB-01 and EB-02) were at concentrations below or similar to ambient air concentrations and may be a result of exposure to ambient air. Soil vapor analytical results with detections of equipment blank analytes, collected from new soil vapor probes installed during this investigation, have been flagged with a "B". Equipment blank analytical results are summarized on Table 3.2. Complete laboratory analytical data for equipment blank samples are provided in compact disk format in Appendix C.

Despite the exceptions documented above, soil vapor results from the October, 2007 sampling event are of acceptable quality and usable for the purpose of this investigation.

November 2007

TestAmerica and Centek provided complete data packages as defined under the requirements of the NYSDEC ASP Category B or USEPA CLP deliverables.

Method blank results were all non-detect at the RL. Instrument tuning procedures were documented. For the reported compounds, calibration standard results and calibration verification results met the criteria. For the reported compounds, all of TestAmerica's surrogate recoveries were within control limits; however, one of Centek's was outside control limits. This sample was analyzed further at dilutions with results meeting criteria. For the reported compounds, RPDs between the LCS and LCSD were generally within acceptable ranges. However, one compound for one of TestAmerica's LCS/LCSD comparisons (1,2,4-trichlorobenzene) was outside control limits and one compound for one of Centek's LCS/LCSD comparisons (1,3,5-trimethylbenzene) was outside control limits. 1,2,4-trichlorobenzene was not detected in any of the samples analyzed by TestAmerica. However, 1,3,5-trimethylbenzene was detected in samples SVRS6D REP (2.7 $\mu g/m^3$) and SVRS8D REP (2.8 $\mu g/m^3$) analyzed by Centek. Since 1,3,5-trimethylbenzene was not detected in TestAmerica's corresponding samples SVRS6D (<2 $\mu g/m^3$) and SVRS8D (<2 $\mu g/m^3$), Centek's 1,3,5-trimethylbenzene results are suspect.

Sample handling and chain of custody documents were maintained by TestAmerica and Centek. Soil vapor samples were relinquished and sent via Fed-Ex by EnviroGroup personnel to TestAmerica and Centek on November 7, 2007. Samples were received and logged in by laboratory personnel on November 8, 2007.

Acetone and methyl ethyl ketone were detected in the soil vapor trip blank (Trip Blank – SV1). Due to the blank's concentration exceeding 10% of the sample concentrations, acetone results for samples SVRS6D, SVRS6D REP, and SVRS8D and the methyl ethyl ketone result for sample SVRS6D have been flagged with a "T". Soil vapor field duplicate results compared well with the corresponding sample. Soil vapor replicate results compared well with the corresponding samples with the exception of methylene chloride concentrations in SVCP10D (2.9 $\mu g/m^3$) and SVCP10D REP (0.35 J $\mu g/m^3$).

The sample concentration exceeded 5 times the RL and the corresponding replicate result was greater than 50% of the RPD. Associated results have been flagged with a "P".

The initial field canister readings for soil vapor samples SVCP1D REP, SVCP4D, and SVCP8D REP were less than 27 inches Hg indicating potential pressure loss during transport from the laboratories to the field. Many of the final field canister readings for the soil vapor samples were 0 inches Hg; however, on each occasion, the canister's valve was immediately closed.

Despite the exceptions documented above, soil vapor results from the November, 2007 sampling event are of acceptable quality and usable for the purpose of this investigation.

3.3.2 Ambient Air

October 2007

Centek provided complete data packages as defined under the requirements of the NYSDEC ASP Category B.

Method blank results were all non-detect at the Reporting Limit. Instrument tuning procedures were documented. For the reported compounds, calibration standard results and calibration verification results were generally acceptable. On the few occasions when the continuing calibration standards were not met, all other QC requirements met criteria and the compounds of interest were not needed for the associated dilutions. Further, the associated compounds were not detected in any of the associated samples. For the reported compounds, all surrogate recoveries were within control limits. For the reported compounds, some RPDs between the LCS and LCSD were outside acceptable ranges. However, in such instances, all other compounds of interest met criteria and the laboratory control spike was not needed for the associated dilutions.

Sample handling and chain of custody documents were maintained by Centek. Ambient air samples were relinquished and hand-delivered by EnviroGroup personnel to Centek personnel on October 5, 2007. Samples were received and logged in by laboratory analytical personnel on October 5, 2007 and logged in by laboratory personnel on October 8, 2007.

Ambient air trip blank results were all non-detect. Ambient air field duplicate results compared well with the corresponding sample, except for TCE in samples AARS (2.5 $\mu g/m^3$) and AARS DUP (4.3 $\mu g/m^3$). The sample duplicate concentration exceeded 5 times the RL and the corresponding sample result was greater than 50% of the RPD. Associated results have been flagged with a "P".

The final field canister readings for ambient air sample AACP was 0 inches Hg; however, EnviroGroup personnel were monitoring the progress of ambient air sample AACP and ended the sample collection when 0 inches Hg was reached. As a result, the sample duration of ambient air sample AACP was four minutes shorter than the associated soil vapor sampling event.

Despite the exceptions documented above, ambient air results from the October, 2007 sampling event are of acceptable quality and usable for the purpose of this investigation.

November 2007

TestAmerica and Centek provided complete data packages as defined under the requirements of the NYSDEC ASP Category B or USEPA CLP deliverables.

Method blank results were all non-detect at the RL. Instrument tuning procedures were documented. For the reported compounds, calibration standard results and calibration verification results met the criteria. For the reported compounds, all of TestAmerica's surrogate recoveries were within control limits; however, one of Centek's was outside control limits. This sample was analyzed further as dilutions with results meeting

criteria. For the reported compounds, RPDs between the LCS and LCSD were generally within acceptable ranges. However, one compound for one of TestAmerica's LCS/LCSD comparisons (1,2,4-trichlorobenzene) was outside control limits and one compound for one of Centek's LCS/LCSD comparisons (1,3,5-trimethylbenzene) was outside control limits. 1,2,4-trichlorobenzene was not detected in any of the samples analyzed by TestAmerica. However, 1,3,5-trimethylbenzene was detected in sample AARS REP (0.75 $\mu g/m^3$) analyzed by Centek. Since 1,3,5- trimethylbenzene was not detected in TestAmerica's corresponding sample AARS, but the reporting limit was <0.98 $\mu g/m^3$, Centek's result may be accurate.

Sampling handling and chain of custody documents were maintained by TestAmerica and Centek. Soil vapor samples were relinquished and sent via Fed-Ex by EnviroGroup personnel to TestAmerica and Centek on November 7, 2007. Samples were received and logged in by laboratory personnel on November 8, 2007.

Acetone and methyl ethyl ketone were detected in the ambient air trip blank (Trip Blank – AA). Due to the blank's concentration exceeding 10% of the sample concentrations, acetone results for samples AARS, AARS DUP, and AARS REP and the methyl ethyl ketone result for sample AARS DUP have been flagged with a "T". Ambient air field duplicate results compared well with the corresponding sample except for acetone results in samples AARS (73 $\mu g/m^3$) and AARS DUP (59 $\mu g/m^3$). The sample concentration exceeded 5 times the RL and the corresponding duplicate result was greater than 50% of the RPD. Associated results have been flagged with a "P". Ambient air replicate results compared well with the corresponding sample.

Many of the final field canister readings for the ambient air samples were 0 inches Hg; however, on each occasion, the canister's valve was immediately closed.

Despite the exceptions documented above, ambient air results from the November, 2007 sampling event are of acceptable quality and usable for the purpose of this investigation.

4.0 INVESTIGATION SUMMARY

The following presents a summary of the Phase II Off-site Vapor Intrusion Investigation.

- A total of 12 new soil vapor probes were installed within five investigation areas to fill data gaps, confirm previous analytical results, and evaluate the nature and extent of contaminants of concern in certain off-site areas around the perimeter of Kodak Park;
- Two of the 12 new soil vapor probes at Koda Vista (SVKV3S and SVKV4S) were installed due to the presence of groundwater in existing soil vapor probes SVKV3D and SVKV4D;
- In October 2007, twenty-two soil vapor probes were sampled and analyzed for either CVOCs or VOCs and 1,4-Dioxane by EPA Method TO-15 with at least one soil vapor sample collected from each targeted investigation area;
- In November 2007, eight of the twenty two soil vapor probes were re-sampled and analyzed for either CVOCs or VOCs and 1,4-Dioxane by EPA Method TO-15 to confirm October 2007 analytical results.
- Three soil vapor probes (SVLA1D2, SVKV3S, and SVKV4S) could not be sampled due to the presence of groundwater within the soil vapor probe;
- Ambient air samples were collected from each of the five investigation areas and analyzed for either CVOCs or VOCs and 1,4-Dioxane by EPA Method TO-15;
- Field soil vapor QC samples collected during the October and November 2007 sampling events included three trip blanks, three field duplicates, and four field replicates;
- Field ambient air QC samples collected during the October and November 2007 included two trip blanks, two duplicates and one replicate;
- Analyses of field equipment blanks indicate low level detections of certain CVOCs and VOCs, generally at levels consistent with ambient air concentrations;

- In general, CVOC and VOC concentrations detected during the November 2007 sampling event were significantly lower than those detected during the October 2007 sampling event;
- Analytical results for soil vapor and ambient air do not indicate the presence of 1,4-Dioxane at or above the reporting limit;
- TCE was detected above the respective minimum NYSDOH sub-slab value during the October and November 2007 sampling events in the West Ridge Plaza investigation area. These detections were limited to a localized zone near commercial buildings and the West Ridge Plaza building, remote from Devitt Street and in an area where other potential sources of these compounds exist;
- No VOCs were detected above the respective minimum NYSDOH sub-slab value during the October 2007 sampling event in the Lake Avenue or Koda Vista investigation areas or Devitt Street sampling location; and
- Four compounds (1,1,1-TCA, PCE, TCE, and vinyl chloride) were detected in soil vapor samples at levels above the minimum NYSDOH sub-slab vapor matrix values and twice the ambient air level in the Rand Street investigation area.

5.0 REFERENCES

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New York State Department of Environmental Conservation Division of Environmental Remediation. July 11, 2007. Phase II Vapor Intrusion Evaluation – Proposed Off-site Investigations comment letter.

New York State Department of Health, Center for Environmental Health. Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. New York, October 2006.

North Pastoria Environmental Corporation (NPEC), Inc., Vapor Intrusion Evaluation, Proposed Off-Site Investigations. August 30, 2006. Modified September 25, September 28, and September 29, 2006.

United States Environmental Protection Agency, OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance). November 2002.

TABLE 3.1

SOIL VAPOR INVESTIGATION LOCATIONS

Kodak Park
Rochester, NY

AREA	SOIL VAPOR PROBE INSTALLATION		GROUND SURFACE TYPE	SOIL VAPOR PROBE SAMPLE INTERVAL (ft bgs)	SAMPLE COLLECTED	RESAMPLED	ANALYSES	REMARKS
	NEW	EXISTING						
West Ridge Plaza	SVCP4D	-	Asphalt	5.0 to 7.0	Yes	Yes	Chlorinated VOCs and 1,4-Dioxane via TO-15	-
	SVCP5D	-	Dirt	8.0 to 10.0	Yes	No	Chlorinated VOCs and 1,4-Dioxane via TO-15	-
	SVCP6D	-	Grass	3.0 to 4.0	Yes	No	Chlorinated VOCs and 1,4-Dioxane via TO-15	-
	SVCP7D	-	Grass	5.0 to 7.0	Yes	No	Chlorinated VOCs and 1,4-Dioxane via TO-15	-
	SVCP8D	-	Grass	2.0 to 3.0	Yes	No	Chlorinated VOCs and 1,4-Dioxane via TO-15	Duplicate sample collected
	SVCP9D	-	Grass	3.5 to 5.5	Yes	No	Chlorinated VOCs and 1,4-Dioxane via TO-15	-
	SVCP10D	-	Grass	3.0 to 4.0	Yes	Yes	Chlorinated VOCs and 1,4-Dioxane via TO-15	Replicate resample collected
	-	SVCP1D	Gravel	5.5 to 7.5	Yes	Yes	Chlorinated VOCs and 1,4-Dioxane via TO-15	Duplicate and replicate resample collected
Devitt Street	-	SVDV1D	Asphalt	4.0 to 5.5	Yes	No	Chlorinated VOCs and 1,4-Dioxane via TO-15	-
Lake Avenue	-	SVLA1D1	Asphalt	6.9 to 8.9	Yes	No	VOCs and 1,4-Dioxane via TO-15	-
	-	SVLA1D2	Asphalt	12.5 to 14.5	No	No	-	Not sampled - Groundwater in probe tubing
Rand Street	SVRS6D	-	Asphalt	6.0 to 8.0	Yes	Yes	VOCs and 1,4-Dioxane via TO-15	Replicate resample collected
	SVRS7D	-	Grass	8.5 to 10.5	Yes	Yes	VOCs and 1,4-Dioxane via TO-15	-
	SVRS8D	-	Asphalt	6.0 to 8.0	Yes	Yes	VOCs and 1,4-Dioxane via TO-15	Replicate resample collected
	-	SVRS2D	Grass	5.0 to 7.0	Yes	No	VOCs and 1,4-Dioxane via TO-15	-
	-	SVRS3D	Asphalt	7.0 to 8.8	Yes	Yes	VOCs and 1,4-Dioxane via TO-15	Duplicate resample collected
	-	SVRS4D	Asphalt	7.0 to 9.0	Yes	No	VOCs and 1,4-Dioxane via TO-15	-
	-	SVRS5D	Asphalt	7.5 to 8.5	Yes	Yes	VOCs and 1,4-Dioxane via TO-15	Duplicate sample collected
Koda Vista	SVKV3S	-	Grass	3.0 to 5.0	Yes	No	VOCs and 1,4-Dioxane via TO-15	Installed due to groundwater in SVKV3D
	SVKV4S	-	Grass	3.0 to 5.0	Yes	No	VOCs and 1,4-Dioxane via TO-15	Installed due to groundwater in SVKV4D
	-	SVKV1D	Grass	12.5 to 14.5	Yes	No	VOCs and 1,4-Dioxane via TO-15	-
	-	SVKV1S	Grass	7.0 to 9.0	Yes	No	VOCs and 1,4-Dioxane via TO-15	-
	-	SVKV2D	Grass	13.4 to 15.4	Yes	No	VOCs and 1,4-Dioxane via TO-15	-
	-	SVKV3D	Asphalt	9.9 to 11.7	No	No	-	Not sampled - Groundwater in probe tubing
	-	SVKV4D	Grass	10.8 to 11.8	No	No	-	Not sampled - Groundwater in probe tubing

Notes:
1) ft bgs - Feet below ground surface.
2) "-" - Not installed, not analyzed, or not applicable.
3) Due to pending access agreements, proposed soil vapor probes SVRS9D through SVRS12D could not be installed in the Rand Street area during this investigation.

TABLE 3.2

LABORATORY AND FIELD QUALITY CONTROL ANALYTICAL RESULTS

Kodak Park
Rochester, NY

ANALYTICAL METHOD	PARAMETERS	Minimum NYSDOH SUB-SLAB VAPOR MATRIX VALUE (ug/m³)	EPA 10⁻⁶ SHALLOW SOIL GAS SCREENING LEVEL (ug/m³)	SAMPLE LOCATION:	Laboratory QC Samples						Field Equipment Blanks				Field Trip Blanks	
				SAMPLE IDENTIFICATION:	Tubing Roll 1	Tubing Roll 2	Tubing Roll 3	Tubing Roll 4	Group 1 Probes	Group 2 Probes	EB-01	EB-02	Nitrogen Blank	Trip Blank - SV1	Trip Blank - SV2	Trip Blank - SV1
				SAMPLE DATE:	9/21/2007	9/21/2007	9/21/2007	9/21/2007	9/21/2007	9/21/2007	10/1/2007	10/3/2007	10/5/2007	10/4/2007	10/5/2007	11/7/2007
				Unit												
TO-15	1,1,1-Trichloroethane	100	22,000	ug/m³	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<1.1
	1,1,2,2-Tetrachloroethane	-	0.42	ug/m³	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.4
	1,1,2-Trichloroethane	-	1.5	ug/m³	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<1.1
	1,1-Dichloroethane	-	5,000	ug/m³	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.81
	1,1-Dichloroethene	100	2,000	ug/m³	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.79
	1,2,4-Trichlorobenzene	-	2,000	ug/m³	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<3.7
	1,2,4-Trimethylbenzene	-	60	ug/m³	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.98
	1,2-Dibromoethane	-	0.11	ug/m³	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.5
	1,2-Dichlorobenzene	-	2,000	ug/m³	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<1.2
	1,2-Dichloroethane	-	0.94	ug/m³	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.81
	1,2-Dichloroethene (total)	-	-	ug/m³	-	-	-	-	-	-	-	-	-	-	-	<0.79
	1,2-Dichloropropane	-	40	ug/m³	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.92
	1,3,5-Trimethylbenzene	-	60	ug/m³	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.98
	1,3-Butadiene	-	0.087	ug/m³	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<0.34	<1.1
	1,3-Dichlorobenzene	-	1,100	ug/m³	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<1.2
	1,4-Dichlorobenzene	-	8,000	ug/m³	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<1.2
	1,4-Dioxane	-	-	ug/m³	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<18
	2,2,4-trimethylpentane	-	-	ug/m³	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.71	<0.93
	4-ethyltoluene	-	-	ug/m³	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.98
	2-Chlorotoluene	-	-	ug/m³	-	-	-	-	-	-	-	-	-	-	-	<1.0
	3-Chloropropene	-	-	ug/m³	-	-	-	-	-	-	-	-	-	-	-	<1.6
	Acetone	-	3,500	ug/m³	<0.72	<0.72	<0.72	<0.72	<0.72	0.89	0.48 J	<0.72	<0.72	<0.72	36	
	Allyl chloride	-	-	ug/m³	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	-
	Benzene	-	3.1	ug/m³	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.49	<0.64
	Benzyl chloride	-	0.5	ug/m³	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	
	Bromodichloromethane	-	1.4	ug/m³	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.3
	Bromoethene	-	-	ug/m³	-	-	-	-	-	-	-	-	-	-	-	<0.87
	Bromoform	-	22	ug/m³	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<2.1
	Bromomethane	-	50	ug/m³	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.59	<0.78
	Carbon disulfide	-	7,000	ug/m³	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<1.6
	Carbon tetrachloride	5	1.6	ug/m³	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<1.3
	Chlorobenzene	-	600	ug/m³	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.92
	Chloroethane	-	100,000	ug/m³	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<1.3
	Chloroform	-	1.1	ug/m³	<0.74	<0.74	<0.74	<0.74	<0.74	<0.74	<0.74	<0.74	<0.74	<0.74	<0.74	<0.98
	Chloromethane	-	24	ug/m³	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	0.23 J	<0.31	<0.31	<0.31	<1.0
	cis-1,2-Dichloroethene	100	350	ug/m³	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	0.48 J	<0.60	<0.60	<0.60	<0.60	<0.79
	cis-1,3-Dichloropropene	-	-	ug/m³	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.91
	Cyclohexane	-	-	ug/m³	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.52	<0.69
	Dibromochloromethane	-	1.0	ug/m³	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.7
	Ethyl acetate	-	32,000	ug/m³	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	-
	Ethylbenzene	-	22	ug/m³	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.87
	Freon 11	-	7,000	ug/m³	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<1.1
	Freon 113	-	300,000	ug/m³	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.5
	Freon 114	-	-	ug/m³	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.4
	Freon 12	-	2,000	ug/m³	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<2.5
	Heptane	-	-	ug/m³	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.82
	Hexachloro-1,3-butadiene	-	-	ug/m³	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<2.1
	Hexane	-	2,000	ug/m³	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<1.8
	Isopropyl alcohol	-	-	ug/m³	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<0.37	<12
	m&p-Xylene	-	70,000	ug/m³	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	0.44 J	<1.3	<1.3	<1.3	<1.3	<2.2
	Methyl Butyl Ketone	-	-	ug/m³	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.0
	Methyl Ethyl Ketone	-	10,000	ug/m³	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	1.7
	Methyl Isobutyl Ketone	-	800	ug/m³	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<2.0
	Methyl tert-butyl ether	-	30,000	ug/m³	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55	<1.8
	Methylene chloride	-	52	ug/m³	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<0.53	<1.7
	o-Xylene	-	70,000	ug/m³	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.66	<0.87
	Propylene	-	-	ug/m³	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26	-

TABLE 3.2

LABORATORY AND FIELD QUALITY CONTROL ANALYTICAL RESULTS

Kodak Park
Rochester, NY

ANALYTICAL METHOD	PARAMETERS	Minimum NYSDOH SUB-SLAB VAPOR MATRIX VALUE (ug/m^3)	EPA 10^{-6} SHALLOW SOIL GAS SCREENING LEVEL (ug/m^3)	SAMPLE LOCATION:	Laboratory QC Samples						Field Equipment Blanks			Field Trip Blanks		
				SAMPLE IDENTIFICATION:	Tubing Roll 1	Tubing Roll 2	Tubing Roll 3	Tubing Roll 4	Group 1 Probes	Group 2 Probes	EB-01	EB-02	Nitrogen Blank	Trip Blank - SV1	Trip Blank - SV2	Trip Blank - SV1
				SAMPLE DATE:	9/21/2007	9/21/2007	9/21/2007	9/21/2007	9/21/2007	9/21/2007	10/1/2007	10/3/2007	10/5/2007	10/4/2007	10/5/2007	11/7/2007
				Unit												
TO-15	Styrene	-	10,000	ug/m^3	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.65	<0.85
	tert-Butyl Alcohol	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	<15
	Tetrachloroethylene	100	8.1	ug/m^3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.4
	Tetrahydrofuran	-	-	ug/m^3	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45	<15
	Toluene	-	4,000	ug/m^3	<0.57	<0.57	<0.57	<0.57	<0.57	<0.57	<0.57	0.38 J	<0.57	<0.57	<0.57	<0.75
	trans-1,2-Dichloroethene	-	700	ug/m^3	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.79
	trans-1,3-Dichloropropene	-	-	ug/m^3	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.91
	Trichloroethene	5	0.22	ug/m^3	<0.82	<0.82	<0.82	<0.82	<0.82	<0.82	1.4	3.2	<0.82	<0.82	<0.82	<1.1
	Vinyl acetate	-	2,000	ug/m^3	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54	-
	Vinyl Bromide	-	-	ug/m^3	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	<0.67	-
	Vinyl chloride	5	2.8	ug/m^3	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.51
	Xylene (total)	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	<0.87

Notes:
1. ug/m^3 - Micrograms per cubic meter.
2. NYSDOH Sub-slab Vapor Matrix Value - from NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York; lower sub-slab concentration would likely lead to 'No Further Action' based on Matrix 1 and 2.
3. USEPA Generic Soil Gas Screening Level based on 10^{-6} risk.
4. "-" - Value not established, not analyzed, or not applicable.
5. "J" - J flag; analyte detected at or below quantitation limits.

TABLE 3.3

SOIL VAPOR ANALYTICAL RESULTS - WEST RIDGE PLAZA, DEVITT STREET, LAKE AVENUE, KODA VISTA

Kodak Park
Rochester, NY

ANALYTICAL METHOD	PARAMETERS	MINUMUM NYSDOH SUB-SLAB VAPOR MATRIX VALUE (ug/m^3)	EPA 10^{-6} SHALLOW SOIL GAS SCREENING LEVEL (ug/m^3)	SAMPLE LOCATION:	West Ridge Plaza														Devitt Street	Lake Avenue	Koda Vista				
				SAMPLE IDENTIFICATION:	SVCP1D	SVCP1D	SVCP1D REP	SVCP4D	SVCP4D	SVCP5D	SVCP6D	SVCP7D	SVCP8D	SVCP8D DUP	SVCP9D	SVCP10D	SVCP10D	SVCP10D REP	SVDV1D	SVLA1D1	SVKV1D	SVKV1S	SVKV2D	SVKV3S	SVKV4S
				SAMPLE DATE:	10/4/2007	11/7/2007	11/7/2007	10/4/2007	11/7/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	11/7/2007	11/7/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007
				Unit																					
TO-15	1,1,1-Trichloroethane	100	22,000	ug/m^3	33	8.7	11	<8.3	1.1	1.8	1.9	3.0	<0.83	<0.83	1.4	<0.83	<1.1	<0.83	<0.83	1.3	<0.83	0.55 J	<0.83	<0.83	<8.3
	1,1,2,2-Tetrachloroethane	-	0.42	ug/m^3	<1.0	<2.1	<1.0	<10	<1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10
	1,1,2-Trichloroethane	-	1.5	ug/m^3	<0.83	<1.6	<0.83	<8.3	<1.1	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<1.1	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<0.83	<8.3
	1,1-Dichloroethane	-	5,000	ug/m^3	2.5	1.4	1.4	<6.2	<0.81	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.81	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<6.2
	1,1-Dichloroethene	100	2,000	ug/m^3	<0.60	<1.2	<0.60	<6.0	<0.79	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.79	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<6.0
	1,2,4-Trichlorobenzene	-	2,000	ug/m^3	<1.1	<5.6	<1.1	<11	<3.7	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<3.7	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<11
	1,2,4-Trimethylbenzene	-	60	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	5.6	6.4	0.70 J	3.7	8.0
	1,2-Dibromoethane	-	0.11	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.2	<1.2	<1.2	<1.2	<1.2	<12
	1,2-Dichlorobenzene	-	2,000	ug/m^3	<0.92	<1.8	<0.92	<9.2	<1.2	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<1.2	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<9.2
	1,2-Dichloroethane	-	0.94	ug/m^3	<0.62	<1.2	<0.62	<6.2	<0.81	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	0.53 J	<0.81	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<0.62	<6.2
	1,2-Dichloroethene (total)	-	-	ug/m^3	-	4.8	-	-	<0.79	-	-	-	-	-	-	-	<0.79	-	-	-	-	-	-	-	-
	1,2-Dichloropropane	-	40	ug/m^3	<0.70	<1.4	<0.70	<7.0	<0.92	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.92	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<7.0
	1,3,5-Trimethylbenzene	-	60	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.75	1.9	1.6	0.65 J	1.9	<7.5
	1,3-Butadiene	-	0.087	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.34	<0.34	<0.34	<0.34	<0.34	<3.4
	1,3-Dichlorobenzene	-	1,100	ug/m^3	<0.92	<1.8	<0.92	<9.2	<1.2	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<1.2	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<9.2
	1,4-Dichlorobenzene	-	8,000	ug/m^3	<0.92	<1.8	1.8	<9.2	<1.2	0.67 J	1.5	0.61 J	<0.92	<0.92	<0.92	<0.92	<1.2	1.2	<0.92	<0.92	<0.92	<0.92	<0.92	<0.92	<9.2
	1,4-Dioxane	-	-	ug/m^3	<1.1	<27	<1.1	<11	<18	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<18	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<11
	2,2,4-trimethylpentane	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	2.6	1.0	2.7	<0.71	<7.1
	4-ethyltoluene	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.75	1.1	1.2	<0.75	0.75	<7.5
	2-Chlorotoluene	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3-Chloropropene	-	-	ug/m^3	-	<2.3	-	-	<1.6	-	-	-	-	-	-	-	<1.6	-	-	-	-	-	-	-	-
	Acetone	-	3,500	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	30	16	20	4.9 B	44 B
	Allyl chloride	-	-	ug/m^3	<0.48	-	<0.48	<4.8	-	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	-	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<0.48	<4.8
	Benzene	-	3.1	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.42 J	0.81	0.49	0.55	0.78	5.8
	Benzyl chloride	-	0.5	ug/m^3	<0.88	-	<0.88	<8.8	-	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	-	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	<0.88	<8.8
	Bromodichloromethane	-	1.4	ug/m^3	2.8	<2.0	<1.0	8.2 J	3.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10
	Bromoethene	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Bromoform	-	22	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.6	<1.6	<1.6	<1.6	<1.6	<16
	Bromomethane	-	50	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.59	<0.59	<0.59	<0.59	<0.59	<5.9
	Carbon disulfide	-	7,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0	1.2	4.5	1.6	0.54	14
	Carbon tetrachloride	5	1.6	ug/m^3	<0.96	<1.9	<0.96	<9.6	<1.3	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<1.3	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<0.96	<9.6
	Chlorobenzene	-	600	ug/m^3	<0.70	<1.4	<0.70	<7.0	<0.92	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.70	<0.92	<0.70	<0.70	0.80	1.1	0.70	<0.70	<0.70	<7.0
	Chloroethane	-	100,000	ug/m^3	<0.40	<2.0	<0.40	<4.0	<1.3	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<1.3	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<4.0
	Chloroform	-	1.1	ug/m^3	520	200	270	210	73	9.6	<0.74	<0.74	1.3	1.4	<0.74	2.5	<0.98	1.3	<0.74	1.4	<0.74	0.89	<0.74	8.5	<7.4
	Chloromethane	-	24	ug/m^3	<0.31	<1.5	<0.31	<3.1	<1	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	0.57 B	1.2 B	<0.31	<0.31	<0.31	0.48	0.88	0.88	<0.31	<3.1
	cis-1,2-Dichloroethene	100	350	ug/m^3	8.5	4.8	5.3	<6.0	<0.79	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	3.6 B	<0.79	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<6.0
	cis-1,3-Dichloropropene	-	-	ug/m^3	<0.69	<1.4	<0.69	<6.9	<0.91	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.91	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<6.9
	Cyclohexane	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.52	0.94	0.77	1.2	<0.52	8.4
	Dibromochloromethane	-	1.0	ug/m^3	<1.3	<2.6	<1.3	<13	<1.7	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.7	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<13
	Ethyl acetate	-	32,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.92	<0.92	<0.92	<0.92	<0.92	<9.2
	Ethylbenzene	-	22	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.97	1.2	0.88	0.35 J	1.4	4.9 J
	Freon 11	-	7,000	ug/m^3	6.6	3.9	4.5	<8.6	2.1	3.4	6.5	2.6	0.91	1.4	1.8	1.5	1.5	1.5	<0.86	2.1	1.8	2.7	1.7	1.6	<8.6
	Freon 113	-	300,000	ug/m^3	<1.2	<2.3	<1.2	<12	<1.5	<1.2	<1.2	0.78 J	<1.2	<1.2	<1.2	<1.2	<1.5	<1.2	<1.2	<1.2	<1.2	<1.2	0.78 J	<1.2	<12
	Freon 114	-	-	ug/m^3	0.78 J	<2.1	<1.1	<11	<1.4	<1.1	2.1	<1.1	<1.1	<1.1	0.99 J	<1.1	<1.4	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<11
	Freon 12	-	2,000	ug/m^3	2.6	<3.7	2.5	5.5 J	<2.5	1.7	2.6	2.4	2.2	2.5	2.4	2.4	2.8	3.0	<0.75	<0.75	2.2	2.8	3.2	2.1	<7.5
	Heptane	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	<0.62	<0.62	0.67	<0.62	14
	Hexachloro-1,3-butadiene	-	-	ug/m^3	1.6	-	<1.6	<16	-	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	-	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<16
	Hexane	-	2,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	1.4	<0.54	1.3	<0.54	19
	Isopropyl alcohol	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.37	<0.37	<0.37	<0.37	<0.37	<3.7
	m&p-Xylene	-	70,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	4.5	3.4	0.93 J	6.7 B	14 B
	Methyl Butyl Ketone	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.2	<1.2	<1.2	<1.2	<1.2	<12
	Methyl Ethyl Ketone	-	10,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	<0.90	0.90	1.4	0.63 J	12
	Methyl Isobutyl Ketone	-	800	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.2	<1.2	<1.2	<1.2	<1.2	<12
	Methyl tert-butyl ether	-	30,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.55	<0.55	<0.55	<0.55	<0.55	<5.5
	Methylene chloride	-	52	ug/m^3	6.4	3.8	3.8	<5.3	<1.7	<0.53	0.49 J	0.46 J	0.85	<0.53	<0.53	2.9	3.3 P	0.35 J P	<0.53	<0.53	0.60	<0.53	0.56	<0.53	<5.3
	o-Xylene	-	70,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	1.9	1.3	0.40 J	3.7	<6.6
	Propylene	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.26	<0.26	<0.26	<0.26	<0.26	<2.6

TABLE 3.3

SOIL VAPOR ANALYTICAL RESULTS - WEST RIDGE PLAZA, DEVITT STREET, LAKE AVENUE, KODA VISTA

Kodak Park
Rochester, NY

ANALYTICAL METHOD	PARAMETERS	MINUMUM NYSDOH SUB-SLAB VAPOR MATRIX VALUE (ug/m^3)	EPA 10^{-6} SHALLOW SOIL GAS SCREENING LEVEL (ug/m^3)	SAMPLE LOCATION:	West Ridge Plaza														Devitt Street	Lake Avenue	Koda Vista				
				SAMPLE IDENTIFICATION:	SVCP1D	SVCP1D	SVCP1D REP	SVCP4D	SVCP4D	SVCP5D	SVCP6D	SVCP7D	SVCP8D	SVCP8D DUP	SVCP9D	SVCP10D	SVCP10D	SVCP10D REP	SVDV1D	SVLA1D1	SVKV1D	SVKV1S	SVKV2D	SVKV3S	SVKV4S
				SAMPLE DATE:	10/4/2007	11/7/2007	11/7/2007	10/4/2007	11/7/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	11/7/2007	11/7/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007	10/4/2007
				Unit																					
TO-15	Styrene	-	10,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.65	0.48 J	0.43 J	<0.65	0.43 J	<6.5
	tert-Butyl Alcohol	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Tetrachloroethylene	100	8.1	ug/m^3	3.0	<2.0	1.4	<10	<1.4	<1.0	1.4	<1.0	<1.0	<1.0	3.3	1.3	<1.4	<1.0	<1.0	4.6	<1.0	1.7	<1.0	0.83 J	<10
	Tetrahydrofuran	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.45	<0.45	<0.45	<0.45	<0.45	<4.5
	Toluene	-	4,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	5.7	2.8	1.6	3.6 B	21 B
	trans-1,2-Dichloroethene	-	700	ug/m^3	0.89	<1.2	0.56 J	<6.0	<0.79	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.79	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60	<6.0
	trans-1,3-Dichloropropene	-	-	ug/m^3	<0.69	<1.4	<0.69	<6.9	<0.91	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.91	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69	<6.9
	Trichloroethene	5	0.22	ug/m^3	76	20	25	8.2 B	<1.1	3.3 B	3.2 B	3.1 B	1.4 B	1.0 B	2.6 B	11 B	<1.1	<0.82	1.3	0.55 J	0.98	0.60 J	1.1	1.4 B	4.4 J B
	Vinyl acetate	-	2,000	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.54	<0.54	<0.54	<0.54	<0.54	<5.4
	Vinyl Bromide	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.67	<0.67	<0.67	<0.67	<0.67	<6.7
	Vinyl chloride	5	2.8	ug/m^3	<0.39	<0.77	<0.39	<3.9	<0.51	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.51	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39	3.6 J
	Xylene (total)	-	-	ug/m^3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
1. ug/m^3 - Micrograms per cubic meter.
2. NYSDOH Sub-slab Vapor Matrix Value - from NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York; lower sub-slab concentration would likely lead to 'No Further Action' based on Matrix 1 and 2.
3. USEPA Generic Soil Gas Screening Level based on 10^{-6} risk.
4. "-" - Value not established, not analyzed, or not applicable. Only CVOCs were analyzed at the West Ridge Plaza and Devitt Street locations.
5. "J" - J flag; analyte detected at or below quantitation limits.
6. "B" - B flag; analyte detected in associated equipment blank EB-01 or EB-02.
7. "P" - P flag; the sample concentration exceeded 5 times the Reporting Limit and the corresponding dup/rep result was greater than 50% of the RPD.

TABLE 3.4

SOIL VAPOR ANALYTICAL RESULTS - RAND STREET

Kodak Park
Rochester, NY

ANALYTICAL METHOD	PARAMETERS	MINIMUM NYSDOH SUB-SLAB VAPOR MATRIX VALUE (ug/m^3)	EPA 10^{-6} SHALLOW SOIL GAS SCREENING LEVEL (ug/m^3)	SAMPLE LOCATION:	Rand Street															
				SAMPLE IDENTIFICATION:	SVRS2D	SVRS3D	SVRS3D	SVRS3D DUP	SVRS4D	SVRS5D	SVRS5D DUP	SVRS5D	SVRS6D	SVRS6D	SVRS6D REP	SVRS7D	SVRS7D	SVRS8D	SVRS8D	SVRS8D REP
				SAMPLE DATE:	10/5/2007	10/5/2007	11/7/2007	11/7/2007	10/5/2007	10/5/2007	10/5/2007	11/7/2007	10/5/2007	11/7/2007	11/7/2007	10/5/2007	11/7/2007	10/5/2007	11/7/2007	11/7/2007
				Unit																
TO-15	1,1,1-Trichloroethane	100	22,000	ug/m^3	<0.83	110	82	93	<0.83	1.3	1.5	1.2	260	82	120	<0.83	<1.1	<0.83	<2.2	<0.83
	1,1,2,2-Tetrachloroethane	-	0.42	ug/m^3	<1.0	<1.0	<1.4	<1.4	<1.0	<1.0	<1.0	<1.4	<1.0	<2.7	<1.0	<1.0	<1.4	<1.0	<2.7	<1.0
	1,1,2-Trichloroethane	-	1.5	ug/m^3	<0.83	<0.83	<1.1	<1.1	<0.83	<0.83	<0.83	<1.1	<0.83	<2.2	<0.83	<0.83	<1.1	<0.83	<2.2	<0.83
	1,1-Dichloroethane	-	5,000	ug/m^3	<0.62	<0.62	0.81	0.97	<0.62	<0.62	<0.62	<0.81	<0.62	<1.6	<0.62	<0.62	<0.81	<0.62	<1.6	<0.62
	1,1-Dichloroethene	100	2,000	ug/m^3	<0.60	<0.60	<0.79	<0.79	<0.60	<0.60	<0.60	<0.79	<0.60	<1.6	<0.60	<0.60	<0.79	<0.60	<1.6	<0.60
	1,2,4-Trichlorobenzene	-	2,000	ug/m^3	<1.1	<1.1	<3.7	<3.7	<1.1	<1.1	<1.1	<3.7	<1.1	<7.4	<1.1	<1.1	<3.7	<1.1	<7.4	<1.1
	1,2,4-Trimethylbenzene	-	60	ug/m^3	4.9	5.9	4.2	4.7	3.4	2.1	3.0	5.9	2.9	3.1	6.0 J	3.9	4.1	2.9	3.7	8.0
	1,2-Dibromoethane	-	0.11	ug/m^3	<1.2	<1.2	<1.5	<1.5	<1.2	<1.2	<1.2	<1.5	<1.2	<3.1	<1.2	<1.2	<1.5	<1.2	<3.1	<1.2
	1,2-Dichlorobenzene	-	2,000	ug/m^3	<0.92	<0.92	<1.2	<1.2	<0.92	<0.92	<0.92	<1.2	<0.92	<2.4	<0.92	<0.92	<1.2	<0.92	<2.4	<0.92
	1,2-Dichloroethane	-	0.94	ug/m^3	<0.62	<0.62	<0.81	<0.81	<0.62	<0.62	<0.62	<0.81	4.7	<1.6	0.45 J	1.3	<0.81	5.6	<1.6	1.2
	1,2-Dichloroethene (total)	-		ug/m^3	-	-	<0.79	<0.79	-	-	-	2.2	-	<1.6	-	-	5.6	-	36	-
	1,2-Dichloropropane	-	40	ug/m^3	<0.70	<0.70	<0.92	<0.92	<0.70	0.56 J	0.52 J	<0.92	2.8	<1.8	<0.70	7.4	7.4	110	7.4	11
	1,3,5-Trimethylbenzene	-	60	ug/m^3	2.0	2.7	1.2	1.3	1.8	1.3	1.9	1.5	2.4	<2.0	2.7	4.5	1.2	2.5	<2	2.8
	1,3-Butadiene	-	0.087	ug/m^3	<0.34	<0.34	<1.1	<1.1	<0.34	<0.34	<0.34	<1.1	<0.34	<2.2	<0.34	<0.34	<1.1	<0.34	<2.2	<0.34
	1,3-Dichlorobenzene	-	1,100	ug/m^3	<0.92	<0.92	<1.2	<1.2	<0.92	<0.92	<0.92	<1.2	<0.92	<2.4	<0.92	<0.92	<1.2	<0.92	<2.4	<0.92
	1,4-Dichlorobenzene	-	8,000	ug/m^3	<0.92	<0.92	<1.2	<1.2	<0.92	<0.92	<0.92	<1.2	<0.92	<2.4	1.6	<0.92	<1.2	<0.92	<2.4	1.7
	1,4-Dioxane	-	-	ug/m^3	<1.1	<1.1	<18	<18	<1.1	<1.1	<1.1	<18	<1.1	<36	<1.1	<1.1	<18	<1.1	<36	<1.1
	2,2,4-trimethylpentane	-	-	ug/m^3	5.7	6.5	2.1	2.3	1.0	<0.71	<0.71	<0.93	<0.71	<1.9	<0.71	<0.71	6.5	<0.71	<1.9	<0.71
	4-ethyltoluene	-	-	ug/m^3	<0.75	<0.75	4.1	4.5	0.70 J	<0.75	<0.75	5.4	0.80	3.2	3.5	1.2	4.2	0.95	3.5	3.6
	2-Chlorotoluene	-		ug/m^3	-	-	<1	<1	-	-	-	<1.0	-	<2.1	-	-	<1.0	-	<2.1	-
	3-Chloropropene	-		ug/m^3	-	-	<1.6	<1.6	-	-	-	<1.6	-	<3.1	-	-	<1.6	-	<3.1	-
	Acetone	-	3,500	ug/m^3	12	140	<12	<12	79	16	14	<12	46 B	110 B T	19 B T	110 B	16 B	33 B	<24 T	13 B
	Allyl chloride	-	-	ug/m^3	<0.48	<0.48	-	-	<0.48	<0.48	<0.48	-	<0.48	-	<0.48	<0.48	-	<0.48	-	<0.48
	Benzene	-	3.1	ug/m^3	0.39 J	1.7	0.7	0.77	0.42 J	<0.49	0.52	0.86	5.6	1.4	1.6	12	2.5	27	<1.3	1.4
	Benzyl chloride	-	0.5	ug/m^3	<0.88	<0.88	-	-	<0.88	<0.88	<0.88	-	<0.88	-	<0.88	<0.88	-	<0.88	-	<0.88
	Bromodichloromethane	-	1.4	ug/m^3	<1.0	<1.0	<1.3	<1.3	<1.0	<1.0	<1.0	<1.3	<1.0	<2.7	<1.0	<1.0	<1.3	<1.0	<2.7	<1.0
	Bromoethene	-		ug/m^3	-	-	<0.87	<0.87	-	-	-	<0.87	-	<1.7	-	-	<0.87	-	<1.7	-
	Bromoform	-	22	ug/m^3	<1.6	<1.6	<2.1	<2.1	<1.6	<1.6	<1.6	<2.1	<1.6	<4.1	<1.6	<1.6	<2.1	<1.6	<4.1	<1.6
	Bromomethane	-	50	ug/m^3	<0.59	<0.59	<0.78	<0.78	<0.59	<0.59	<0.59	<0.78	<0.59	<1.6	<0.59	<0.59	<0.78	<0.59	<1.6	<0.59
	Carbon disulfide	-	7,000	ug/m^3	19	11	2.7	3.1	2.8	6.0 P	3.3 P	6.5	110	<3.1	2.2	190	2.3	190	<3.1	2.9
	Carbon tetrachloride	5	1.6	ug/m^3	<0.96	<0.96	<1.3	<1.3	<0.96	<0.96	<0.96	<1.3	<0.96	<2.5	<0.96	<0.96	<1.3	1.0	<2.5	<0.96
	Chlorobenzene	-	600	ug/m^3	<0.70	0.80	<0.92	<0.92	<0.70	<0.70	<0.70	<0.92	<0.70	<1.8	<0.70	<0.70	<0.92	<0.70	<1.8	<0.70
	Chloroethane	-	100,000	ug/m^3	<0.40	<0.40	<1.3	<1.3	<0.40	<0.40	<0.40	<1.3	<0.40	<2.6	<0.40	<0.40	<1.3	<0.40	<2.6	<0.40
	Chloroform	-	1.1	ug/m^3	<0.74	13	13	15	1.0	32	33	21	2.4	<2.0	<0.74	2.6	<0.98	27	10	13
	Chloromethane	-	24	ug/m^3	<0.31	0.50	<1.0	<1.0	<0.31	<0.31	<0.31	<1.0	<0.31	<2.1	<0.31	<0.31	<1.0	<0.31	<2.1	<0.31
	cis-1,2-Dichloroethene	100	350	ug/m^3	<0.60	1.7	<0.79	<0.79	0.73	1.3	1.3	1.1	0.77 B	<1.6	<0.60	33 B	4.4 B	84 B	23 B	23 B
	cis-1,3-Dichloropropene	-	-	ug/m^3	<0.69	<0.69	<0.91	<0.91	<0.69	<0.69	<0.69	<0.91	<0.69	<1.8	<0.69	<0.69	<0.91	<0.69	<1.8	<0.69
	Cyclohexane	-	-	ug/m^3	<0.52	4.7	2.0	2.1	0.56	<0.52	<0.52	<0.69	69	2.1	1.5	230	62	45	<1.4	<0.52
	Dibromochloromethane	-	1.0	ug/m^3	<1.3	<1.3	<1.7	<1.7	<1.3	<1.3	<1.3	<1.7	<1.3	<3.4	<1.3	<1.3	<1.7	<1.3	<3.4	<1.3
	Ethyl acetate	-	32,000	ug/m^3	<0.92	<0.92	-	-	<0.92	<0.92	<0.92	-	<0.92	-	<0.92	<0.92	-	<0.92	-	<0.92
	Ethylbenzene	-	22	ug/m^3	3.1	4.6	3.4	4.0	0.84	0.71	0.66	4.8	3.6	4.3	7.5	3.6	<0.87	3.6	3.4	7.7
	Freon 11 (Trichlorofluoromethane)	-	7,000	ug/m^3	1.5	2.9	3.0	3.4	1.7	2.1	2.4	2.0	1.4	<2.2	1.4	41	3.5	1.9	<2.2	2.1
	Freon 113 (Freon TF)	-	300,000	ug/m^3	<1.2	<1.2	<1.5	<1.5	<1.2	<1.2	<1.2	<1.5	<1.2	<3.1	<1.2	<1.2	<1.5	<1.2	<3.1	<1.2
	Freon 114 (1,2-dichlorotetrafluoroethane)	-	-	ug/m^3	<1.1	<1.1	<1.4	<1.4	<1.1	<1.1	<1.1	<1.4	<1.1	<2.8	<1.1	<1.1	<1.4	<1.1	<2.8	<1.1
	Freon 12 (dichlorodifluoromethane)	-	2,000	ug/m^3	0.70 J	3.2	3.7	4.2	2.5	1.5	1.3	<2.5	2.4	<4.9	2.6	2.7	<2.5	1.8	<4.9	2.4
	Heptane	-	-	ug/m^3	2.4	7.1	3.0	3.3	0.92	<0.62	<0.62	0.86	50	<1.6	<0.62	75	6.1	26	<1.6	<0.62
	Hexachloro-1,3-butadiene	-	-	ug/m^3	<1.6	<1.6	<2.1	<2.1	<1.6	<1.6	<1.6	<2.1	<1.6	<4.3	<1.6	<1.6	<2.1	<1.6	<4.3	<1.6
	Hexane	-	2,000	ug/m^3	1.7	6.6	2.4	2.9	<0.54	<0.54	<0.54	<1.8	74	<3.5	<0.54	160	23	32	<3.5	<0.54
	Isopropyl alcohol	-	-	ug/m^3	<0.37	<0.37	<12	<12	<0.37	<0.37	<0.37	<12	<0.37	<25	<0.37	<0.37	<12	<0.37	<25	<0.37
	m&p-Xylene	-	70,000	ug/m^3	14	17	12	14	2.7	2.0	2.4	16	12 J B	15 B	45 B	11 J B	15 B	12 J B	12 B	20 B
	Methyl Butyl Ketone	-	-	ug/m^3	<1.2	<1.2	<2.0	<2.0	<1.2	<1.2	<1.2	<2.0	<1.2	<4.1	<1.2	<1.2	<2.0	<1.2	<4.1	<1.2
	Methyl Ethyl Ketone	-	10,000	ug/m^3	<0.90	<0.90	<1.5	<1.5	1.4	0.51 J	<0.90	<1.5	<0.90	8.6 T	<0.90	<0.90	<1.5	<0.90	<2.9	<0.90
	Methyl Isobutyl Ketone	-	800	ug/m^3	<1.2	<1.2	<2.0	<2.0	<1.2	<1.2	<1.2	<2.0	<1.2	<4.1	<1.2	<1.2	<2.0	<1.2	<4.1	<1.2
	Methyl tert-butyl ether	-	30,000	ug/m^3	<0.55	<0.55	<1.8	<1.8	<0.55	<0.55	<0.55	<1.8	<0.55	<3.6	<0.55	1.2	<1.8	<0.55	<3.6	<0.55
	Methylene chloride	-	52	ug/m^3	<0.53	1.4	<1.7	<1.7	0.71	<0.53	<0.53	<1.7	1.4	<3.5	<0.53	2.5	<1.7	1.2	<3.5	0.64
	o-Xylene	-	70,000	ug/m^3	3.0	5.5	4.2	4.8	1.1	0.97	1.1	5.6	6.0	5.2	4.9 J	<0.66	5.2	5.3	4.2	8.4
	Propylene	-	-	ug/m^3	<0.26	<0.26	-	-	<0.26	<0.26	<0.26	-	<0.26	-	<0.26	<0.26	-	<0.26	-	<0.26

TABLE 3.4

SOIL VAPOR ANALYTICAL RESULTS - RAND STREET

Kodak Park
Rochester, NY

ANALYTICAL METHOD	PARAMETERS	MINIMUM NYSDOH SUB-SLAB VAPOR MATRIX VALUE (ug/m^3)	EPA 10^{-6} SHALLOW SOIL GAS SCREENING LEVEL (ug/m^3)	SAMPLE LOCATION:	Rand Street															
				SAMPLE IDENTIFICATION:	SVRS2D	SVRS3D	SVRS3D	SVRS3D DUP	SVRS4D	SVRS5D	SVRS5D DUP	SVRS5D	SVRS6D	SVRS6D	SVRS6D REP	SVRS7D	SVRS7D	SVRS8D	SVRS8D	SVRS8D REP
				SAMPLE DATE:	10/5/2007	10/5/2007	11/7/2007	11/7/2007	10/5/2007	10/5/2007	10/5/2007	11/7/2007	10/5/2007	11/7/2007	11/7/2007	10/5/2007	11/7/2007	10/5/2007	11/7/2007	11/7/2007
				Unit																
TO-15	Styrene	-	10,000	ug/m^3	<0.65	1.1	<0.85	<0.85	0.48 J	<0.65	0.91	<0.85	1.7	<1.7	<0.65	<0.65	<0.85	1.1	<1.7	<0.65
	tert-Butyl Alcohol	-		ug/m^3	-	-	<15	<15	-	-	-	<15	-	<30	-	-	<15	-	<30	-
	Tetrachloroethylene	100	8.1	ug/m^3	14	4.7	<1.4	1.5	3.6	5.7 P	3.0 P	1.6	230	81	100	3.9	<1.4	120	16	22
	Tetrahydrofuran	-	-	ug/m^3	<0.45	<0.45	<15	<15	<0.45	<0.45	<0.45	<15	<0.45	<29	<0.45	<0.45	<15	<0.45	<29	<0.45
	Toluene	-	4,000	ug/m^3	3.6	16	11	12	4.1	2.3	2.6	15	41 B	21 B	27 B	23 B	17 B	41 B	14 B	20 B
	trans-1,2-Dichloroethene	-	700	ug/m^3	<0.60	<0.60	<0.79	<0.79	<0.60	1.2	1.5	1.1	<0.60	<1.6	<0.60	<0.60	0.95	42	13	12
	trans-1,3-Dichloropropene	-	-	ug/m^3	<0.69	<0.69	<0.91	<0.91	<0.69	<0.69	<0.69	<0.91	<0.69	<1.8	<0.69	<0.69	<0.91	<0.69	<1.8	<0.69
	Trichloroethene	5	0.22	ug/m^3	0.98	6.1	<1.1	<1.1	0.98	260	260	110	34 B	<2.1	0.71 J B	84 B	3.0 B	1600 B	410 B	410 B
	Vinyl acetate	-	2,000	ug/m^3	<0.54	<0.54	-	-	<0.54	<0.54	<0.54	-	<0.54	-	<0.54	<0.54	-	<0.54	-	<0.54
	Vinyl Bromide	-	-	ug/m^3	<0.67	<0.67	-	-	<0.67	<0.67	<0.67	-	<0.67	-	<0.67	<0.67	-	<0.67	-	<0.67
	Vinyl chloride	5	2.8	ug/m^3	<0.39	<0.39	<0.51	<0.51	<0.39	<0.39	<0.39	<0.51	<0.39	<1	<0.39	300	31	1.2	<1	<0.39
	Xylene (total)	-		ug/m^3	-	-	17	20	-	-	-	22	-	21	-	-	21	-	17	-

Notes:
1. ug/m^3 - Micrograms per cubic meter.
2. NYSDOH Sub-slab Vapor Matrix Value - from NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York; lower sub-slab concentration would likely lead to 'No Further Action' based on Matrix 1 and 2.
3. USEPA Generic Soil Gas Screening Level based on 10^{-6} risk.
4. "-" - Value not established, not analyzed, or not applicable.
5. "J" - J flag; analyte detected at or below quantitation limits.
6. "B" - B flag; analyte detected in associated equipment blank EB-01 or EB-02.
7. "P" - P flag; the sample concentration exceeded 5 times the Reporting Limit and the corresponding dup/rep result was greater than 50% of the RPD.
8. "T" - T flag; analyte detected at 10 time greater that the trip blank concentration.

TABLE 3.5

AMBIENT AIR ANALYTICAL RESULTS

Kodak Park
Rochester, NY

ANALYTICAL METHOD	PARAMETERS	SAMPLE LOCATION:			West Ridge Plaza		Devitt Street	Lake Avenue	Rand Street					Koda Vista
		SAMPLE IDENTIFICATION:	Trip Blank - AA	Trip Blank - AA	AACP	AACP	AADV	AALA	AARS	AARS DUP	AARS	AARS DUP	AARS REP	AAKV
		SAMPLE DATE:	10/4/2007	11/7/2007	10/4/2007	11/7/2007	10/4/2007	10/4/2007	10/5/2007	10/5/2007	11/7/2007	11/7/2007	11/7/2007	10/4/2007
		Unit												
TO-15	1,1,1-Trichloroethane	ug/m^3	<0.83	<1.1	<0.83	<1.1	<0.83	<0.83	<0.83	<0.83	<1.1	<1.1	<0.83	<0.83
	1,1,2,2-Tetrachloroethane	ug/m^3	<1.0	<1.4	<1.0	<1.4	<1.0	<1.0	<1.0	<1.0	<1.4	<1.4	<1.0	<1.0
	1,1,2-Trichloroethane	ug/m^3	<0.83	<1.1	<0.83	<1.1	<0.83	<0.83	<0.83	<0.83	<1.1	<1.1	<0.83	<0.83
	1,1-Dichloroethane	ug/m^3	<0.62	<0.81	<0.62	<0.81	<0.62	<0.62	<0.62	<0.62	<0.81	<0.81	<0.62	<0.62
	1,1-Dichloroethene	ug/m^3	<0.60	<0.79	<0.60	<0.79	<0.60	<0.60	<0.60	<0.60	<0.79	<0.79	<0.60	<0.60
	1,2,4-Trichlorobenzene	ug/m^3	<1.1	<3.7	<1.1	<3.7	<1.1	<1.1	<1.1	<1.1	<3.7	<3.7	<1.1	<1.1
	1,2,4-Trimethylbenzene	ug/m^3	<0.75	<0.98	-	-	-	0.75	1.6	1.4	<0.98	<0.98	2.7	0.65 J
	1,2-Dibromoethane	ug/m^3	<1.2	<1.5	-	-	-	<1.2	<1.2	<1.2	<1.5	<1.5	<1.2	<1.2
	1,2-Dichlorobenzene	ug/m^3	<0.92	<1.2	<0.92	<1.2	<0.92	<0.92	<0.92	<0.92	<1.2	<1.2	<0.92	<0.92
	1,2-Dichloroethane	ug/m^3	<0.62	<0.81	<0.62	<0.81	<0.62	<0.62	<0.62	<0.62	<0.81	<0.81	<0.62	<0.62
	1,2-Dichloroethene (total)	ug/m^3	-	<0.79	-	<0.79	-	-	-	-	<0.79	<0.79	-	-
	1,2-Dichloropropane	ug/m^3	<0.70	<0.92	<0.70	<0.92	<0.70	<0.70	<0.70	<0.70	<0.92	<0.92	<0.70	<0.70
	1,3,5-Trimethylbenzene	ug/m^3	<0.75	<0.98	-	-	-	<0.75	1.2	1.1	<0.98	<0.98	0.75	<0.75
	1,3-Butadiene	ug/m^3	<0.34	<1.1	-	-	-	<0.34	<0.34	<0.34	<1.1	<1.1	<0.34	<0.34
	1,3-Dichlorobenzene	ug/m^3	<0.92	<1.2	<0.92	<1.2	<0.92	<0.92	<0.92	<0.92	<1.2	<1.2	<0.92	<0.92
	1,4-Dichlorobenzene	ug/m^3	<0.92	<1.2	<0.92	<1.2	<0.92	<0.92	<0.92	<0.92	<1.2	<1.2	<0.92	<0.92
	1,4-Dioxane	ug/m^3	<1.1	<18	<1.1	<18	<1.1	<1.1	<1.1	<1.1	<18	<18	<1.1	<1.1
	2,2,4-trimethylpentane	ug/m^3	<0.71	<0.93	-	-	-	<0.71	<0.71	<0.71	<0.93	<0.93	<0.71	<0.71
	4-ethyltoluene	ug/m^3	<0.75	<0.98	-	-	-	<0.75	<0.75	<0.75	<0.98	<0.98	<0.75	<0.75
	2-Chlorotoluene	ug/m^3	-	<1.0	-	-	-	-	-	-	<1.0	<1.0	-	-
	3-Chloropropene	ug/m^3	-	<1.6	-	<1.6	-	-	-	-	<1.6	<1.6	-	-
	Acetone	ug/m^3	<0.72	45	-	-	-	16	73	59	16 P T	81 P T	30 T	33
	Allyl chloride	ug/m^3	<0.48	-	<0.48	-	<0.48	<0.48	<0.48	<0.48	-	-	<0.48	<0.48
	Benzene	ug/m^3	<0.49	<0.64	-	-	-	0.75	0.84	0.81	<0.64	<0.64	0.49	0.55
	Benzyl chloride	ug/m^3	<0.88	-	<0.88	-	<0.88	<0.88	<0.88	<0.88	-	-	<0.88	<0.88
	Bromodichloromethane	ug/m^3	<1.0	<1.3	<1.0	<1.3	<1.0	<1.0	<1.0	<1.0	<1.3	<1.3	<1.0	<1.0
	Bromoethene	ug/m^3	-	<0.87	-	-	-	-	-	-	<0.87	<0.87	-	-
	Bromoform	ug/m^3	<1.6	<2.1	-	-	-	<1.6	<1.6	<1.6	<2.1	<2.1	<1.6	<1.6
	Bromomethane	ug/m^3	<0.59	<0.78	-	-	-	<0.59	<0.59	<0.59	<0.78	<0.78	<0.59	<0.59
	Carbon disulfide	ug/m^3	<0.47	<1.6	-	-	-	<0.47	<0.47	<0.47	<1.6	<1.6	<0.47	<0.47
	Carbon tetrachloride	ug/m^3	<0.96	<1.3	<0.96	<1.3	<0.96	<0.96	<0.96	<0.96	<1.3	<1.3	<0.96	<0.96
	Chlorobenzene	ug/m^3	<0.70	<0.92	<0.70	<0.92	<0.70	<0.70	<0.70	<0.70	<0.92	<0.92	<0.70	<0.70
	Chloroethane	ug/m^3	<0.40	<1.3	<0.40	<1.3	<0.40	<0.40	<0.40	<0.40	<1.3	<1.3	<0.40	<0.40
	Chloroform	ug/m^3	<0.74	<0.98	<0.74	<0.98	<0.74	<0.74	<0.74	<0.74	<0.98	<0.98	<0.74	<0.74
	Chloromethane	ug/m^3	<0.31	<1.0	0.76	1.1	0.71	0.94	0.76	0.86	1.5	1.0	<0.31	0.73
	cis-1,2-Dichloroethene	ug/m^3	<0.60	<0.79	<0.60	<0.79	<0.60	<0.60	<0.60	0.44 J	<0.79	<0.79	0.48 J	<0.60
	cis-1,3-Dichloropropene	ug/m^3	<0.69	<0.91	<0.69	<0.91	<0.69	<0.69	<0.69	<0.69	<0.91	<0.91	<0.69	<0.69
	Cyclohexane	ug/m^3	<0.52	<0.69	-	-	-	<0.52	<0.52	<0.52	1.7	1.5	1.7	<0.52
	Dibromochloromethane	ug/m^3	<1.3	<1.7	<1.3	<1.7	<1.3	<1.3	<1.3	<1.3	<1.7	<1.7	<1.3	<1.3
	Ethyl acetate	ug/m^3	<0.92	-	-	-	-	<0.92	2.5	2.4	-	-	<0.92	<0.92
	Ethylbenzene	ug/m^3	<0.66	<0.87	-	-	-	<0.66	0.57 J	0.44 J	<0.87	<0.87	0.71	<0.66
	Freon 11	ug/m^3	<0.86	<1.1	1.4	<1.1	1.4	1.3	1.8	1.7	<1.1	<1.1	1.4	1.1
	Freon 113	ug/m^3	<1.2	<1.5	<1.2	<1.5	<1.2	<1.2	<1.2	<1.2	<1.5	<1.5	<1.2	<1.2
	Freon 114	ug/m^3	<1.1	<1.4	<1.1	<1.4	<1.1	<1.1	<1.1	<1.1	<1.4	<1.4	<1.1	<1.1

TABLE 3.5

AMBIENT AIR ANALYTICAL RESULTS

Kodak Park
Rochester, NY

ANALYTICAL METHOD	PARAMETERS	SAMPLE LOCATION:			West Ridge Plaza		Devitt Street	Lake Avenue	Rand Street					Koda Vista
		SAMPLE IDENTIFICATION:	Trip Blank - AA	Trip Blank - AA	AACP	AACP	AADV	AALA	AARS	AARS DUP	AARS	AARS DUP	AARS REP	AAKV
		SAMPLE DATE:	10/4/2007	11/7/2007	10/4/2007	11/7/2007	10/4/2007	10/4/2007	10/5/2007	10/5/2007	11/7/2007	11/7/2007	11/7/2007	10/4/2007
		Unit												
TO-15	Freon 12	ug/m^3	<0.75	<2.5	2.3	2.5	2.6	2.6	3.9	3.7	<2.5	<2.5	2.6	2.2
	Heptane	ug/m^3	<0.62	<0.82	-	-	-	<0.62	1.6	1.5	<0.82	<0.82	0.92	0.50 J
	Hexachloro-1,3-butadiene	ug/m^3	<1.6	<2.1	<1.6	-	<1.6	<1.6	<1.6	<1.6	<2.1	<2.1	<1.6	<1.6
	Hexane	ug/m^3	<0.54	<1.8	-	-	-	0.5 J	1.0	0.97	<1.8	<1.8	1.6	<0.54
	Isopropyl alcohol	ug/m^3	<0.37	<12	-	-	-	<0.37	<0.37	<0.37	<12	<12	<0.37	<0.37
	m&p-Xylene	ug/m^3	<1.3	<2.2	-	-	-	0.84 J	1.6	1.4	<2.2	<2.2	1.7	0.57 J
	Methyl Butyl Ketone	ug/m^3	<1.2	<2.0	-	-	-	<1.2	<1.2	<1.2	<2.0	<2.0	<1.2	<1.2
	Methyl Ethyl Ketone	ug/m^3	<0.90	3.2	-	-	-	0.87 J	3.0	3.1	<1.5	3.2 T	<0.90	1.2
	Methyl Isobutyl Ketone	ug/m^3	<1.2	<2.0	-	-	-	<1.2	<1.2	<1.2	<2.0	<2.0	<1.2	<1.2
	Methyl tert-butyl ether	ug/m^3	<0.55	<1.8	-	-	-	<0.55	<0.55	<0.55	<1.8	<1.8	<0.55	<0.55
	Methylene chloride	ug/m^3	<0.53	<1.7	6.5	<1.7	0.39 J	<0.53	0.88	0.99	<1.7	<1.7	0.95	0.64
	o-Xylene	ug/m^3	<0.66	<0.87	-	-	-	<0.66	0.88	0.66	<0.87	<0.87	0.49 J	0.31 J
	Propylene	ug/m^3	<0.26	-	-	-	-	<0.26	<0.26	<0.26	-	-	<0.26	<0.26
	Styrene	ug/m^3	<0.65	<0.85	-	-	-	<0.65	2.2	1.9	<0.85	<0.85	<0.65	<0.65
	tert-Butyl Alcohol	ug/m^3	-	<15	-	-	-	-	-	-	<15	<15	-	-
	Tetrachloroethylene	ug/m^3	<1.0	<1.4	<1.0	<1.4	<1.0	<1.0	0.69 J	0.69 J	<1.4	<1.4	<1.0	0.76 J
	Tetrahydrofuran	ug/m^3	<0.45	<15	-	-	-	<0.45	<0.45	<0.45	<15	<15	<0.45	<0.45
	Toluene	ug/m^3	<0.57	<0.75	-	-	-	1.5	8.0	7.8	1.7	1.5	2.6	1.6
	trans-1,2-Dichloroethene	ug/m^3	<0.60	<0.79	<0.60	<0.79	<0.60	<0.60	<0.60	<0.60	<0.79	<0.79	<0.60	<0.60
	trans-1,3-Dichloropropene	ug/m^3	<0.69	<0.91	<0.69	<0.91	<0.69	<0.69	<0.69	<0.69	<0.91	<0.91	<0.69	<0.69
	Trichloroethene	ug/m^3	<0.82	<1.1	1.4	<1.1	0.87	8.0	2.5 P	4.3 P	<1.1	<1.1	2.2	0.98
	Vinyl acetate	ug/m^3	<0.54	-	-	-	-	<0.54	<0.54	<0.54	-	-	<0.54	<0.54
	Vinyl Bromide	ug/m^3	<0.67	-	-	-	-	<0.67	<0.67	<0.67	-	-	<0.67	<0.67
	Vinyl chloride	ug/m^3	<0.39	<0.51	<0.39	<0.51	<0.39	<0.39	<0.39	<0.39	<0.51	<0.51	<0.39	<0.39
	Xylene (total)	ug/m^3	-	<0.87	-	-	-	-	-	-	<0.87	<0.87	-	-

Notes:
1. ug/m^3 - Micrograms per cubic meter.
2. "-" - Not analyzed or not applicable.
3. "J" - J flag; analyte detected at or below quantitation limits.
4. "P" - P flag; the sample concentration exceeded 5 times the Reporting Limit and the corresponding dup/rep result was greater than 50% of the RPD.
5. "T" - T flag; analyte detected at 10 time greater that the trip blank concentration.

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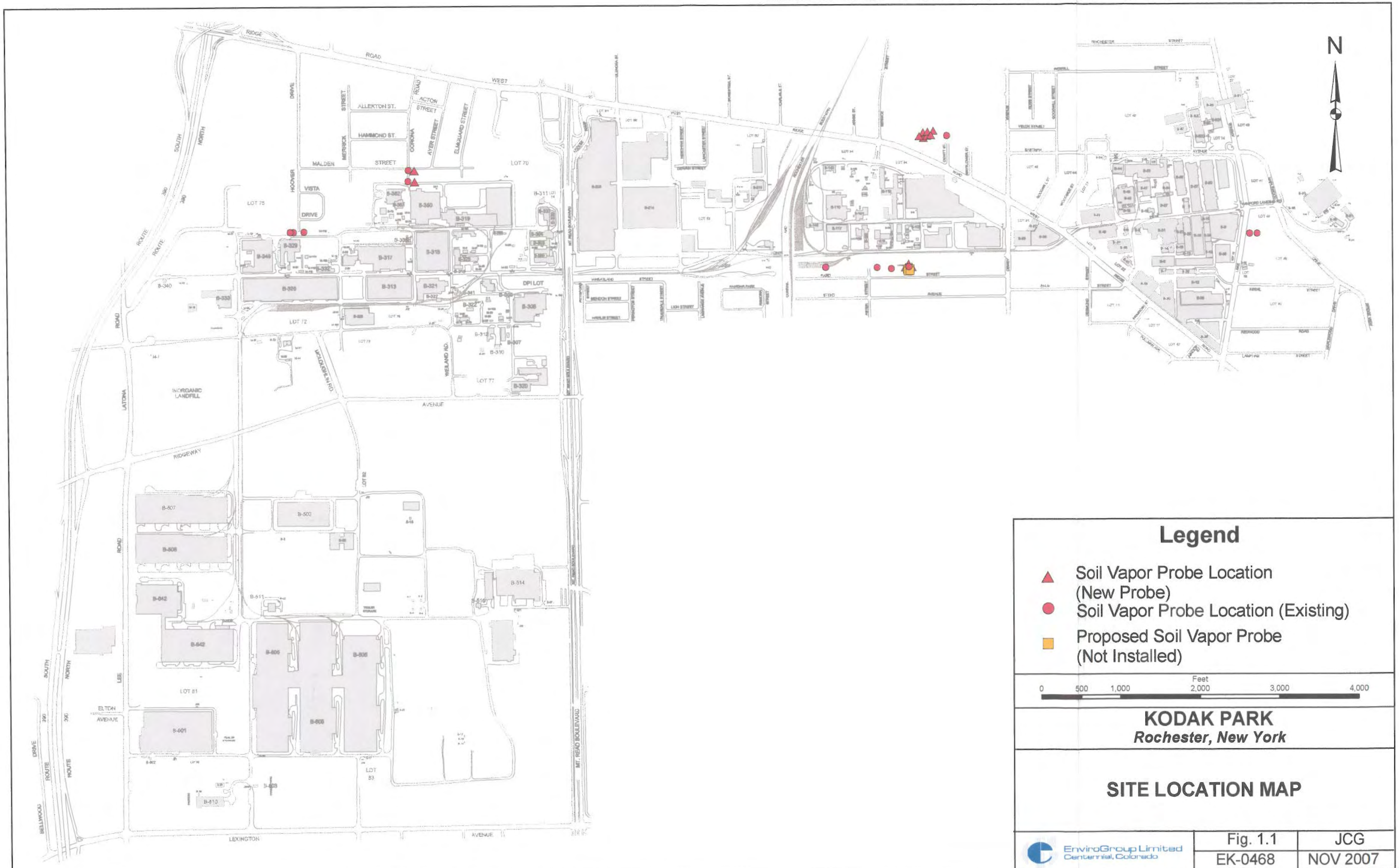

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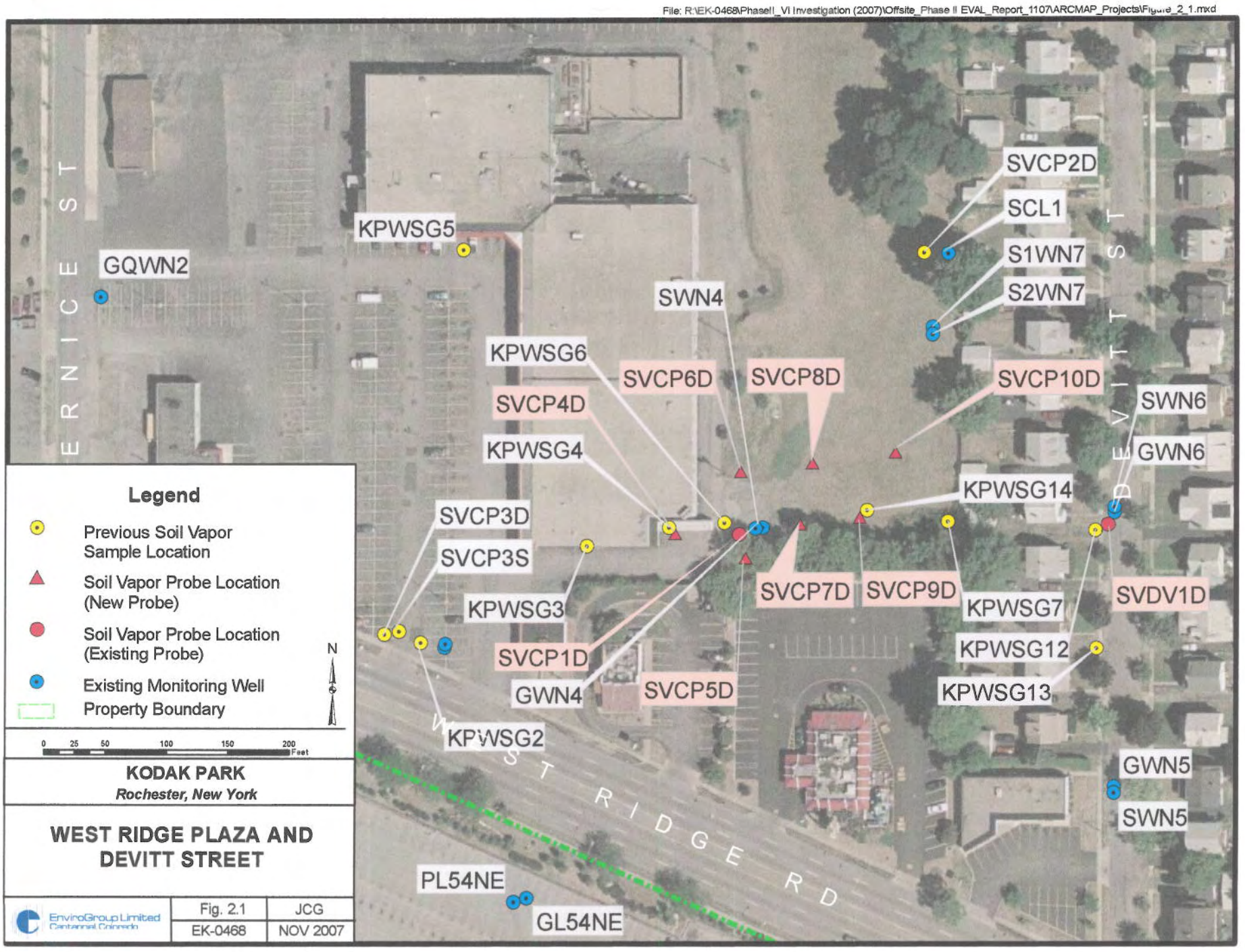

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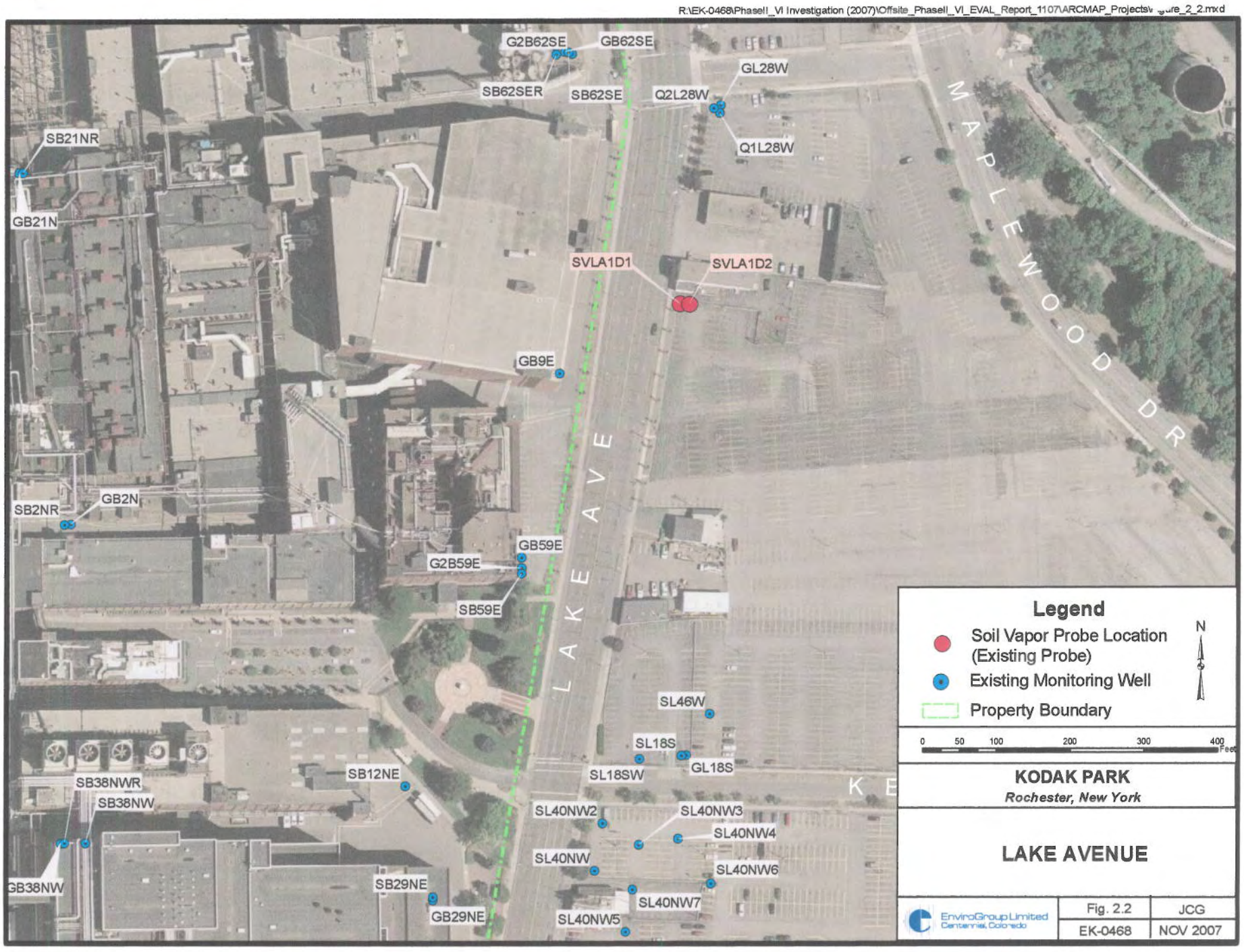

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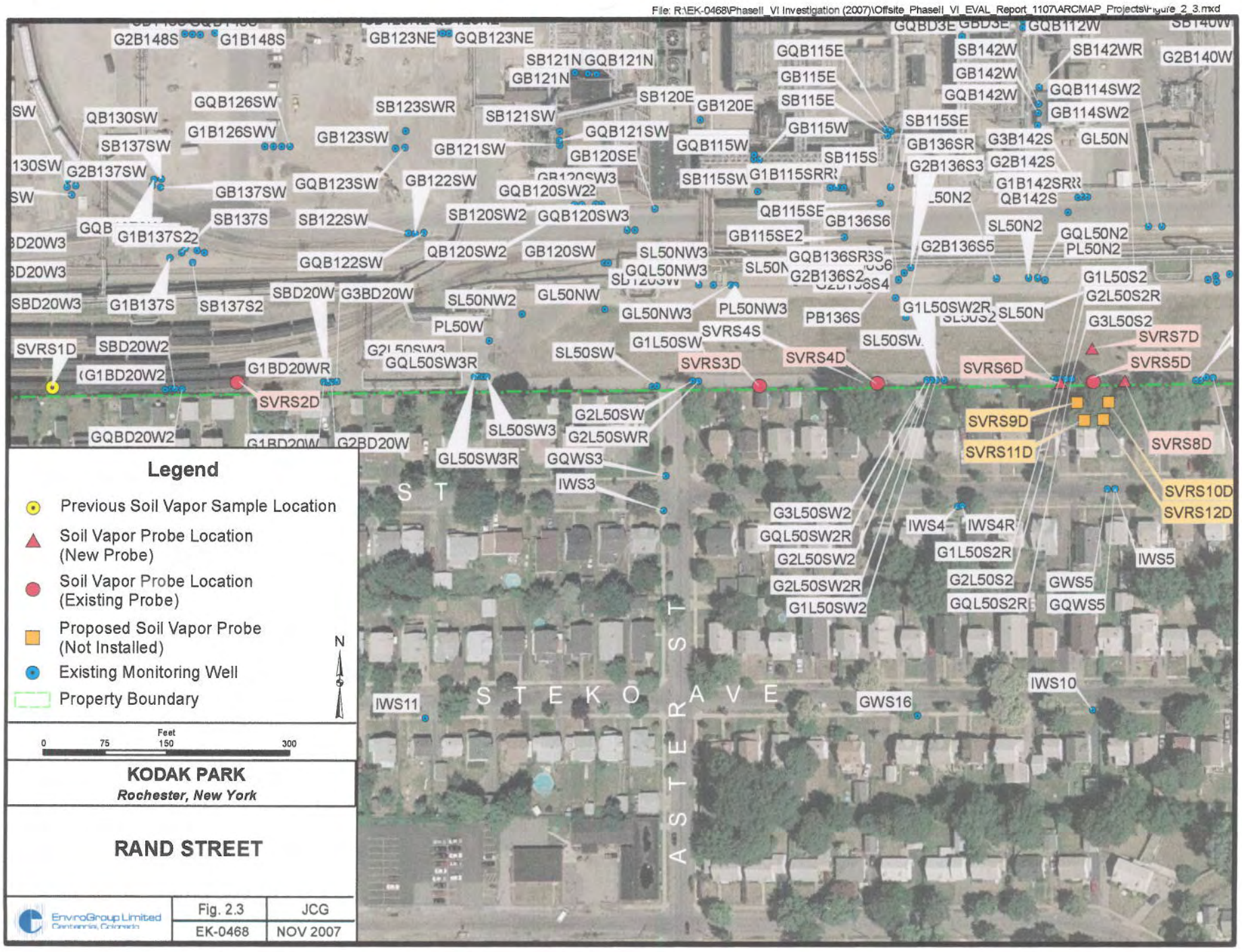

KODAK PARK
Rochester, New York

RAND STREET

EnviroGroup Limited Centennial, Colorado	Fig. 2.3	JCG
	EK-0468	NOV 2007

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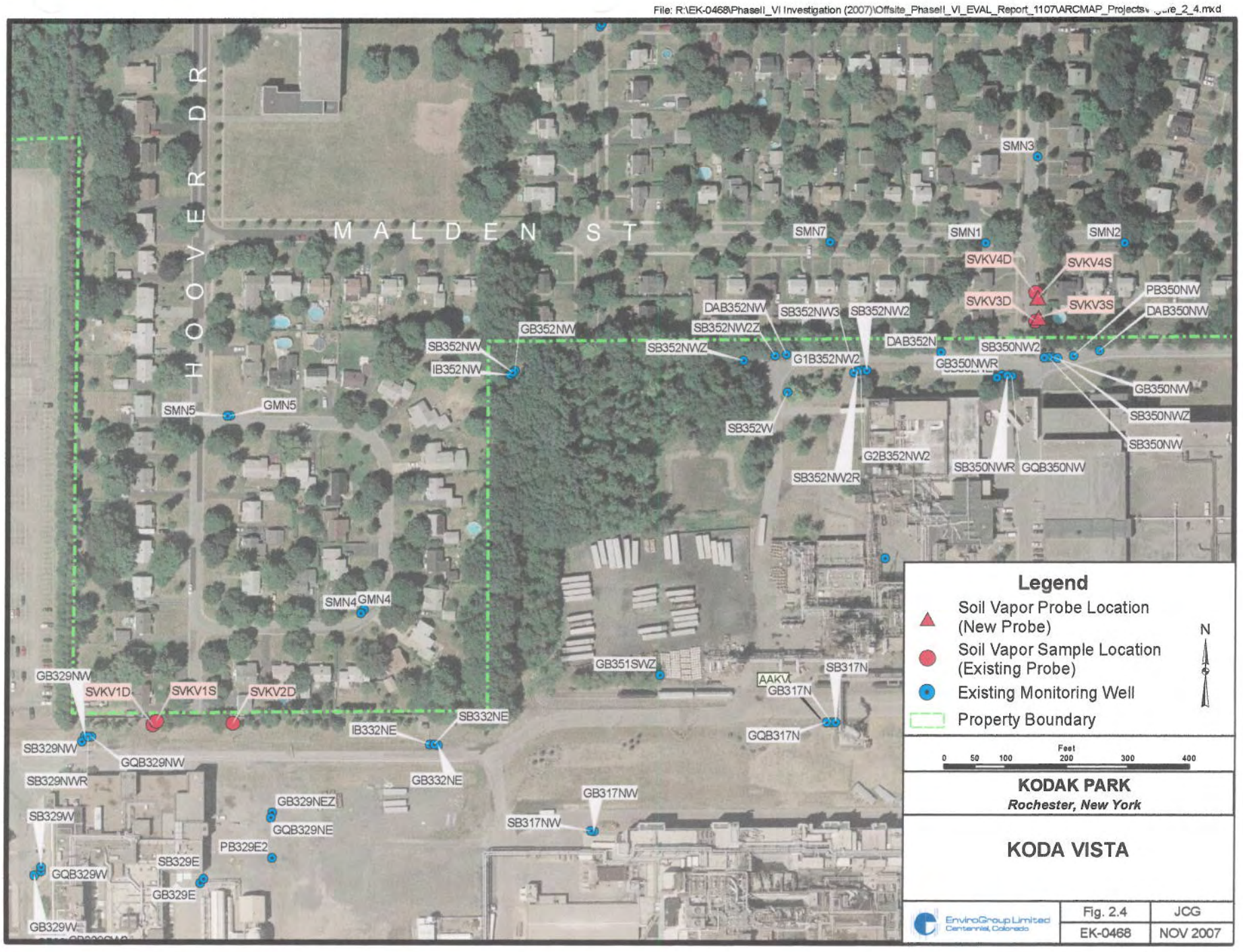

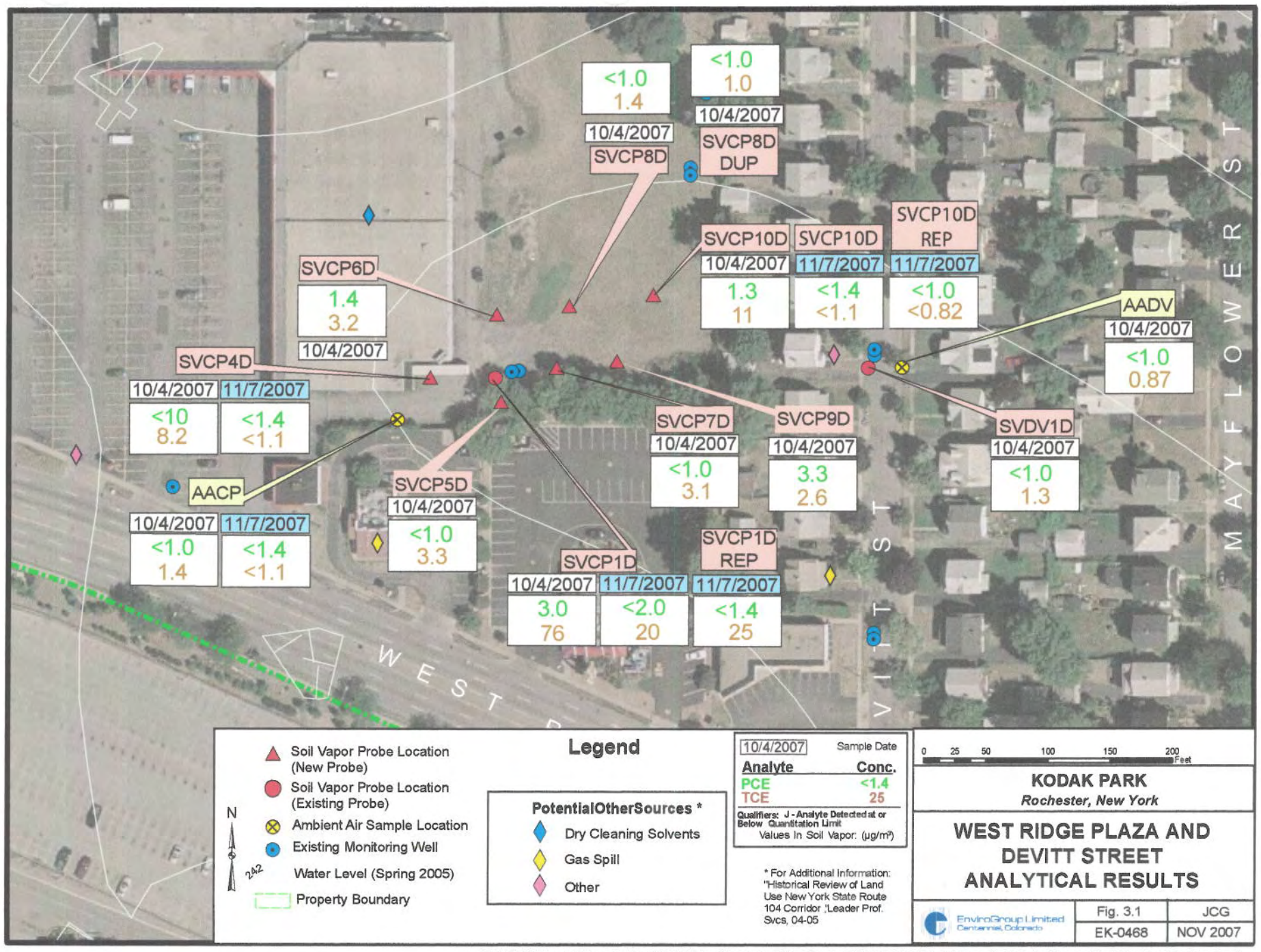

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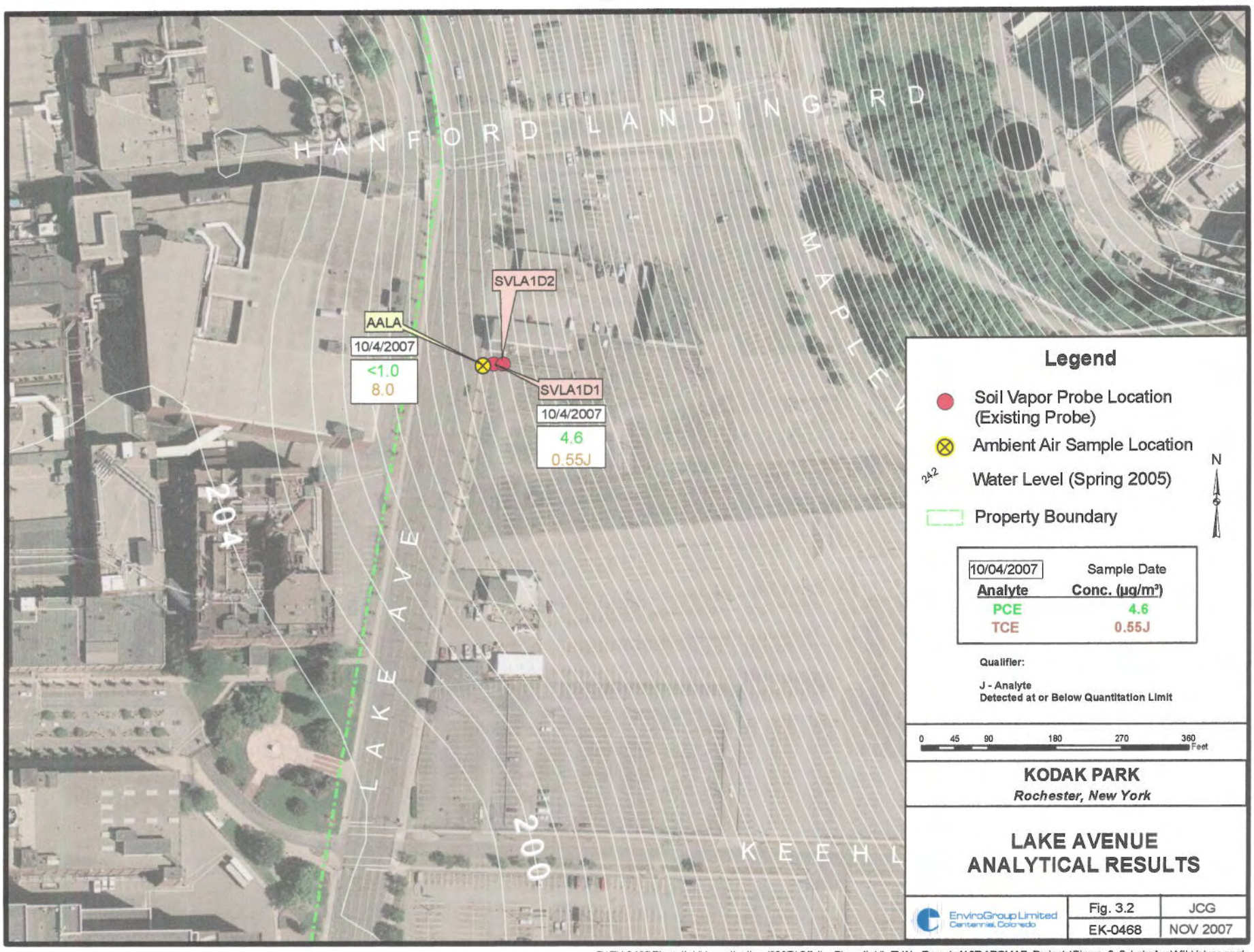

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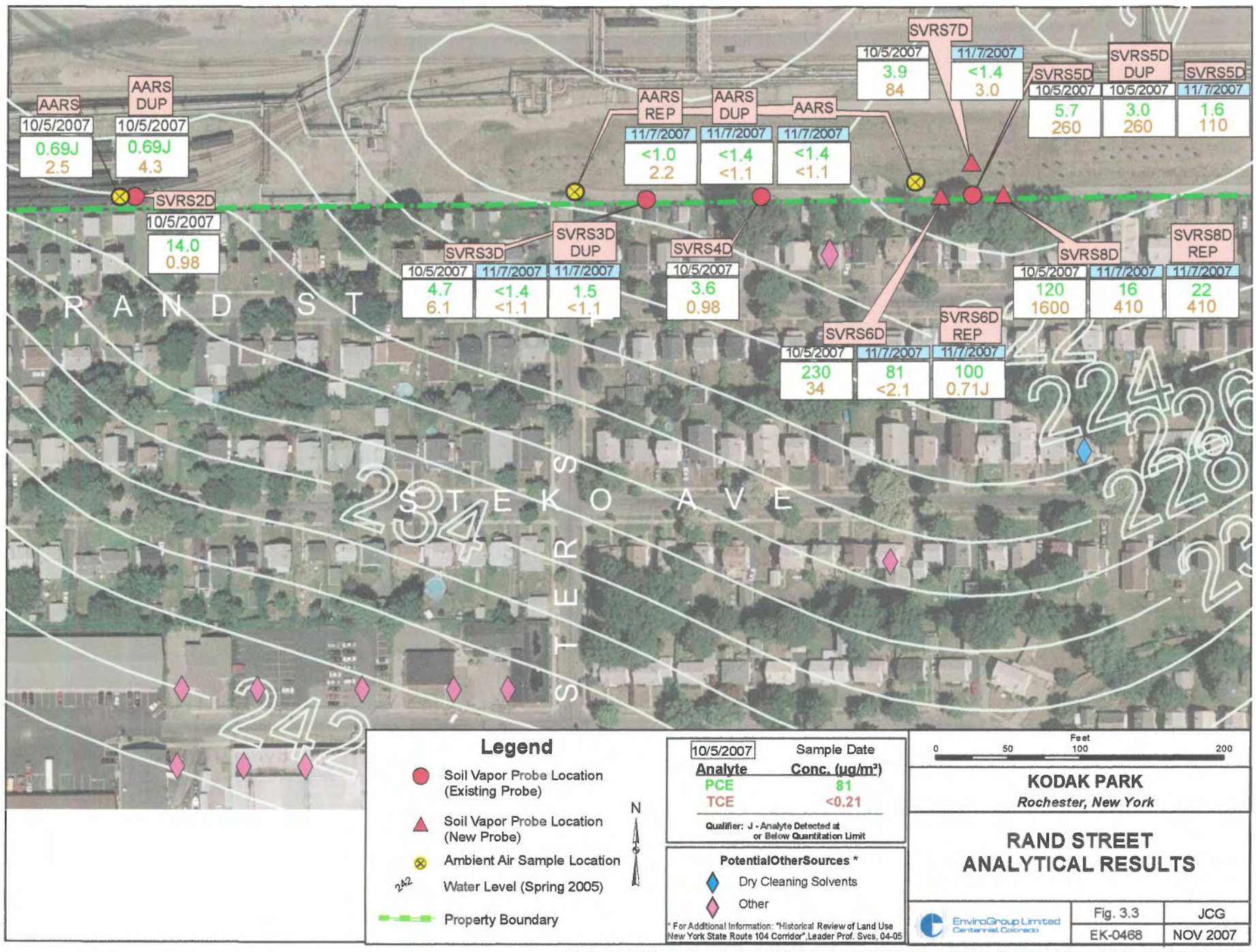

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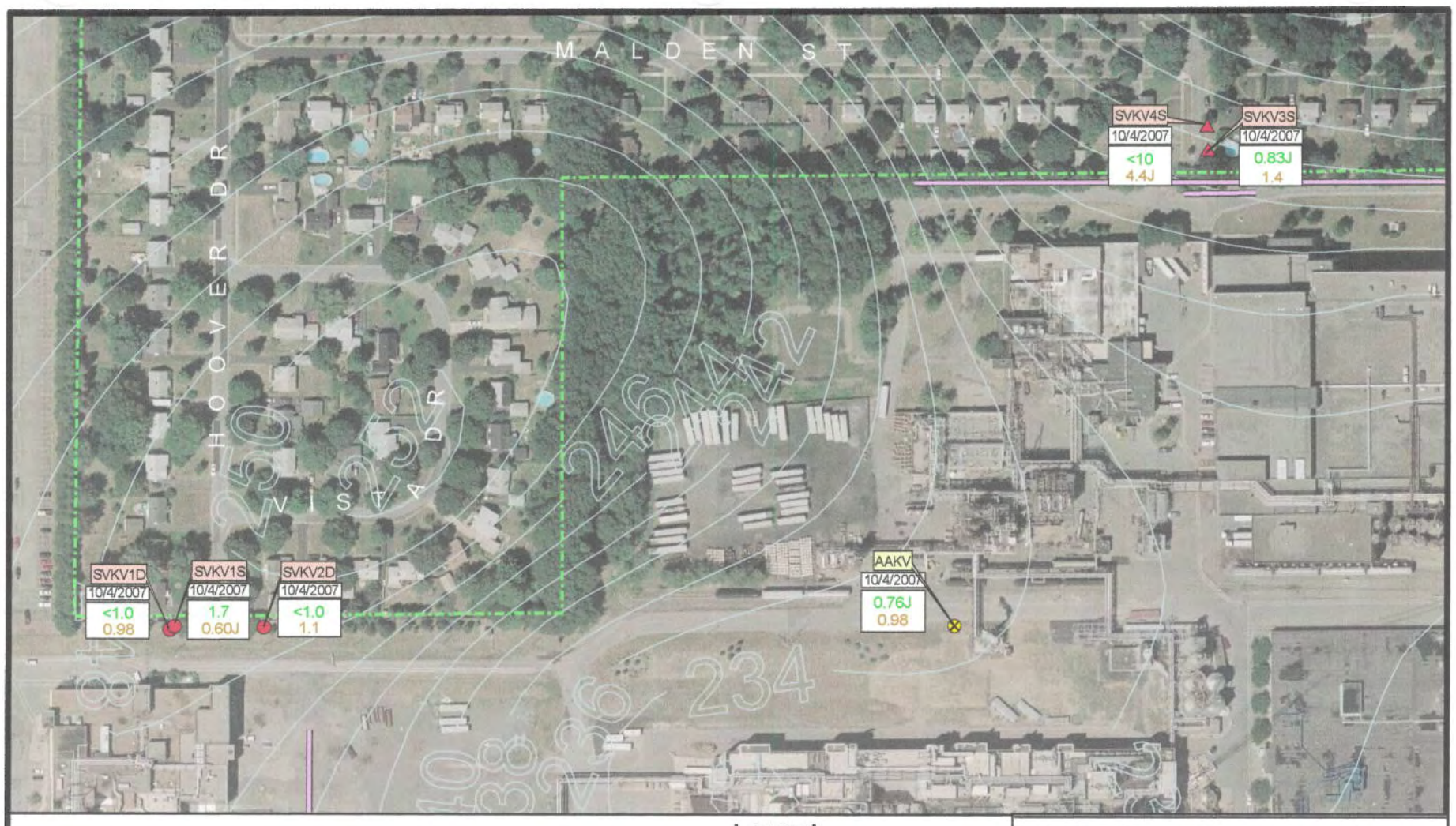

Legend

- Ambient Air Sample Location
- Soil Vapor Probe Location (New Probe)
- Soil Vapor Probe Location (Existing Probe)
- 242 Water Level (Spring 2005)
- Remediation System
- Property Boundary

N

10/4/2007	Sample Date
Analyte	Conc. (µg/m³)
PCE	<1.0
TCE	1.1

Qualifiers:

J - Analyte Detected at or Below Quantitation Limit

0 55 110 220 330 440 Feet

KODAK PARK

Rochester, New York

KODA VISTA ANALYTICAL RESULTS

EnviroGroup Limited, Centennial, Colorado

Fig. 3.4	JCG
EK-0468	NOV 2007

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