Addendum No. 2 to Final Task I Supplemental Investigation Work Plan for Indoor Air

Burlington Northern Livingston Shop Complex
Livingston, Montana

January 2007

Montana Department of Environmental Quality Version

ADDENDUM No. 2 to FINAL TASK I SUPPLEMENTAL INVESTIGATION WORK PLAN FOR INDOOR AIR
Burlington Northern Livingston Shop Complex

Revision Tracking Form

Submittal Date	Revision Date	Revision No.	Pages to be Replaced
1/29/07	1/29/07	DEQ Version	Binder Cover and Spine Internal Cover and Title Page Table of Contents Text (all) Tables (all) Figures (all) Attachment I

Notes:

1) Insert this tracking form in the front of the *Addendum No. 2 to Final Task I Supplemental Investigation Work Plan for Indoor Air* currently dated October 2006.
2) Remove pages listed in the above table (shaded yellow) and insert replacement pages (attached). Note: This includes a new binder cover and spine which identifies the document as "DEQ Version" and dated "January 2007".

Kennedy/Jenks Consultants

Engineers & Scientists

32001 32nd Avenue South
Suite 100
Federal Way, Washington 98001
253-874-0555 (Seattle)
253-927-8688 (Tacoma)
FAX 253-952-3435

29 January 2007

Ms. Aimee T. Reynolds
Remediation Division
Site Response Section
Montana Department of Environmental Quality
1100 North Last Chance Gulch
Helena, Montana 59601

Subject: Addendum No. 2 to Final Task I
Supplemental Investigation Work Plan for Indoor Air – DEQ Version
Burlington Northern Livingston Shop Complex, Livingston, Montana
K/J 0796021.16

Dear Ms. Reynolds:

On behalf of the BNSF Railway Company (BNSF), Kennedy/Jenks Consultants is pleased to submit four (4) hard copies and one (1) electronic copy of Addendum No. 2 to Final Task I Supplemental Investigation Work Plan for Indoor Air as modified by Montana Department of Environmental Quality (DEQ). Addendum No. 2 has been modified by DEQ and, therefore, no longer represents a Kennedy/Jenks Consultants work product prepared on behalf of the BNSF. Furthermore, BNSF and Kennedy/Jenks Consultants do not assume responsibility for any errors or omissions in DEQ-modified Addendum No. 2. Changes made in Addendum No. 2 by DEQ are underlined.

If you have any questions regarding this document, please contact us at (253) 874-0555.

Very truly yours,

KENNEDY/JENKS CONSULTANTS

John E. Norris, R.G.
Project Manager

Amanda J. Aldersley, L.G.
Assistant Project Manager

Enclosures

cc: Dave Smith, BNSF
Steve Wade, Browning, Kaleczyc, Berry & Hoven
Laura Vachowski, Montana Department of Environmental Quality
Steve Caldwell, Park County Environmental Council
Brian Blicker, RTI, Inc.

ADDENDUM No. 2 to FINAL TASK I SUPPLEMENTAL INVESTIGATION WORK PLAN FOR INDOOR AIR

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1.0 INTRODUCTION

As requested by the Montana Department of Environmental Quality (DEQ) in its 14 September, 2006 letter, the BNSF Railway Company (BNSF) has prepared this *Addendum No. 2 to Final Task I - Supplemental Investigation Work Plan for Indoor Air* (Addendum No. 2) which constitutes the Stage II Supplemental Investigation Work Plan for Indoor Air. This work plan addresses the requirements for soil gas, indoor air, outdoor air and sub-slab vapor sampling to provide data to characterize the volatile organic compounds (VOCs), including the site-specific compounds of concern (COCs). These data will aid in determining the nature and extent of the COCs identified in the *Record of Decision* (ROD) [Montana Department of Environmental Quality 2001] and any other VOCs that are attributable to subsurface vapor intrusion from the Facility. The additional investigation described herein is planned in support of "Task I: Basement Volatile Organic Compound (VOC) Gas Investigation and Removal" of the *Statement of Work for Spring 2005 Activities* dated August 2005 (Spring 2005 SOW) (DEQ 2005).

1.1 BACKGROUND

Table 1 summarizes all the indoor air and soil gas investigations conducted at the Livingston railyard and surrounding area to date. Additional information regarding these investigations can be found in the documents referenced in Table 1. The previous air sampling locations are shown on Figure 1. Air sampling and subslab soil gas sampling locations associated with December 2005 and April 2006 Task I activities are shown on Figures 2 and 3. The analytical results for the indoor air and subslab soil gas investigations are summarized in Table 2 and included on Figures 2 and 3.

A soil gas investigation was performed by Remediation Technologies Inc. (Retec) in 1988. Additional soil gas sampling was also conducted by Envirocon Inc. between 1991 and 1994. The analytical results from these soil gas investigations are provided in

Table 3. The locations of the soil gas samples collected by Retec and Envirocon are shown on the figures provided in Attachment A, if available.

1.1.1 Stage I

This section provides an overview of the sampling events conducted by Kennedy/Jenks Consultants during December 2005 and April 2006.

1.1.1.1 December 2005 Indoor Air Sampling. The ROD selected remedy includes indoor air sampling at representative inhabitable structures within the area of alluvial groundwater containing VOCs to evaluate if these structures have indoor air concentrations of COCs (attributable to the Facility) above U.S. Environmental Protection Agency (EPA) screening levels for ambient air. The initial screening level air sampling required by the ROD was conducted between 12 and 15 December 2005 in accordance with the *Final Task I – Supplemental Investigation Work Plan for Indoor Air* (Final Task I Work Plan) dated June 2005 (Kennedy/Jenks Consultants 2005b). A total of 33 indoor air samples were collected (including two duplicates) from 17 locations within the study area. In addition, four indoor air samples were collected from two locations in a background area. Indoor air samples were collected from the main living areas (residential properties)/work areas (commercial properties) and from basements, if present. Occupied Dwelling Questionnaires were completed at each location to identify products used in the building that may have affected sample results. Copies of these questionnaires are provided in Attachment B. Three ambient (outdoor) air samples were collected during each time period that indoor air samples were collected. A total of six ambient air samples were collected. Air samples were collected in accordance with the Final Task I Work Plan. Some locations identified in the Final Task I Work Plan were modified due to accessibility issues (Spring 2005 Statement of Work Quarterly Report No. 1) (Kennedy/Jenks Consultants 2005c). Indoor air sampling locations for the December 2005 sample event are shown on Figure 2. Analytical results are provided in Table 2.

Eleven sampling locations exceeded revised Task I indoor air screening levels (DEQ-approved screening levels) during the December 2005 indoor air sampling event. Two of the sampling locations (05-AS-BG29 and 05-AS-BG11) that exceeded indoor air screening levels are currently believed to be situated outside of the potential vapor intrusion study area.

The Final Task I Work Plan called for resampling indoor air of any inhabitable structure that exceeded the revised Task I indoor air screening levels to evaluate whether the data are reproducible. In discussions with DEQ on 22 and 23 February 2006, DEQ and BNSF Railway Company (BNSF) agreed to proceed immediately with soil gas sampling to evaluate the potential subsurface vapor intrusion pathway.

1.1.1.2 April 2006 Soil Gas and Indoor Air Sampling. Except as noted in the following sections of this work plan, subslab soil gas, soil gas flux emission, and indoor air samples were collected between 5 and 8 April 2006 generally in accordance with procedures outlined in *Addendum No. 1 to Final Task I Supplemental Investigation Work Plan for Indoor Air* (DEQ version) (DEQ 2006) (Addendum No. 1). The locations of the soil gas and indoor air samples within the buildings are provided in the building diagrams in Attachment C. Building diagrams were only prepared for locations where soil gas or soil gas flux emission samples were collected. The samples were collected at the 11 locations where indoor air screening levels were exceeded during the December 2005 sampling event, as well as at three locations specified in the ROD that had not been sampled during the December 2005 event because of access issues (see Figure 3). Occupied Dwelling Questionnaires were completed for the locations not previously sampled (see Attachment B). Soil gas and indoor air samples were collected at each location and analyzed for radon-222 to establish location-specific soil gas-to-indoor air attenuation factors. In addition, the two background locations that exceeded the indoor air screening levels in December 2005 were resampled.

Indoor air concentrations were estimated based on the subslab soil gas and soil gas flux emission analytical results and location-specific attenuation factors based on the radon-222 analysis, in conjunction with room dimensions where applicable. This was

summarized and submitted to DEQ in a Technical Memorandum dated 9 May 2006 (Kennedy/Jenks Consultants 2006b).

Subsequent to the sampling event, DEQ requested that the full EPA Method TO-15 analytical list be provided for the soil gas samples. These data and the indoor air data are provided in Table 2. For comparison, this table includes the revised Task I indoor air screening levels for the COCs (DEQ-approved indoor air screening levels), as well as generic indoor air screening levels from Table 2c of EPA's *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils* (Subsurface Vapor Intrusion Guidance) (EPA 2002) for compounds for which DEQ has not approved of site-specific screening levels. For comparison of soil gas data, the table also provides target soil gas screening levels based on the target indoor air screening levels adjusted by an attenuation factor of 0.02.

Copies of final analytical reports and field forms for the December 2005 and April 2006 sampling events are provided in Attachments D and E, respectively.

1.1.1.3 Existing Mitigation Systems. Only one of the sampled locations (05-AS-SE-5) has a mitigation system installed. The mitigation system is installed in the crawlspace. The owner was reminded to turn the mitigation system off two days before the sampling in December 2005 began; however, when field personnel arrived the owner informed them that the mitigation system had been turned off just prior to their arrival. During the April 2006 sampling event, the owner was again asked to turn off the mitigation system, and it was again turned off just prior to sampling.

1.1.1.4 Decontamination Procedures. During the December 2005 sampling event, no sampling equipment was reused; therefore, no decontamination of equipment was performed. During the April 2006 sampling event, the drilling equipment, the flux chambers and Summa™ canister sampling train were reused. The flow controller for each summa canister collected for sub-slab sampling was also reused. Between uses, the flux chambers were cleaned using a three-stage wash and rinse process where first the equipment was cleaned with phosphate-free detergent using a brush and deionized

water. The equipment was then rinsed with tap water followed by a rinse with deionized water. The Summa™ canister sampling train was flushed with clean air between each sampling point.

1.1.1.5 Deviations from Approved Work Plans. Except as described in this work plan, during the December 2005 and April 2006 sampling events, there were, in general, no deviations from the approved work plans.

1.1.1.6 Data Quality Assessment. This section summarizes the data quality assessment for samples collected and analyzed as part of the Task I supplemental investigation activities. Indoor air and ambient air samples collected in December 2005 were analyzed by Air Toxics Ltd. of Folsom, California (Air Toxics) for the following COCs using EPA Method TO-15 [with selective ion monitoring (SIM)] in accordance with the Final Task I Work Plan:

- Trichloroethene (TCE)
- Tetrachloroethene (PCE)
- Trans-1,2-dichloroethene (trans-1,2-DCE)
- Cis-1,2-dichloroethene (cis-1,2-DCE)
- Vinyl chloride

These five chlorinated VOCs were identified in the ROD as COCs for indoor air at the Facility. Indoor air, subslab soil gas and flux chamber samples collected in April 2006 were also analyzed for the five COCs by H&P Mobile Geochemistry of Solano Beach, California (H&P) using EPA Method TO-15 in accordance with Addendum No.1. [Note: Although not required by Addendum No.1, DEQ subsequently requested that the full list of TO-15 compounds (i.e., 62 VOCs) be reported by the analytical laboratory for the subslab soil gas and flux chamber samples.]

This data quality assessment focuses on the analytical data relating to the five VOCs identified as COCs as required by the Final Task I Work Plan and Addendum No.1 and includes an evaluation of the following components:

- Holding times
- Laboratory blank samples (verified that no analytes were present in method blank samples)
- Laboratory control samples (verified that laboratory control samples were conducted and results met control limits)
- Laboratory duplicate and field duplicate samples (reviewed relative percent differences for each set of field duplicate samples)
- Verified that method reporting limits were below the revised Task I indoor air screening levels for COCs.

December 2005 Sampling Event. A total of 39 samples (including two field duplicates and two equipment blanks) were submitted to Air Toxics for analysis of COCs during the December 2005 sampling event. Proper chain-of-custody protocol was followed during the December 2005 sampling event and samples were received intact by Air Toxics. The analytical laboratory noted some sample tag discrepancies relating to work order #0512317 and work order #0512371R1; however, sample identification information was provided to the analytical laboratory in the Chain-of-Custody Sample Logs that were provided with the chain-of-custody form. These logs confirmed sample identification numbers with corresponding canister serial numbers and flow controller serial numbers. Final canister vacuum ranged between 4.5 and 12 inches of mercury (in. Hg) for air samples collected over a 24-hour period. According to Air Toxics' *Guide to Air Sampling and Analysis (Canisters and Tedlar Bags), Fifth Edition*, final vacuum should be 5 in. Hg or greater for a 6 liter summa canister. As long as the differential pressure is greater

than 4 in. Hg ambient pressure, the flow through the device will remain approximately constant. All of the final vacuum readings are greater than 4 in. Hg. All samples had reporting limits below the project screening levels. Method reporting limits were below the revised Task I indoor air screening levels for COCs. Indoor air samples were analyzed within the specified analytical method holding time of 30 days.

Two indoor air field duplicate samples were collected during the December 2005 sampling event as follows:

Primary Sample ID	Duplicate Sample ID	Relative Percent Difference (RPD)
05-AS-NE-1B	D1-AS-12-12-05	TCE – 0.0% PCE – 6.5%
05-AS-23L	D1-AS-12-14-05	TCE – 6.7% PCE – 40.0%

Three laboratory duplicate samples were analyzed as follows:

Primary Sample ID	Duplicate Sample ID	Relative Percent Difference (RPD)
05-AS-167B	05-AS-167B Duplicate	TCE – 9.9% PCE – 4.0%
05-AS-BG11L	05-AS-BG11L Duplicate	PCE – 1.1%
05-AS-ES	05-AS-ES Duplicate	Vinyl Chloride – 14.0% TCE – unable to calculate due to estimated concentrations PCE – 5.7% cis-1,2-DCE – 14.0%

EPA Method TO-15 does not provide an RPD range for field duplicates. Section IX of *Part II: Volatile/Semivolatile Data Validation Functional Guidelines* (Part II Section IX) from EPA Region 1's *Revised Data Validation Guidance* dated December 1996 states that "The RPD for all compounds detected at concentrations greater than the sample quantitation limit in non-aqueous matrices must be less than or equal to 50 percent." The RPDs for these samples were all below 50 percent. As directed by DEQ, the

highest value reported for a primary and associated field duplicate sample will be used in data evaluations.

Surrogates and laboratory control samples were within acceptable criteria. No analytes were detected in the laboratory method blanks.

One of the laboratory duplicate samples (05-AS-ES Duplicate) reported an estimated concentration of TCE [200E micrograms per cubic meter (µg/m^3)], indicating the result exceeded the instrument calibration range. Since this sample was analyzed at 2:18 p.m. on 12/23/05 before the primary sample (05-AS-ES), the primary sample (analyzed at 4:54 p.m. on 12/23/05) was analyzed at a higher dilution factor (2.92) to provide results within the instrument calibration range. The result obtained within calibration range was also 200 µg/m^3, this value will be used in data evaluations.

Based upon the quality assurance/quality control (QA/QC) findings, the December 2005 indoor air data may be used for the purposes of comparison to screening levels. As directed by DEQ, the highest value reported for a primary and associated field duplicate sample will be used in data evaluations.

April 2006 Sampling Event. A total of 12 indoor air samples (including one field duplicate and one equipment blank that were collected in accordance with procedures described in the Final Task I Work Plan) were submitted to Air Toxics for analysis of COCs during the April 2006 sampling event. Proper chain-of-custody protocol was followed during the April 2006 sampling event and samples were received intact by Air Toxics. The analytical laboratory noted some sample tag discrepancies relating to work order #0604198, work order #0604192, and work order #0604188; however, sample identification information was provided to the analytical laboratory in the Chain-of-Custody Sample Logs that were provided with the chain-of-custody form. These logs confirmed sample identification numbers with corresponding canister serial numbers and flow controller serial numbers. Final canister vacuum/pressures were within the range of 7 and 9 in. Hg for air samples collected over a 24-hour period. Final vacuum for all samples were above the 5 in. Hg recommended by Air Toxics' *Guide to Air Sampling*

and Analysis (Canisters and Tedlar Bags), Fifth Edition. Method reporting limits were below the revised Task I indoor air screening levels for COCs. Indoor air samples were analyzed within the specified analytical method holding time of 30 days.

One indoor air field duplicate sample was collected during the April 2006 sampling event as follows:

Primary Sample ID	Duplicate Sample ID	Relative Percent Difference (RPD)
06-AS-SE-1B	06-AS-SE-1DUP	TCE – 51.9% PCE – 21.7%

The RPD for PCE in the samples was below 50 percent, however the RPD for TCE was slightly above 50 percent. According to Part II Section IX, this may suggest that the values for TCE be considered an estimated value. However, as directed by DEQ, the highest value reported for a primary and associated field duplicate sample will be used in data evaluations.

Two laboratory duplicate samples were analyzed as follows:

Primary Sample ID	Duplicate Sample ID	Relative Percent Difference (RPD)
06-AS-SE-1DUP	06-AS-SE-1DUP Duplicate	TCE – 3.4% PCE – 1.4%
06-AS-BG11L	06-AS-BG11L Duplicate	PCE – 5.7%

According to EPA Method TO-15, laboratory duplicates should have RPDs less than or equal to 30 percent. The RPDs for these samples were below 30 percent. As directed by DEQ, the highest value reported for a primary and associated field duplicate sample will be used in data evaluations.

Surrogates and laboratory control samples were within acceptable criteria. No analytes were detected in the laboratory method blanks or the equipment blank.

A total of 38 subslab and flux chamber vapor samples (including three field duplicates, one equipment blank, and three trip blanks) were submitted to H&P for analysis during the April 2006 sampling event.

Proper chain-of-custody protocol was followed during the April 2006 sampling event and samples were received intact by H&P. Grab samples collected in summa canisters were regulated at 200 ml/min using a flow controller. Some of the samples collected had a final vacuum of 0 inches of mercury. Future soil gas and ambient air sampling conducted at the Facility will have a target final vacuum of 5 in of Hg to help achieve the required reporting limits appropriate for the screening levels established for the facility. This is expected to yield representative soil gas results.

Radon-222 sampling was conducted in accordance with Addendum No.1 in order to obtain location-specific soil gas-to-indoor air attenuation factors. The location-specific soil gas-to-indoor air attenuation factors were applied to the analytical results to facilitate comparison of the analytical results and method reporting limits to the revised Task I indoor air screening levels for COCs. Laboratory method reporting limits (adjusted for location-specific attenuation) were below the revised Task I indoor air screening levels for COCs except for the subslab sample 06-SG-99-1. In accordance with Addendum No. 1, the method reporting limits for this sample analysis were adequate to evaluate the subslab soil gas concentration based on a default attenuation factor of 0.02. A subslab radon-222 concentration of 85 picocuries per liter (pCi/L) was reported for the subslab soil gas sample collected at this location. This result was shown to be reproducible in the duplicate soil gas sample collected (i.e., 81 pCi/L). The location-specific attenuation factor calculated for this location is 0.0671. Although none of the COCs was detected in the subslab sample collected from this location, the laboratory's method reporting limit for TCE (5 µg/m^3) in conjunction with the location-specific attenuation factor only allowed for evaluation of an estimated room concentration for TCE down to a level of 0.34 µg/m^3, which is greater than the revised Task I indoor air screening level for TCE of 0.11 µg/m^3. The analytical laboratory reviewed the ion chromatogram for this sample and was able to determine that TCE was not present in the sample above a level of 1 µg/m^3 (see letter from H&P dated 5 May 2006 in Attachment E).

Soil gas and flux chamber air samples were analyzed within the specified analytical method holding time of 30 days.

Three field duplicate samples were collected during the April 2006 sampling event as follows:

Primary Sample ID	Duplicate Sample ID	Relative Percent Difference (RPD)
06-SG-78-2	D1-SG-04-06-06	PCE – 9.8%
06-GF-NE-5-2	D1-GF-04-08-06	Not evaluated due to method blank contamination (see below)
06-SG-ES-2	D1-SG-04-05-06	PCE – 13.6%

The RPDs for these samples were below 50 percent as recommended by Part II Section IX. As directed by DEQ, the highest value reported for a primary and associated field duplicate sample will be used in data evaluations.

Surrogates and laboratory control samples were within acceptable criteria. No COCs were detected in the laboratory method blanks or trip blanks except as follows.

- PCE was detected in laboratory blank sample ED61407 at a concentration of 15.9 µg/m^3. The PCE concentrations for samples from work order KJ041106-10 that were analyzed in the same batch as the laboratory blank sample are listed below:
  - 06-GF-NE-5-1 (12 µg/m^3)
  - 06-GF-167-2 (9.8 µg/m^3)
  - 06-GF-NE-4-1 (8.9 µg/m^3)
  - 06-GF-SE-1-1 (15 µg/m^3)
  - 06-GF-NE-5-2 (28 µg/m^3)
  - D1-GF-04-08-06 (110 µg/m^3)

- 06-GF-NE-4-2 (75 µg/m^3)
- 06-GF-SE-1-2 (15 µg/m^3)
- TRIP BLANK (5.8 µg/m^3)

- The PCE concentrations for samples from work order KJ040706-12 that were analyzed in the same batch as the laboratory blank sample are listed below:
  - 06-SG-LS-2 (8,800 µg/m^3)
  - 06-SG-LS-3 (310,000 µg/m^3)
  - 06-SG-ES-1 (72,000 µg/m^3)
  - 06-SG-ES-2 (41,000 µg/m^3)
  - 06-SG-ES-3 (46,000 µg/m^3)
  - D1-SG-04-05-06 (47,000E µg/m^3)

Typically concentrations that exceed the laboratory method reporting limit, but are less than five times the blank concentration (i.e., 79.5 µg/m^3), can be considered a tentative non-detect. Therefore, the analytical results for the first group of samples listed above (with the exception of D1-GF-04-08-06) have been qualified with a "U" in the analytical summary tables indicating the compound was not reliably detected because of blank contamination and the reported result is viewed as a tentative non-detection at the reported concentration. Sample results for D1-GF-04-08-06 and for the second group of samples listed above have been qualified with a "B" in the analytical summary tables to indicate that blank contamination was associated with the samples.

One of the field duplicate samples (D1-SG-04-05-06) reported an estimated concentration of PCE (47,000E µg/m^3), indicating the result exceeded the instrument calibration range. The primary sample collected at the same location was analyzed at a higher dilution and reported PCE within the instrument calibration range at a concentration of 41,000 µg/m^3. Since the concentration values from the primary and duplicate were not substantially different, the field duplicate sample was not reanalyzed within instrument calibration range. Data from the primary sample shows samples collected from this location exceed the revised Task I indoor screening level for PCE after location-specific soil gas-to-indoor attenuation factors are applied.

While some of the QA/QC findings with respect to April 2006 indoor air and subslab soil gas and flux chamber data quality may limit its usability, the analytical results may be compared to indoor air screening levels. As directed by DEQ, the highest value reported for a primary and associated field duplicate sample will be used in data evaluations.

1.1.2 Stage II

In DEQ's letter to BNSF dated 14 September 2006, DEQ required that BNSF forego further Stage I investigation and proceed to the implementation of Stage II Supplemental Investigation activities. As requested by DEQ, the Stage II activities will include collection of soil gas samples at multiple depths at locations around the perimeter of the Livingston railyard and at locations specified by DEQ to help identify areas where offsite occurrences of VOCs may exist due to Facility activities. In addition, indoor air, subslab soil gas and multiple depth soil gas samples (as appropriate) will be collected from residences and businesses identified during a survey conducted jointly by DEQ, CDM, and Kennedy/Jenks Consultants on 2 October 2006 to help identify buildings that may be at risk for vapor intrusion. Sampling locations were chosen primarily based upon previous sample results, with consideration of the presence of basements and other sources in the area. Background ambient outdoor air sample will be collected during each 24-hour sampling period (corresponding to the 24-hour period that indoor air samples are being collected). This sample location will be located upwind of the area under investigation.

Upon completion of Stage II supplemental investigation activities, BNSF will submit a combined Stage I and Stage II supplemental investigation report, (including figures with sample locations, figures with results from the sampling conducted and tabulated results), which will meet the requirements of Section 5.1.5 of the Spring 2005 SOW, including, describing the work performed, providing results of the initial and expanded sampling (including any conversions necessary to allow comparison to screening levels), and providing calculations of site-specific cleanup levels for indoor air, if appropriate,

based on the baseline risk assessment (BRA) (Camp Dresser & McKee 1993) described in Section VII of the ROD and parameters provided to BNSF by DEQ in Attachment 2 of the Spring 2005 SOW.

Based on the combined Stage I and II supplemental investigation report, BNSF will prepare a remedial design/remedial action (RD/RA) plan, if warranted, in accordance with the Spring 2005 SOW.

1.2 PURPOSE

The purpose of the additional investigation presented in this Addendum No. 2 is to characterize the subsurface vapor phase occurrence of VOCs in lateral and vertical directions, to help identify and evaluate locations where mitigation may be necessary (if any), locations where institutional controls (e.g. restrictive covenants) may be necessary (if any), and to help address DEQ's concerns regarding future development of undeveloped land adjacent to the Livingston railyard. The Stage II activities are intended to identify and define the lateral and vertical extent of the indoor and outdoor vapors associated with the Facility and to provide further information regarding the potential for indoor vapor intrusion. The additional investigation will be performed in a manner consistent with the procedures and standard operating guidelines (SOGs) established in the Facility-Wide Sampling and Analysis Plan (SAP) (Kennedy/Jenks Consultants 2006a), H&P standard operating procedures (SOPs) in Addendum No. 1, and information presented in this Addendum No. 2.

1.3 HEALTH AND SAFETY PLAN

The task-specific Health and Safety Plan (HASP) presented in Attachment F has been prepared in accordance with applicable health and safety regulations. The task-specific HASP is designed for use in conjunction with the Facility-Wide HASP (Kennedy/Jenks Consultants 2005a) and will be incorporated as an addendum to the Facility-Wide

HASP. The task-specific HASP presented in Attachment F will be finalized and signed when this Addendum No. 2 is approved. The final, signed task-specific HASP will be forwarded after signature to DEQ for inclusion in the Facility-Wide HASP.

1.4 ACCESS

For soil gas samples and outdoor air samples to be collected within the City of Livingston right-of-way, access will be coordinated with the City, and City procedures followed for traffic plans, as required.

For soil gas, indoor and outdoor air samples collected on private property, access agreements will be obtained from each property owner prior to performing the sampling. BNSF will use reasonable efforts as determined by DEQ to obtain all necessary access agreements. If, after using reasonable efforts as determined by DEQ, BNSF is unable to obtain any needed agreement, BNSF will notify DEQ and will describe in writing to DEQ its efforts to obtain access. If BNSF cannot obtain the necessary access agreements after using reasonable efforts, as determined by DEQ, DEQ may obtain access for BNSF or assist BNSF in gaining access.

Sampling dates and times will be scheduled with the property owners/occupants.

1.5 ERCLS

Environmental requirements, criteria, and limitations (ERCLs) developed by DEQ for the Facility are included in Appendix A of the ROD. An analysis of how the activities conducted during implementation of this Addendum No. 2 will comply with ERCLs is included in Attachment G. Task I activities identified in this Addendum No. 2 comply with ERCLs.

2.0 SAMPLING AND ANALYSIS PLAN

This task-specific sampling and analysis plan (SAP) presents the objectives and investigative methods for additional investigation of the potential subsurface vapor intrusion pathway as requested by the DEQ in its letter to BNSF dated 14 September 2006.

This task-specific SAP is to be used in conjunction with the Facility-Wide SAP, which addresses general protocols and procedures to be followed during supplemental investigations and implementation of RD/RA tasks, the Final Task I Work Plan, and Addendum No. 1.

The Facility-Wide SAP addresses 1) health and safety considerations (including location of underground utilities), 2) personnel and equipment decontamination, 3) calibration and use of field measuring devices and instrumentation, 4) sample collection, preservation, packaging, and shipping, 5) handling and disposal of investigation-derived waste (IDW), 6) access authorization, and 7) data quality assurance.

The Final Task I Work Plan includes procedures for collection and analysis of indoor air samples. Addendum No. 1 provides SOPs for subslab soil gas sample collection, and additional soil gas sample analysis and laboratory QA/QC requirements.

Field procedures will be performed in a manner consistent with the Facility-Wide SAP, Final Task I Work Plan, and Addendum No. 1, unless otherwise noted in this work plan, and these procedures are not repeated in this task-specific SAP unless modifications/additions to a protocol or procedure are proposed. Guidance and planning documents used in the development of this task-specific SAP are listed in the References section.

2.1 OBJECTIVES

The objectives of the work outlined in this Addendum No. 2 are as follows:-

- Characterize the VOC contamination, including the site-specific COCs in the lateral and vertical directions through the subsurface soil gas and/or subslab sampling.

- Identify and collect additional indoor and outdoor ambient air samples in an attempt to define the lateral and vertical extent of the contamination.

- Identify buildings where no unacceptable risks are likely evident from additional data collected.

- Identify buildings that must be considered for remedial action to mitigate indoor air impacts.

2.2 SOIL GAS SAMPLING AND ANALYSIS PLAN

BNSF has previously conducted soil gas (sub-slab and flux chamber) and indoor air sampling at the Facility. The areas targeted for additional sampling overlie areas of impacted and potentially impacted groundwater and soil; and where previous data collected warrant further investigation to characterize the lateral and vertical extent of the subsurface contamination.

2.2.1 Soil Gas Sampling

SOPs to be used for collection of soil gas samples from vapor monitoring points are provided in Attachment H. These SOPs were provided by H&P Mobile Geochemistry (Carlsbad, CA). Additions to the SOPs including Department of Toxic Substances

Control (DTSC) and EPA guidance documents (DTSC 2003; 2005 and USEPA 2002) are included in the following sections.

2.2.2 Sample Locations

A total of 44 initial sampling locations have been identified by DEQ. Twenty-six of these locations are located along the perimeter of the study area boundary. Eighteen of the 44 initial sample locations are located within the target survey areas and are described below. (Based on DEQ's requirement of samples collected at a depth of every 5 feet, in the vadose zone and just above the water table, assumed to be approximately 20 feet bgs (ft bgs), this may represent up to 176 initial samples.) Figure 4 shows the proposed soil gas sampling locations selected by DEQ in its 14 September 2006 letter and identified during the survey conducted jointly with DEQ, CDM, and Kennedy/Jenks Consultants on 2 October 2006. Soil gas sampling will be conducted in the following areas (this list includes only soil gas samples to be collected from proposed borings):

- Six locations in the vicinity of 05-AS-ES and 05-AS-LS
- Twenty-six locations along the perimeter of the study area at approximately 500-foot intervals as shown on Figure 4
- One location near sampling location 05-AS-SE-5
- One location shown on Figure 4 between areas "D" and "E"
- In area "A" at locations identified for indoor air/subslab soil gas sampling that are subsequently determined to have earthen floors (if any)
- In area "B" at location "108" and at the location identified for indoor air/subslab soil gas sampling if it is subsequently determined to have an earthen floor

- In area “C” on the western side and eastern side of the building with location identification “78”

- In area “D” south of the woodworking shop located west of the Kennedy/Jenks Consultants Field Office and at a location near the Kennedy/Jenks Consultants Field Office and location “68”, which has an earthen floor

- Four locations in area “E” as shown on Figure 4 and identified as NE-1, NE-2, NE-9, and NE-10

- In area “E” at location NE-4 identified for indoor air/subslab soil gas sampling if it is subsequently determined to have an earthen floor

- In area “F” at locations identified for indoor air/subslab soil gas sampling that are subsequently determined to have earthen floors (if any).

Samples collected during this investigation will be laid out manually, surveyed, or identified via use of a global positioning system (GPS). These locations may be adjusted to consider existing utilities or structures with DEQ’s approval. Underground utility clearance will be conducted in accordance with SOG-7 (Appendix A of Facility-Wide SAP). Figure 4 will be adjusted for the report of field activities, as needed, to reflect the final soil gas sampled locations.

2.2.3 Sample Collection Procedures

As outlined in DEQ’s letter dated 14 September 2006, soil gas samples will be collected from a number of nested soil gas probes at each sampling location. Per an email from DEQ on 28 November 2006, a maximum of three probes will be placed at each location. Probes will be placed at approximately 5-foot depth intervals until just above the water table (groundwater depth will be inferred from existing nearby wells prior to the start of field activities). The sampling intervals may be modified, with DEQ approval, based on

the depth of the permafrost zone, changes in lithology and the presence of groundwater. It is expected that an average of three sampling points will be installed at each location.

Sonic drilling methods will be used to advance a single borehole at each sampling location for the nested installation of the soil gas monitoring probes at each depth. The sonic drilling utilizes a dual tube system, consisting of a drive casing and core barrel. Boreholes will be logged in accordance with the SOGs presented in the Facility-Wide SAP. After advancing the boring to total depth, the deepest probe will be placed in the center of the drive casing. As the drive casing is progressively retracted, backfill materials (e.g. sand, granular bentonite) will be placed through the annular space between the drive casing and the probe(s) as described below. The probe tip will be placed midway with a minimum of 1 foot of sand pack surrounding the probe. A minimum of 1 foot of dry granular bentonite will be placed above the sand pack, followed by hydrated bentonite pellets or bentonite slurry. The borehole will be sealed to the surface using hydrated bentonite pellets or bentonite slurry and a minimum 12-inch concrete or bentonite seal will be used at the surface as described in the SOPs (see Attachment H). For multi-depth probes the borehole will be sealed in between probes with the same construction as described above. The use of down hole probe support will be used for multi-depth probes constructions. The support will be constructed from a one-inch diameter PVC pipe or other inert material, which will be sealed if necessary (internally or externally) to avoid cross-contamination or ambient air intrusion.

Multi-depth soil gas sampling probe locations will be abandoned by removing the surface completion to a depth of 3 feet, capping or plugging the tubes at that depth, then covering the bottom of the hole and capped tube with 6 inches of bentonite. The probe location will then be backfilled with native material or grout to the surface and the surface restored to its approximate native condition.

2.2.3.1 Vapor Probe Equilibration Time. At the first soil gas location, an equilibration study will be conducted to estimate the time required for subsurface conditions to equilibrate after Rotosonic drilling and soil gas probe installation. (Note: The first soil gas location will be chosen in an area where measurable concentrations of COCs are

expected to occur.) The equilibration study will involve collection and analysis of syringe samples (for analysis within an onsite mobile laboratory) or samples collected with summa canisters (for offsite analysis) from the probe over several time intervals. The first sample will be collected approximately 30 minutes after the installation of the probe (i.e. t + 30 minutes). Additional samples will be collected at approximate time intervals (e.g. every hour for approximately 4 to 6 hours after probe completion followed by 6- to 12-hour intervals after t + 6 hours until t + 72 hours). The data will be evaluated to ascertain when sample temperature, representative COC concentrations, and other parameters have stabilized. Based on this information, DEQ will determine an appropriate equilibration time for subsurface conditions to stabilize for samples drilled using rotosonic drilling for the remainder of the sampling points.

2.2.3.2 Vapor Probe Purge and Sample Collection. For soil gas probes installed using rotosonic drilling; purge volume test, leak test and soil gas sampling will be conducted after the appropriate equilibration time (as discussed above) has elapsed. To ensure stagnant or ambient air is removed from the sampling system and samples collected are representative of the subsurface conditions, a step purge test (one, three and seven purge volumes) versus COCs concentration test will be conducted at the first soil gas sample location.

The appropriate purge volume will be selected based on the highest concentration for the COCs detected during the step purge tests. If VOCs are not detected in any of the step purge tests, a default of three purge volumes will be extracted prior to sampling.

Additional purge volume tests will be conducted if wide variability of soils is encountered or new VOCs (those without ROD cleanup levels) are detected using the default purge volume. If a new purge volume is selected due to new VOCs detected, DEQ will then determine if re-sampling using the new purge volume is necessary, of previously completed probes in areas of similar lithologic conditions .

As outlined in the SOP, the tip of the sampling probe will be stainless steel, aluminum or ceramic. Dedicated nylon tubing will be installed with swagelok® fittings or a valve to terminate the tubing at the surface and connect to the sampling apparatus at each location. The sample will be collected using a syringe, (for an onsite mobile laboratory) or Summa™ canister (for offsite analysis). The maximum sample collection rate will be regulated at 200 milliliters per minute (mL/min) using a dedicated flow controller for each sample depth.

As outlined in the *Interim Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to indoor Air* (DTSC 2005), if low-flow or no-flow conditions are encountered (vacuum readings >10 inches of mercury or 136 inches of water), the soil gas sampling will be assumed to have failed. Soil matrix samples will be collected and analyzed using EPA Method 5035A and/or the sampling depth will be adjusted, with DEQ's approval.

The initial soil gas samples collected will be analyzed using a fixed offsite analytical laboratory, using EPA TO-15. Mobile laboratories are not able to provide the low reporting limits required for the project for the full TO-15 chemical list.

Sample collection will be performed in accordance with the Final Task I Work Plan, Addendum No. 1, and the attached SOPs (see Attachment H). These documents include guidelines for the collection of samples, sample identifications, sample custody, and sample packaging and shipping.

A tracer or leak check compound [difluoroethane (1,1 DFA)] will be placed immediately before and during sample collection, at locations where there is a potential for ambient air intrusion or where cross contamination may occur. The tracer or leak detection procedure will be used as outlined in the H&P SOPs (see Attachment H).

2.2.4 "Step Out" Procedures

At a sampling location, if COCs and/or other VOCs identified by the analytical results from the laboratory are detected at concentrations that exceed DEQ's approved screening levels calculated using an attenuation factor of 0.02 for the Facility, additional sampling points will be installed at the direction of DEQ to further characterize the lateral and vertical extent of the VOCs in soil gas potentially attributable to the Facility ("step out"). Soil gas samples will be collected and analyzed using an onsite mobile laboratory by EPA 8260 or portable gas chromatography/mass spectrometry (GC/MS) (e.g. Hapsite) and/or a fixed offsite analytical laboratory, using EPA TO-15 or EPA TO-15 SIM as appropriate. A mobile laboratory or portable GC/MS cannot provide the full EPA TO-15 chemical list; instead it requires a limited list in order to achieve reporting limits closer to those from a fixed laboratory. Use of a portable GC/MS or mobile laboratory with analysis conducted using EPA 8260 depends on DEQ's decision regarding the list of chemicals to be analyzed for, and the attenuation factor, which has initially been set at 0.02, to be used for screening levels. If method reporting limits required by the calculated screening levels are lower than the method reporting limits attainable by the mobile laboratory, samples will be analyzed in an offsite laboratory. (Note: Limitations exist regarding the number of samples, the method reporting limits, and analytes included when using a mobile laboratory.) A limited list of VOCs may be considered by DEQ for these additional sampling points, based on the results obtained from the original sampled location. Although USEPA 2002 and DTSC 2005 guidance documents indicate that attenuation factors of 0.01 to 0.002 are appropriate for evaluation of soil gas samples (depending on the expected type of structures present), DEQ has required that an attenuation factor of 0.02 be used for calculation of screening levels for the Stage II work. DEQ indicated in the 22 September 2006 conference call with CDM, BNSF, and Kennedy/Jenks Consultants that the attenuation factor may be re-evaluated.

Additional sampling points (or "step-outs") will be located at the direction of DEQ from the original sampling location in four opposite directions to attempt to characterize subsurface vapor concentrations, if any, that DEQ determines are reasonably attributable to the Facility. Step-outs will be located based on site conditions and the

presence of buildings and other obstructions or structures. As data and qualifiable results are obtained in the field, DEQ will make decisions regarding step-out depths and locations that will be conducted for each original sample location under consideration.

2.2.5 Sample Labeling/Field Records and Documentation

Samples will be labeled in general accordance with the guidelines provided in Section B2.3.3 (Sample Identification) of the Facility-Wide SAP.

As outlined in the H&P SOPs (see Attachment H), the following will be noted for vapor samples collected during the soil gas investigation:

- Sample identification
- Probe location
- Date and time of sample collection
- Sample probe depth
- Identity of sampler
- Weather conditions
- Sampling method and devices
- Soil gas purge volume
- Volume of sample
- Vacuum of canister before and after sample collection (if used).

2.2.6 QC Samples

As required by DEQ, at least one duplicate soil gas sample for every 10 samples will be collected for analyses by EPA Method TO-15. Duplicate samples will be collected simultaneously with the original samples to get reliable and accurate results. Soil gas and ambient air samples for analysis at the fixed offsite analytical laboratory will be accompanied by laboratory-prepared trip blanks to ensure the integrity of the samples during shipping procedures. DEQ will collect a minimum of 10% split or duplicate samples of select locations, during the investigation.

Additional information regarding the collection of samples, sample identifications, sample custody, and sample packaging and shipping is provided in the Facility-Wide SAP, Final Task I Work Plan, and Addendum No. 1.

2.2.7 Soil Gas Sample Analysis and Laboratory Quality Assurance/Quality Control (QA/QC)

Soil gas samples will be analyzed using EPA Method TO-15, EPA TO-15 SIM, EPA TO-15 scan mode or EPA Method 8260 consistent with the screening levels sets forth for the COCs by DEQ. Soil gas samples will be submitted to H&P's fixed analytical laboratory in Carlsbad, CA for analysis. H&P is certified under the National Environmental Laboratory Accreditation Program (NELAP) to perform TO-15 analysis. A copy of H&P's quality assurance project plan (QAPP) is provided in Attachment D of Addendum No. 1.

Any summa canisters used for this sampling investigation will be individually cleaned and certified to the MRL for the appropriate compounds and analysis used during the investigation (EPA TO-15 or EPA TO-15 SIM or EPA TO-15 scan mode). Any sampling equipment supplied by the laboratory used during soil gas and ambient air sampling will

be prepared in the laboratory before use in the field. The equipment will be leak tested, flow rates set and sampling equipment certified clean by the laboratory. All of the above information will be documented and presented in the Stage II report as an Appendix.

Method reporting limits achievable by the mobile laboratory exceed the revised Task I indoor air screening levels adjusted by the attenuation factor of 0.02 currently required by DEQ. Therefore, it is expected that the soil gas samples will be analyzed at the fixed offsite analytical laboratory that can achieve the required method reporting limits.

If DEQ changes the 0.02 attenuation factor such that the mobile laboratory can attain the required method reporting limits, it is expected that a mobile laboratory may be used. If a mobile laboratory is utilized, soil gas samples will initially be screened using EPA Method 8260. If the approved Task I indoor air screening levels adjusted by the DEQ-approved attenuation factor are exceeded for VOC concentrations by EPA Method 8260, this result will be used in lieu of analyzing the sample by EPA Method TO-15. If the soil gas sample concentration(s) detected by EPA Method 8260 are below the approved Task I indoor air screening levels adjusted by the DEQ-approved attenuation factor, confirmation samples will be collected and analyzed using EPA Method TO-15.

The Spring 2005 SOW, as well as the Final Task I Work Plan and Addendum No. 1 called for analysis of the following five COCs in indoor air and soil gas samples:

- PCE
- TCE
- Cis-1,2-DCE
- Trans-1,2-DCE
- Vinyl chloride.

DEQ believes that the reporting of other compounds besides the COCs may be useful in "fingerprinting" the source(s) of COCs detected in soil gas. As required by DEQ, soil gas samples will be analyzed for the full TO-15 list of compounds. During the step-outs, the analyte list may be modified by DEQ based on original soil gas sampling results).

Samples collected during the step-out procedure will be analyzed using EPA Method 8260, EPA Method 8021, or EPA Method TO-15, depending on the compound list and method reporting limits required for the samples.

2.3 INDOOR AIR/OUTDOOR AIR/SUBSLAB SAMPLING

2.3.1 Sampling Locations

A joint survey including DEQ, CDM, and Kennedy/Jenks Consultants was conducted on 2 October 2006. The objectives of the survey were to identify the locations where indoor air, outdoor air, and subslab soil gas samples are to be collected. In the letter dated 14 September 2006, DEQ highlighted six areas where further indoor air sampling would be conducted. As shown on Figure 4, these areas have been highlighted in blue and given area designations "A" through "F". In these areas, indoor air samples will be collected on the main floor and in the basement (if applicable) at the selected buildings. If the building contains a basement with a concrete floor, subslab soil gas samples will also be collected using the procedures outlined in Addendum No. 1. At locations with earthen floor basements, soil gas samples will be collected from the soil beneath the building at a target depth of 5 feet bgs using decontaminated drilling tools (e.g. hand auger, trowel, rotohammer), with the 3-stage wash and rinse procedure (wash equipment with a non-phosphate detergent, rinse with tap water, and finally rinse with distilled water); and/or steam cleaning process. DEQ will determine the location of the sample in the field. If a depth of 5 feet bgs cannot be attained, a depth of 1.5 to 2 feet is acceptable. If a minimum depth of 1.5 feet is not attainable, a location outside of the building will be chosen by DEQ for a soil gas sample. Soil gas samples that must be collected outside

will be scheduled concurrently with the soil gas sampling discussed in Section 2.2 of this addendum.

Equipment rinseate blanks (rinseate blanks) will be collected at the end of field day to assess the effectiveness of the field decontamination procedures. Rinseate blanks will be obtained under representative field conditions by running contaminant- free water (for VOCs certified organic-free high performance liquid chromatography [HPLC] grade water for organic compound analysis, distilled and deionized otherwise) over and/or through the sample drilling and/or collection equipment after use and decontamination. The water will be in appropriate containers for analysis. Rinseate blanks will be analyzed for the same parameters specified in the work plan for the area under investigation.

A total of 15 locations have been identified for collection of indoor air samples. Ten of these locations appear to have basements; therefore, it is estimated that up to 24 indoor air samples will be collected. DEQ has identified areas where outdoor ambient air samples are to be collected. A total of eight outdoor air samples will be collected in the sampling areas as described below. Within each area, location identifications were developed using the same numbering system created for the Final Task I Work Plan. The samples to be collected in each of these areas are discussed below.

- Area “A”: In area “A”, four residences have been identified for collection of indoor air and subslab soil gas samples. The sampling location identifications for this area are listed in Table 4. One upwind and one downwind outdoor air sample will also be collected in this area.

- Area “B”: In area “B”, one building has been identified for collection of indoor air and subslab soil gas samples. The sampling location identification for this area is listed in Table 4. Upwind and downwind outdoor air samples will also be collected at this location.

- Area “C”: In area “C”, one indoor air sample will be collected at the location listed in Table 4. In addition, one upwind outdoor air sample will be collected.

- Area “D”: In area “D”, one residence has been identified for collection of indoor air and soil gas samples. This location is listed in Table 4. One outdoor air sample will be collected downwind of this residence.

- Area “E”: In area “E”, two residences have been identified for collection of indoor air and subslab soil gas samples. The sampling location identifications are listed in Table 4. One upwind and one downwind outdoor air sample will also be collected in this area.

- Area “F”: In area “F”, two residences have been identified for collection of indoor air and subslab soil gas samples. The sampling location identifications for this area are listed in Table 4.

- Following the survey, DEQ added three additional locations for subslab and indoor air sampling: the former Talgo office building, the former Talgo warehouse, and the former paint shop located north of the electrical shop and west of the locomotive shop. Both the office building and the warehouse are known to have basements.

- One residence located north of areas “C” and “D” across East Gallatin Street identified for collection of indoor air and crawlspace samples. The sampling location identifications are listed in Table 4.

2.3.2 Background Sampling Locations

One location was chosen during the survey for collecting background outdoor air samples. This location was identified as AS-AMB-1 during the December 2005 sampling event. One background outdoor air sample will be collected during each 24-hour period that indoor air samples are collected.

2.3.3 Weather Data

During the period when indoor and outdoor air samples are collected, a weather station will be used to collect the following weather data:

- Barometric pressure
- Wind direction and wind speed
- Temperature.

One weather station will be used and it will be placed in the area of the Kennedy/Jenks Consultants Field Office located at 331 North Bennett Street in Livingston.

2.3.4 Occupied Dwelling Questionnaires

An Occupied Dwelling Questionnaire will be completed for each new building included in the indoor air sampling. If the questionnaire had been completed during the December 2005 or April 2006 sampling events, the questionnaire will be reviewed with the building occupant to update information as necessary. The questionnaire used in the Final Task I Work Plan will be used for the work conducted under Addendum No. 2.

2.3.5 Sample Collection

Indoor air, outdoor air, and subslab soil gas samples will be collected in accordance with the following:

- Final Task I Work Plan
- Addendum No. 1

- *Vapor Monitoring Wells/Implants Standard Operating Procedures* dated August 2006 (H&P 2006) (provided in Attachment H)

- *Advisory-Active Soil Gas Investigations* (DTSC 2003)

- *Standard Operating Procedure (SOP) #1704: Summa Canister Sampling* (USEPA 1995)

- *General Air Sampling Guidelines (SOP) #2008* (USEPA 1994).

Residents and workers will be requested to suspend Indoor air activities such as smoking, use of sprays, solvents, paints, etc. 24 to 48 hours prior to sampling. Residents and workers will be requested to remove indoor air sources identified as potential contributors of VOCs prior to sampling, if possible. Residents and workers will also be requested to suspend outdoor activities such as lawn mowing, painting, etc. 24 to 48 hours prior to sampling.

It is anticipated that buildings to be monitored will be sealed (windows and doors shut) and mechanical fans, if used, will be turned off, at least 24 hours prior to the sampling event to minimize the dilution of contamination and built up contaminant concentrations, thereby achieving conditions typical of the "worst-case" scenario. With the doors and windows shut, any mechanical heating systems will be left operating during the sampling, thereby producing a temperature and pressure differential between the inside and the outside of the structure creating a stacking effect, which will draw contamination into the building. This will allow for sampling during the "worst-case" scenario. Residents and workers will be asked to keep windows and doors shut as much as possible during sampling.

For basement sampling, residents and workers will be requested to keep the doors leading to the basement from the living areas/main floors closed during sampling. This will help prevent infiltration of the contaminants to the living area.

For the most conservative sampling conditions, sampling will be conducted in late winter/ early spring.

As directed by DEQ, one duplicate sample will be collected for every 10 samples using a Summa™ canister. Duplicate samples will be sent offsite for analysis by EPA Method TO-15 and will be accompanied by a laboratory-prepared trip blank to ensure the integrity of samples during shipping. Trip blanks are used to determine whether contamination occurred during shipping and handling. VOC samples are especially susceptible to contamination by diffusion of organic constituents through sample containers. The trip blanks are taken to the sampling project site, accompany the sample bottles through sample collection, and are shipped to the laboratory along with samples collected in the field. For soil gas and ambient air collected, trip blanks will be used at a minimum frequency of one trip blank per sample shipment. The trip blanks will be analyzed for VOC analytes only, In addition to duplicate samples, DEQ will collect a minimum of 10% split or duplicate samples for offsite analysis by EPA TO-15.

2.3.6 Sample Labeling

Samples will be labeled in general accordance with the guidelines provided in Section B2.3.3 (Sample Identification) of the Facility-Wide SAP and for consistency with previous indoor air sampling locations. Samples will be labeled with the year, sample type, and structure annotation.

2.3.7 Sample Analysis

Indoor and outdoor air samples will be submitted to Air Toxics, Folsom, CA for analysis of VOCs using EPA Method TO-15. The analysis will include the full TO-15 list with SIM analysis requested for the COC compounds with lower detection limits. Air Toxic's full TO-15 list and reporting limits are provided in Attachment I. Actual reporting limits are

dependent on the level of dilution required for the sample. The indoor air screening levels and Air Toxic's method detection limits (MDLs) and reporting limits are provided in Table 5.

Subslab soil gas samples will be submitted to H&P's fixed laboratory(ies) for analysis of VOCs using EPA Method TO-15. H&P's TO-15 list and reporting limits are provided in Attachment I. Actual reporting limits may be higher if sample dilution sample is required. The soil gas screening levels (indoor air screening levels adjusted by an attenuation factor of 0.02) and H&P's MDLs and reporting limits are provided in Table 6.

During the step-out procedure, a mobile or portable laboratory may be used. Reporting limits for H&P's mobile laboratory are provided in Attachment I. Reporting limits with a portable laboratory (i.e. Hapsite) are dependent on the chemical list chosen, and will be provided to DEQ if this alternative is used.

2.4 DATA VALIDATION

Because of the sensitivity of vapor analyses, at a minimum, Level III data reviews (standard analytical report with standard QC) will be performed for all the data sets generated. Level IV data validation packages (Level III packages including the raw data sets, calibration curves, etc.) will be requested for 10 percent of the data sets. Additional Level IV data validation packages may be needed depending on the results obtained from the initial Level IV data validation review.

2.5 SCHEDULE

Pre-field activities, including obtaining access and completed surveys, will be initiated immediately following DEQ's approval of this Addendum No. 2 and are scheduled to take up to 30 days. Indoor air and subslab sampling field activities will be initiated immediately following the completion of the pre-field activities. Soil gas sampling field

activities are expected to begin in early spring 2007. The actual duration of field activities will depend on a number of variables to be determined in the field, and therefore the actual field sampling, analysis, and deliverables schedule will be coordinated with DEQ. The schedule is subject to private property access, occupant availability, weather conditions, and any other unforeseen field conditions that could affect completion of work in accordance with this schedule. DEQ will be immediately notified by BNSF of potential schedule delays.

3.0 DELIVERABLES

This Addendum No. 2 requires the preparation and submittal of the following items:

- **Preliminary analytical data** for samples analyzed in the field by a mobile laboratory will be submitted to DEQ as hard copy during the same field day.

- **Preliminary analytical data** will be requested from the laboratory for receipt within <u>two weeks of sample submittal</u> to the laboratory for samples collected pursuant to this Addendum No. 2. Preliminary analytical data will be forwarded to DEQ immediately after receipt. Preliminary analytical data will consist of final laboratory data sheets for the VOCs and laboratory QC sheets, electronic deliverable data sets (EDDs) and will not include data validation.

- **A summary data table** will be submitted to DEQ within 10 days after receipt of all of the final analytical reports from the laboratory for samples collected pursuant to this Addendum No. 2. <u>The summary table will include conversions necessary to allow comparison of the analytical data to indoor air screening levels. The table will note sampling locations where sampling results exceed site-specific or generic indoor air screening levels, if any.</u> Validation of preliminary analytical data by Kennedy/Jenks Consultants' QA Manager is not required prior to submittal of this data table to DEQ. DEQ will be responsible for notifying owners/participants of the results of the sampling in accordance with its community relations plan.

REFERENCES

Camp Dresser & McKee, Inc. 1993. Final Baseline Risk Assessment, Livingston Rail Yard. May 1993.

DTSC. 2003. Advisory – Active Soil Gas Investigations. 13 January 2003. Department of Toxic Substances Control and California Regional Water Quality Control Board.

DTSC. 2005. Interim Final – Guidance for the Evaluation and mitigation of Subsurface Vapor Intrusion to Indoor Air. 15 December 2004 (Revised 7 February 2005). Department of Toxic Substances Control and California Environmental Protection Agency.

Kennedy/Jenks Consultants. 2005a. Facility-Wide Health and Safety Plan, Burlington Northern Livingston Shop Complex Facility, Livingston, Montana. March 2005. Kennedy/Jenks Consultants, Federal Way, Washington.

Kennedy/Jenks Consultants. 2005b. Final Task I Supplemental Investigation Work Plan for Indoor Air, Burlington Northern Livingston Shop Complex Facility, Livingston, Montana. June 2005. Kennedy/Jenks Consultants, Federal Way, Washington.

Kennedy/Jenks Consultants. 2005c. Spring 2005. Statement of Work Quarterly Report No. 1, Burlington Northern Livingston Shop Complex Facility, Livingston, Montana. November 2005. Kennedy/Jenks Consultants, Federal Way, Washington.

Kennedy/Jenks Consultants. 2006a. Facility-Wide Sampling and Analysis Plan, Burlington Northern Livingston Shop Complex Facility, Livingston, Montana. March 2006. Kennedy/Jenks Consultants, Federal Way, Washington.

Kennedy/Jenks Consultants. 2006b. Technical Memorandum – Analytical Results for Soil Gas, Flux Chamber, and Indoor Air Samples Collected 5 April 2006 to 8 April 2006. 9 May 2006. Kennedy/Jenks Consultants, Federal Way, Washington.

Montana Department of Environmental Quality. 2001. Record of Decision, Burlington Northern Livingston Shop Complex. Montana Department of Environmental Quality, Remediation Division, Helena, Montana.

Montana Department of Environmental Quality. 2005. Statement of Work for Spring 2005 Activities, BNSF Livingston Shop Complex, Park County, Montana. August 2005. Montana Department of Environmental Quality, Remediation Division, Helena, Montana.

Montana Department of Environmental Quality. 2006. Addendum No. 1 to Final Task I Supplemental Investigation Work Plan for Indoor Air. March 2006. Montana Department of Environmental Quality, Remediation Division, Helena, Montana.

USEPA. 1994. Standard Operating Procedure (SOP) #2008: General Air Sampling Guidelines. 16 November 1994 (Revision No. 0.0). Environmental Protection Agency, Environmental Response Team.

USEPA. 1995. Standard Operating Procedure (SOP) #1704: Summa Canister Sampling. 27 July 1995 (Revision No. 0.1). Environmental Protection Agency, Environmental Response Team.

USEPA. 1996. Revised Data Validation Guidance, Part II: Volatile/Semivolatile Data Validation Functional Guidelines. December 1996.

USEPA. 2002. OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance). November 2002. EPA520-D-02-004.

Tables

TABLE 1

SUMMARY OF INDOOR AIR/SOIL GAS INVESTIGATIONS
Burlington Northern Livingston Shop Complex

Date of Investigation	Work Completed	Reference
January 1989 (ReTec)	• Soil gas samples were collected during July and August 1988 at 168 locations to estimate the extent of migration of volatile organic compounds in the groundwater. • Soil gas sampling depths were at approximately 3.5 to 4 feet.	Soil Gas Investigation Livingston Montana Fueling Facility, Remediation Technologies, Inc., January 1989.
August 1989 (DHES)	• Indoor air samples collected at four private residences. • Air samples collected in Tedlar® bags at floor level near cracks or other potential gas entrance points in basements and crawlspaces. • Samples analyzed for 1,1,1-trichloroethane; tetrachlorethene; trichloroethene; toluene; and/or hydrocarbons using an infrared adsorption meter. • Organic vapor analyzer used to take air readings inside and outside homes.	Basement Gas Investigation Phase I Report, Envirocon, Inc., January 1991. DHES letter report to John Arrigo at Montana Water Quality Bureau, September 1989.
October 1989 (DHES)	• Indoor air samples collected at the same four private residences sampled in August 1989. • Air samples collected with air pumps and charcoal tubes following NIOSH methodologies. • Samples analyzed for 1,1,1-trichloroethane; cis-1,2-dichloroethene; trans-1,2-dichloroethene; tetrachlorethene; trichloroethene; 1,1,2,2-tetrachloroethene; vinyl chloride; ethylbenzene; xylenes; and toluene.	Basement Gas Investigation Phase I Report, Envirocon, Inc., January 1991. (According to DEQ, there is no DHES report for these sampling events in DEQ files, but laboratory data and notes regarding the sampling locations are available.)
November 1989 (DHES)	• Indoor air samples collected at two of residences sampled in August and October 1989, and at four additional private residences. • Air samples collected with air pumps and charcoal tubes following NIOSH methodologies. • Samples analyzed for 1,1,1-trichloroethane; tetrachlorethene; and trichloroethene.	Basement Gas Investigation Phase I Report, Envirocon, Inc., January 1991. (According to DEQ, there is no DHES report for these sampling events in DEQ files, but laboratory data and notes regarding the sampling locations are

TABLE 1

SUMMARY OF INDOOR AIR/SOIL GAS INVESTIGATIONS
Burlington Northern Livingston Shop Complex

Date of Investigation	Work Completed	Reference
		available.)
November 1990 (Envirocon, Inc.)	• Indoor air samples collected at two private residences. • Air samples collected with air pumps and charcoal tubes following NIOSH methodologies. • Samples analyzed for tetrachloroethene; trichloroethene; 1,2-dichloroethene; benzene; toluene; xylenes; ethyl benzene; and 1,1,2,2-tetrachloroethane.	Basement Gas Investigation Phase I Report, Envirocon, Inc., January 1991.
January through June 1991; June through July 1992, February 1994 (Envirocon, Inc.)	• 36 soil gas samples were collected from January through June 1991. • 19 soil gas samples were collected from June through July 1992. • 9 soil gas samples were collected during February 1994.	Laboratory reports from Energy Laboratories, Inc.
February/March 1992 (Envirocon, Inc.)	• Indoor air samples were collected at 18 residences in February 1992, along with three outdoor ambient samples. Five of the residences sampled were considered background samples. • Indoor air samples were collected in March 1992 at four of the residences sampled in February (including one background residence) and at two additional residences. Soil gas samples were collected at five residences (including one background residence). • All samples were collected from residences with basements. • Samples were collected on multisorbent samplers consisting of Tenex-TA, Carboxen molecular sieve, and activated carbon, in series, and analyzed by gas chromatography/mass spectrometry in SIM mode. • Samples analyzed for tetrachloroethene; trichloroethene; cis-1,2-dichloroethene; and trans-1,2-dichloroethene. Select samples collected in March 1992 were also analyzed for vinyl	Livingston Rail Yard Indoor Air Quality Investigation Report, Envirocon, Inc., March 1992.

TABLE 1

SUMMARY OF INDOOR AIR/SOIL GAS INVESTIGATIONS
Burlington Northern Livingston Shop Complex

Date of Investigation	Work Completed	Reference
	chloride.	
November 1992 (Envirocon, Inc.)	• Objective of investigation was to measure concentrations of chlorinated ethenes in residences prior to installation of DHES-installed ventilation systems, and to compare two sampling and analytical methodologies. • Indoor air samples were collected at three residences, using both colocating air pumps with multisorbent tubes and passive dosimeter badges. • Samples analyzed using NIOSH Method 127 for cis-1,2-dichloroethene; trans-1,2-dichloroethene; trichloroethene; tetrachloroethene; and vinyl chloride.	Phase III Indoor Air Quality Investigation Report Livingston Rail Yard, Envirocon, Inc., December 1992.
January/February 1993 (Envirocon, Inc.)	• Objective of investigation was to evaluate tetrachloroethene concentrations in residences adjacent to the railyard, and to measure tetrachloroethene concentration of the residence where DHES installed and operated a ventilation system. • Residences with basements and crawlspaces as well as mobile trailer homes were included in study. • Thirty-six residences, one school, and four ambient air locations were sampled. • Residences were sampled using passive dosimeter badges with minimum exposure times of two weeks. • Ambient air samples were collected using air pumps and multisorbent tubes over a 4-hour period.	Phase IV Air Quality Investigation Livingston Rail Yard, Envirocon, Inc., February 1993.
September/October 1994 (Envirocon, Inc.)	• Samples were collected at one residence over approximately a four-week period starting in September 1994, and over a two-week period in October using passive dosimeter badges. • Samples were analyzed for tetrachloroethene only.	These data were provided in Appendix C of the Final Task I Supplemental Investigation Work Plan for Indoor Air (Kennedy/Jenks

TABLE 1

SUMMARY OF INDOOR AIR/SOIL GAS INVESTIGATIONS
Burlington Northern Livingston Shop Complex

Date of Investigation	Work Completed	Reference
		2005).
December 2005 (Kennedy/Jenks Consultants)	• Thirty-one indoor air samples were collected at 19 locations. The locations included residences and businesses. Four of the samples were collected at two residences located within a background area. • Six-liter summa canisters were used to collect 24-hour samples at each location. • Six ambient air samples were collected over the course of the sampling event. • Samples were analyzed using EPA Method TO-15 using selective ion monitoring for cis-1,2-dichloroethene, trans-1,2-dichloroethene, trichloroethene, tetrachloroethene, and vinyl chloride.	These data are provided in Table 2.
April 2006 (Kennedy/Jenks Consultants)	• Soil gas or soil gas flux emission samples were collected at 14 residences and businesses. • Indoor air samples were collected at five residences. Two of these locations were background locations that had been sampled during the December 2005 sampling event. • Soil gas and soil gas flux emission samples were collected in 400 cc mini canisters. • Indoor air samples were collected over 24-hours using 6-liter summa canisters. • Soil gas, soil gas flux emission, and indoor air grab samples were collected in 400 cc mini canisters and analyzed for radon-222 to establish site-specific attenuation factors.	The radon data were provided to DEQ in a Technical Memorandum (Kennedy/Jenks 2006). The soil gas, soil gas flux emission, and indoor air TO-15 analytical results are provided in Table 2.

TABLE 1

SUMMARY OF INDOOR AIR/SOIL GAS INVESTIGATIONS
Burlington Northern Livingston Shop Complex

Date of Investigation	Work Completed	Reference
	• Soil gas and soil gas flux emission samples were analyzed for cis-1,2-dichloroethene; trans-1,2-dichloroethene, trichloroethene, tetrachloroethene, and vinyl chloride using EPA Method 8260 or EPA Method TO-15. • Indoor air samples were analyzed using EPA Method TO-15 using selective ion monitoring for cis-1,2-dichloroethene, trans-1,2-dichloroethene, trichloroethene, tetrachloroethene, and vinyl chloride. • Subsequent to the sampling event, DEQ requested that the full TO-15 list be provided for the soil gas and soil gas flex emission samples.	

Notes:
DHES = Montana Department of Health and Environmental Sciences.
DEQ = Montana Department of Environmental Quality.
NIOSH = National Institute of Occupational Safety and Health.
QA = Quality assurance.
SIM = Selective ion monitoring.

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m³)[a]																		
					propene	dichloro-difluoro-methane	chloro-methane	dichloro-tetrafluoro-ethane	vinyl chloride	1,3-butadiene	bromo-methane	chloro-ethane	bromo-ethene	trichloro-fluoro-methane	acetone	1,1-dichloro-ethene	1,1,2-trichloro-trifluoro-ethane	allyl chloride	methylene chloride	carbon disulfide	trans-1,2-dichloro-ethene	methyl tert-butyl ether	vinyl acetate
Target Indoor Air Screening Level (µg/m³)[b]					NA[c]	200	2.4	NA	0.48	0.0087	NA	10,000	5.0	700	350	200	3,000	NA	5.2	700	70	3,000	200
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					NA	10,000	120	NA	24	0.435	NA	500,000	250	35,000	17,500	10,000	150,000	NA	260	35,000	3,500	150,000	10,000
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
LS	Soil gas	Subslab	06-SG-LS-1	Apr-06	<10[e]	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**320**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-SG-LS-2	Apr-06	<250	<140	<120	<140	<120	<120	<120	<120	<120	<120	**720**	<120	<150	<120	<120	<120	<120	<120	<120
			06-SG-LS-3	Apr-06	<1000	<550	<500	<550	<500	<500	<500	<500	<500	<500	**2600**	<500	<600	<500	<500	<500	<500	<500	<500
	Indoor air	Shop Area	05-AS-LS	Dec-05	--[f]	--	--	--	**0.44**	--	--	--	--	--	--	--	--	--	--	--	<0.76	--	--
ES	Soil gas	Subslab	06-SG-ES-1	Apr-06	<500	<280	<250	<280	<250	<250	<250	<250	<250	<250	<1000	<250	<300	<250	<250	<250	<250	<250	<250
			06-SG-ES-2	Apr-06	<100	<55	<50	<55	<50	<50	<50	<50	<50	**54**	**1100**	<50	<60	<50	<50	<50	<50	<50	<50
			D1-SG-04-05-06 (DUP of ES-2)	Apr-06	**180**	<55	<50	<55	<50	<50	<50	<50	<50	**54**	**650**	<50	**68**	<50	<50	<50	<50	<50	<50
			06-SG-ES-3	Apr-06	<500	<280	<250	<280	<250	<250	<250	<250	<250	<250	<1000	<250	<300	<250	<250	<250	<250	<250	<250
	Indoor air	Shop Area	05-AS-ES	Dec-05	--	--	--	--	**0.23**	--	--	--	--	--	--	--	--	--	--	--	<1.2	--	--
NE-1	Flux chamber	Basement	06-GF-NE-1-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<20	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-GF-NE-1-2	Apr-06	**21**	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**450**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	IRM	Basement	unknown	Aug-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	CR-1	Oct-89	--	--	--	--	<0.8	--	--	--	--	--	--	--	--	--	--	--	<0.8	--	--
	MST	Basement	85	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.17	--	--
	MST	Basement	43-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.17	--	--
	MST	Outdoor	021-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.22	--	--
	MST	Basement	3-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.16	--	--
	MST	Upstairs	125-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
	MST	Upstairs	65-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.17	--	--
	MST	Basement	109-V	Mar-92	--	--	--	--	<0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	004-V	Mar-92	--	--	--	--	<0.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	045-V	Mar-92	--	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	5123	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	72	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.5	--	--
	PDB2	Basement	5159	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	5225	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	2512	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	5160	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	86	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.8	--	--
	PDB4	Basement	MW1826	Sep-94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	MW1818	Sep-94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	MW	Oct-94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	MW	Oct-94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	05-AS-NE-1L	Dec-05	--	--	--	--	<0.048	--	--	--	--	--	--	--	--	--	--	--	<0.74	--	--
	Summa	Basement	05-AS-NE-1B	Dec-05	--	--	--	--	<0.048	--	--	--	--	--	--	--	--	--	--	--	<0.74	--	--
	Summa	Basement	D1-AS-12-12-05	Dec-05	--	--	--	--	<0.045	--	--	--	--	--	--	--	--	--	--	--	<0.69	--	--
NE-2	Soil gas	Subslab	06-SG-NE-2-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**74**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-SG-NE-2-2	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**66**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-SG-NE-2-3	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**140**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	MST	Basement	5	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Basement	89	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Upstairs	43	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.20	--	--
	PDB3	Basement	WK 4861	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB3	Upstairs	WK 4798	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-NE-2L	Apr-06	--	--	--	--	< 0.045	--	--	--	--	--	--	--	--	--	--	--	< 0.69	--	--
	Summa	Basement	06-AS-NE-2B	Apr-06	--	--	--	--	< 0.045	--	--	--	--	--	--	--	--	--	--	--	< 0.69	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					1,1-dichloro-ethane	2-butanone	n-hexane	cis-1.2-dichloro-ethene	ethyl acetate	chloroform	tetrahydro-furan	1,1,1-trichloro-ethane	1,2-dichloro-ethane	benzene	carbon tetrachloride	cyclohexane	2,2,4-trimethyl-pentane	n-heptane	trichloroethene	1,2-dichloro-propane	1,4-dioxane	bromo-dichloro-methane	cis-1,3-dichloro-propene
Target Indoor Air Screening Level (µg/m³)[b]					500	1,000	NA	35	3,200	0.11	NA	2,200	0.094	0.31	0.16	NA	NA	NA	0.11	4	NA	0.14	0.61
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					25,000	50,000	NA	1,750	160,000	5.5	NA	110,000	4.7	15.5	8	NA	NA	NA	5.5	200	NA	7	30.5
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
LS	Soil gas	Subslab	06-SG-LS-1	Apr-06	<5.0	**5.3**	**11**	<5.0	<5.0	<5.0	<5.0	<5.0	**810**	**16**	<5.5	**47**	**8.2**	**11**	**110**	<5.0	<5.5	<5.0	<5.0
			06-SG-LS-2	Apr-06	<120	<120	<120	<120	<120	<120	<120	<120	**200**	<120	<140	**180**	<120	<120	<120	<120	<140	<120	<120
			06-SG-LS-3	Apr-06	<500	<500	<500	**760**	<500	<500	<500	<500	**530**	<500	<550	**800**	<500	<500	**23000**	<500	<550	<500	<500
	Indoor air	Shop Area	05-AS-LS	Dec-05	--	--	--	**2.9**	--	--	--	--	--	--	--	--	--	--	**50**	--	--	--	--
ES	Soil gas	Subslab	06-SG-ES-1	Apr-06	<250	<250	<250	<250	<250	<250	<250	<250	**270**	<250	<280	**320**	<250	<250	**4600**	<250	<280	<250	<250
			06-SG-ES-2	Apr-06	<50	**72**	**76**	<50	<50	<50	<50	**260**	**1300**	<50	<55	**170**	<50	<50	**2900**	<50	<55	<50	<50
			D1-SG-04-05-06 (DUP of ES-2)	Apr-06	<50	**56**	**54**	<50	<50	<50	<50	**260**	**410**	<50	<55	**130**	<50	<50	**3200**	<50	<55	<50	<50
			06-SG-ES-3	Apr-06	<250	<250	<250	<250	<250	<250	<250	<250	<250	<250	<280	<250	**320**	<250	**730**	<250	<280	<250	<250
	Indoor air	Shop Area	05-AS-ES	Dec-05	--	--	--	**2.0**	--	--	--	--	--	--	--	--	--	--	**200**	--	--	--	--
NE-1	Flux chamber	Basement	06-GF-NE-1-1	Apr-06	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**6.3**	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
			06-GF-NE-1-2	Apr-06	<5.0	**100**	**5.3**	<5.0	<5.0	**6.1**	**15**	<5.0	**11**	<5.0	<5.5	**6.4**	**5.4**	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	IRM	Basement	unknown	Aug-89	--	--	--	--	--	--	--	**5,450**	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	CR-1	Oct-89	--	--	--	<0.8	--	--	--	<0.8	--	--	--	--	--	--	<0.8	--	--	--	--
	MST	Basement	85	Feb-92	--	--	--	**0.24**	--	--	--	--	--	--	--	--	--	--	**1.07**	--	--	--	--
	MST	Basement	43-N	Feb-92	--	--	--	**0.4**	--	--	--	--	--	--	--	--	--	--	**1.42**	--	--	--	--
	MST	Outdoor	021-N	Feb-92	--	--	--	<0.22	--	--	--	--	--	--	--	--	--	--	<0.22	--	--	--	--
	MST	Basement	3-S	Mar-92	--	--	--	**0.26**	--	--	--	--	--	--	--	--	--	--	**1.5**	--	--	--	--
	MST	Upstairs	125-S	Mar-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	**0.6**	--	--	--	--
	MST	Upstairs	65-S	Mar-92	--	--	--	<0.17	--	--	--	--	--	--	--	--	--	--	**0.61**	--	--	--	--
	MST	Basement	109-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	004-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	045-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	5123	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	72	Nov-92	--	--	--	<1.5	--	--	--	--	--	--	--	--	--	--	<1.5	--	--	--	--
	PDB2	Basement	5159	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	5225	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	2512	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	5160	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	86	Nov-92	--	--	--	<1.8	--	--	--	--	--	--	--	--	--	--	<1.8	--	--	--	--
	PDB4	Basement	MW1826	Sep-94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	MW1818	Sep-94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	MW	Oct-94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	MW	Oct-94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	05-AS-NE-1L	Dec-05	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	**0.18**	--	--	--	--
	Summa	Basement	05-AS-NE-1B	Dec-05	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	**0.24**	--	--	--	--
	Summa	Basement	D1-AS-12-12-05	Dec-05	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**0.24**	--	--	--	--
NE-2	Soil gas	Subslab	06-SG-NE-2-1	Apr-06	<5.0	**16**	<5.0	<5.0	<5.0	<5.0	<5.0	**5.3**	**8.1**	<5.0	<5.5	**17**	<5.0	<5.0	**32**	<5.0	<5.5	<5.0	<5.0
			06-SG-NE-2-2	Apr-06	<5.0	**140**	<5.0	<5.0	<5.0	**7.5**	**23**	<5.0	**22**	<5.0	<5.5	**14**	<5.0	<5.0	**36**	<5.0	<5.5	<5.0	<5.0
			06-SG-NE-2-3	Apr-06	<5.0	**100**	**12**	**5.5**	<5.0	<5.0	**20**	**5.0**	**5.4**	**5.9**	<5.5	**18**	**1500E[g]**	**15**	**70**	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	MST	Basement	5	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	**0.45**	--	--	--	--
	MST	Basement	89	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	**0.31**	--	--	--	--
	MST	Upstairs	43	Feb-92	--	--	--	<0.20	--	--	--	--	--	--	--	--	--	--	**0.24**	--	--	--	--
	PDB3	Basement	WK 4861	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB3	Upstairs	WK 4798	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-NE-2L	Apr-06	--	--	--	< 0.14	--	--	--	--	--	--	--	--	--	--	**0.05**	--	--	--	--
	Summa	Basement	06-AS-NE-2B	Apr-06	--	--	--	< 0.14	--	--	--	--	--	--	--	--	--	--	**0.061**	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																	
					4-methyl-2-pentanone	trans-1,3-dichloro-propene	toluene	1,1,2-trichloro-ethane	2-hexanone	dibromo-chloro-methane	tetrachloro-ethene	1,2-dibromoethane (EDB)	chloro-benzene	ethyl-benzene	m,p-xylene	styrene	o-xylene	bromoform	1,1,2,2-tetrachloro-ethane	4-ethyl-toluene	1,3,5-trimethyl-benzene	1,2,4-trimethyl-benzene	1,3-dichloro benzene
Target Indoor Air Screening Level (µg/m³)[b]					80	0.61	400	0.15	NA	0.10	0.81	0.011	60	2.2	7,000	1,000	7,000	2.2	0.042	NA	6	6	110
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					4,000	30.5	20,000	7.5	NA	5	40.5	0.55	3,000	110	350,000	50,000	350,000	110	2.1	NA	300	300	5,500
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																		
LS	Soil gas	Subslab	06-SG-LS-1	Apr-06	**5.2**	<5.0	**66**	<5.0	<5.0	<6.5	**41**	**10**	<5.0	**20**	**45**	**7.4**	**36**	**7.9**	<6.0	**8.5**	**15**	**53**	<10
			06-SG-LS-2	Apr-06	<120	<120	**180**	<120	<120	<160	**8800B[h]**	<120	<120	<120	<120	<120	<120	<120	<150	<120	<120	**130**	<250
			06-SG-LS-3	Apr-06	<500	<500	**5400**	<500	<500	<650	**310000B**	<500	<500	**850**	**1700**	<500	**1500**	<500	<600	**910**	**660**	**2400**	<1000
	Indoor air	Shop Area	05-AS-LS	Dec-05	--	--	--	--	--	--	**3.5**	--	--	--	--	--	--	--	--	--	--	--	--
ES	Soil gas	Subslab	06-SG-ES-1	Apr-06	<250	<250	**290**	<250	<250	<320	**72000B**	<250	<250	<250	<250	<250	<250	<250	<300	<250	<250	<250	<500
			06-SG-ES-2	Apr-06	<50	<50	**300**	<50	<50	<65	**41000B**	<50	<50	**96**	**210**	<50	**170**	<50	<60	**100**	**63**	**270**	<100
			D1-SG-04-05-06 (DUP of ES-2)	Apr-06	<50	<50	**190**	<50	<50	<65	**47000EB**	<50	<50	**70**	**160**	<50	**130**	**62**	<60	**96**	**60**	**260**	<100
			06-SG-ES-3	Apr-06	<250	<250	**720**	<250	<250	<320	**46000B**	<250	<250	<250.0	**290**	<250	<250	**270**	<300	<250	<250	**300**	<500
	Indoor air	Shop Area	05-AS-ES	Dec-05	--	--	--	--	--	--	**3.6**	--	--	--	--	--	--	--	--	--	--	--	--
NE-1	Flux chamber	Basement	06-GF-NE-1-1	Apr-06	<5.0	<5.0	**7.0**	<5.0	<5.0	<6.5	**5.4**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	<5.0	<10
			06-GF-NE-1-2	Apr-06	<5.0	<5.0	**27**	<5.0	<5.0	<6.5	**210**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	<5.0	<10
	Indoor air																						
	IRM	Basement	unknown	Aug-89	--	--	**7,540**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	CR-1	Oct-89	--	--	<0.8	--	--	--	<0.8	--	--	<0.8	<0.8	--	--	--	--	--	--	--	--
	MST	Basement	85	Feb-92	--	--	--	--	--	--	**64.3**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	43-N	Feb-92	--	--	--	--	--	--	**70.2**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Outdoor	021-N	Feb-92	--	--	--	--	--	--	**1.52**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	3-S	Mar-92	--	--	--	--	--	--	**82.1**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	125-S	Mar-92	--	--	--	--	--	--	**27.9**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	65-S	Mar-92	--	--	--	--	--	--	**26.5**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	109-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	004-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	045-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	5123	Nov-92	--	--	--	--	--	--	**30**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	72	Nov-92	--	--	--	--	--	--	**17.8**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	5159	Nov-92	--	--	--	--	--	--	**27**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	5225	Nov-92	--	--	--	--	--	--	**31**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	2512	Nov-92	--	--	--	--	--	--	**7.7**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	5160	Nov-92	--	--	--	--	--	--	**7.4**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	86	Nov-92	--	--	--	--	--	--	**6.6**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	MW1826	Sep-94	--	--	--	--	--	--	**15.2**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	MW1818	Sep-94	--	--	--	--	--	--	**5.8**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	MW	Oct-94	--	--	--	--	--	--	**7.1**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	MW	Oct-94	--	--	--	--	--	--	<3.4J	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	05-AS-NE-1L	Dec-05	--	--	--	--	--	--	**5.2**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-NE-1B	Dec-05	--	--	--	--	--	--	**6.0**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	D1-AS-12-12-05	Dec-05	--	--	--	--	--	--	**6.4**	--	--	--	--	--	--	--	--	--	--	--	--
NE-2	Soil gas	Subslab	06-SG-NE-2-1	Apr-06	<5.0	<5.0	**37**	<5.0	<5.0	<6.5	**830**	<5.0	<5.0	**10**	**24**	<5.0	**17**	<5.0	<6.0	**13**	**8.1**	**34**	<10
			06-SG-NE-2-2	Apr-06	<5.0	<5.0	**17**	<5.0	<5.0	<6.5	**3600**	<5.0	<5.0	**8.1**	**20**	<5.0	**15**	<5.0	<6.0	**11**	**7.5**	**30**	<10
			06-SG-NE-2-3	Apr-06	<5.0	<5.0	**33**	<5.0	<5.0	<6.5	**4200**	<5.0	<5.0	**13**	**22**	<5.0	**17**	<5.0	<6.0	<5.0	**8.0**	**33**	<10
	Indoor air																						
	MST	Basement	5	Feb-92	--	--	--	--	--	--	**18.9**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	89	Feb-92	--	--	--	--	--	--	**17.2**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	43	Feb-92	--	--	--	--	--	--	**5.73**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB3	Basement	WK 4861	Jan-93	--	--	--	--	--	--	**8.5**	--	--			--	--	--	--	--	--	--	--
	PDB3	Upstairs	WK 4798	Jan-93	--	--	--	--	--	--	<2.7	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-NE-2L	Apr-06	--	--	--	--	--	--	**2.5**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-NE-2B	Apr-06	--	--	--	--	--	--	**4.0**	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)					Other Chemicals (µg/m3 or as noted)[i]		
					benzyl chloride	1,4-dichloro-benzene	1,2-dichloro-benzene	1,2,4-trichloro-benzene	hexachloro-butadiene	1,1,2,2-tetrachloro-ethene	1,2-dichloro-ethene	Total Hydrocarbons (ppmv)
Target Indoor Air Screening Level (µg/m³)[b]					0.05	800	200	200	0.11	NA	NA	NA
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					2.5	40,000	10,000	10,000	5.5	NA	NA	NA
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**								
LS	Soil gas	Subslab	06-SG-LS-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-SG-LS-2	Apr-06	<250	<250	<250	<500	<280	--	--	--
			06-SG-LS-3	Apr-06	<1000	<1000	<1000	<2000	<1100	--	--	--
	Indoor air	Shop Area	05-AS-LS	Dec-05	--	--	--	--	--	--	--	--
ES	Soil gas	Subslab	06-SG-ES-1	Apr-06	<500	<500	<500	<1000	<550	--	--	--
			06-SG-ES-2	Apr-06	<100	<100	<100	<200	<110	--	--	--
			D1-SG-04-05-06 (DUP of ES-2)	Apr-06	<100	<100	<100	<200	<110	--	--	--
			06-SG-ES-3	Apr-06	<500	<500	<500	<1000	<550	--	--	--
	Indoor air	Shop Area	05-AS-ES	Dec-05	--	--	--	--	--	--	--	--
NE-1	Flux chamber	Basement	06-GF-NE-1-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-GF-NE-1-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	IRM	Basement	unknown	Aug-89	--	--	--	--	--	--	--	**1**
	MST	Unknown	CR-1	Oct-89	--	--	--	--	--	<0.8	<0.8	--
	MST	Basement	85	Feb-92	--	--	--	--	--	--	--	--
	MST	Basement	43-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Outdoor	021-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Basement	3-S	Mar-92	--	--	--	--	--	--	--	--
	MST	Upstairs	125-S	Mar-92	--	--	--	--	--	--	--	--
	MST	Upstairs	65-S	Mar-92	--	--	--	--	--	--	--	--
	MST	Basement	109-V	Mar-92	--	--	--	--	--	--	--	--
	MST	Basement	004-V	Mar-92	--	--	--	--	--	--	--	--
	MST	Soil Gas	045-V	Mar-92	--	--	--	--	--	--	--	--
	PDB4	Basement	5123	Nov-92	--	--	--	--	--	--	--	--
	MST	Basement	72	Nov-92	--	--	--	--	--	--	--	--
	PDB2	Basement	5159	Nov-92	--	--	--	--	--	--	--	--
	PDB2	Basement	5225	Nov-92	--	--	--	--	--	--	--	--
	PDB2	Upstairs	2512	Nov-92	--	--	--	--	--	--	--	--
	PDB2	Upstairs	5160	Nov-92	--	--	--	--	--	--	--	--
	MST	Upstairs	86	Nov-92	--	--	--	--	--	--	--	--
	PDB4	Basement	MW1826	Sep-94	--	--	--	--	--		--	--
	PDB4	Upstairs	MW1818	Sep-94	--	--	--	--	--	--	--	--
	PDB2	Basement	MW	Oct-94	--	--	--	--	--	--	--	--
	PDB2	Upstairs	MW	Oct-94	--	--	--	--	--	--	--	--
	Summa	Living Room	05-AS-NE-1L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-NE-1B	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	D1-AS-12-12-05	Dec-05	--	--	--	--	--	--	--	--
NE-2	Soil gas	Subslab	06-SG-NE-2-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-SG-NE-2-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-SG-NE-2-3	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	MST	Basement	5	Feb-92	--	--	--	--	--	--	--	--
	MST	Basement	89	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	43	Feb-92	--	--	--	--	--	--	--	--
	PDB3	Basement	WK 4861	Jan-93	--	--	--	--	--	--	--	--
	PDB3	Upstairs	WK 4798	Jan-93	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-NE-2L	Apr-06	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-NE-2B	Apr-06	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m³)[a]																		
					propene	dichloro-difluoro-methane	chloro-methane	dichloro-tetrafluoro-ethane	vinyl chloride	1,3-butadiene	bromo-methane	chloro-ethane	bromo-ethene	trichloro-fluoro-methane	acetone	1,1-dichloro-ethene	1,1,2-trichloro-trifluoro-ethane	allyl chloride	methylene chloride	carbon disulfide	trans-1,2-dichloro-ethene	methyl tert-butyl ether	vinyl acetate
Target Indoor Air Screening Level (µg/m³)[b]					NA[c]	200	2.4	NA	0.48	0.0087	NA	10,000	5.0	700	350	200	3,000	NA	5.2	700	70	3,000	200
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					NA	10,000	120	NA	24	0.435	NA	500,000	250	35,000	17,500	10,000	150,000	NA	260	35,000	3,500	150,000	10,000
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
NE-3	Indoor air																						
	MST	Basement	51	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Upstairs	83	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Soil Gas	121-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.75	--	--
	MST	Soil Gas	17-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<5.56	--	--
	PDB4	Basement	2560	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	27	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.9	--	--
	MST	Basement	43	Nov-92	--	--	--	--	<0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	131	Nov-92	--	--	--	--	<0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	2506	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	84	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.7	--	--
	Summa	Living Room	05-AS-NE-3L	Dec-05	< 0.047	--	--	--	< 0.047	--	--	--	--	--	--	--	--	--	--	--	<0.72	--	--
	Summa	Basement	05-AS-NE-3B	Dec-05	< 0.045	--	--	--	< 0.045	--	--	--	--	--	--	--	--	--	--	--	<0.69	--	--
NE-4	Flux chamber	Basement	06-GF-NE-4-1	Apr-06	**75**	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<20	<5.0	**10**	<5.0	**5.5**	<5.0	<5.0	<5.0	<5.0
			06-GF-NE-4-2	Apr-06	**19**	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**66**	<5.0	**7.7**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	MST	Basement	25-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	20-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.16	--	--
	MST	Upstairs	9-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.39**	--	--
	Summa	Living Room	05-AS-NE-4L	Dec-05	--	--	--	--	< 0.047	--	--	--	--	--	--	--	--	--	--	--	<0.72	--	--
	Summa	Basement	05-AS-NE-4B	Dec-05	--	--	--	--	< 0.048	--	--	--	--	--	--	--	--	--	--	--	<0.74	--	--
NE-5	Flux chamber	Basement	06-GF-NE-5-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**41**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-GF-NE-5-2	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	**8.4**	**81**	<5.0	**6.0**	<5.0	**5.6**	<5.0	<5.0	<5.0	<5.0
			D1-GF-04-08-06 (DUP of NE-5-2)	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	**8.6**	**87**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	MST	Basement	61-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.21	--	--
	MST	Upstairs	50-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.16	--	--
	Summa	Main Living Area	05-AS-NE-5L	Dec-05	--	--	--	--	< 0.046	--	--	--	--	--	--	--	--	--	--	--	< 0.71	--	--
	Summa	Basement	05-AS-NE-5B	Dec-05	--	--	--	--	< 0.049	--	--	--	--	--	--	--	--	--	--	--	< 0.76	--	--
NE-6	Indoor air																						
	PDB2	Basement	WK 4199	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4749	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-7	Indoor air																						
	PDB2	Basement	WK 4581	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4476	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-8	Indoor air																						
	PDB2	Upstairs	WK 4850	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-9	Indoor air																						
	PDB2	Dirt Dugout	WK 4698	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4786	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4776	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-10	Indoor air																						
	PDB2	Dirt Dugout	WD 6060	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 6096	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-11	Indoor air																						
	PDB2	Upstairs	WD 5788	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-12	Indoor air																						
	PDB2	Basement	WK 4661	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4500	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					1,1-dichloro-ethane	2-butanone	n-hexane	cis-1.2-dichloro-ethene	ethyl acetate	chloroform	tetrahydro-furan	1,1,1-trichloro-ethane	1,2-dichloro-ethane	benzene	carbon tetrachloride	cyclohexane	2,2,4-trimethyl-pentane	n-heptane	trichloroethene	1,2-dichloro-propane	1,4-dioxane	bromo-dichloro-methane	cis-1,3-dichloro-propene
Target Indoor Air Screening Level (µg/m³)[b]					500	1,000	NA	35	3,200	0.11	NA	2,200	0.094	0.31	0.16	NA	NA	NA	0.11	4	NA	0.14	0.61
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					25,000	50,000	NA	1,750	160,000	5.5	NA	110,000	4.7	15.5	8	NA	NA	NA	5.5	200	NA	7	30.5
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
NE-3	Indoor air																						
	MST	Basement	51	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	**1.98**	--	--	--	--
	MST	Upstairs	83	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	**3.33**	--	--	--	--
	MST	Soil Gas	121-S	Mar-92	--	--	--	<0.75	--	--	--	--	--	--	--	--	--	--	<0.75	--	--	--	--
	MST	Soil Gas	17-S	Mar-92	--	--	--	<5.56	--	--	--	--	--	--	--	--	--	--	<5.56	--	--	--	--
	PDB4	Basement	2560	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	27	Nov-92	--	--	--	<1.9	--	--	--	--	--	--	--	--	--	--	<1.9	--	--	--	--
	MST	Basement	43	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	131	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	2506	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	84	Nov-92	--	--	--	<1.7	--	--	--	--	--	--	--	--	--	--	<1.7	--	--	--	--
	Summa	Living Room	05-AS-NE-3L	Dec-05	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**0.082**	--	--	--	--
	Summa	Basement	05-AS-NE-3B	Dec-05	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**0.086**	--	--	--	--
NE-4	Flux chamber	Basement	06-GF-NE-4-1	Apr-06	<5.0	**5.1**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**24**	<5.0	<5.5	**7.6**	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
			06-GF-NE-4-2	Apr-06	<5.0	**9.4**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.5	**12**	<5.0	<5.0	**19**	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	MST	Basement	25-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.48**	--	--	--	--
	MST	Upstairs	20-S	Mar-92	--	--	--	<0.16	--	--	--	--	--	--	--	--	--	--	**0.57**	--	--	--	--
	MST	Upstairs	9-S	Mar-92	--	--	--	**0.63**	--	--	--	--	--	--	--	--	--	--	**1.3**	--	--	--	--
	Summa	Living Room	05-AS-NE-4L	Dec-05	--	--	--	< 0.14	--	--	--	--	--	--	--	--	--	--	**0.53**	--	--	--	--
	Summa	Basement	05-AS-NE-4B	Dec-05	--	--	--	< 0.15	--	--	--	--	--	--	--	--	--	--	**0.96**	--	--	--	--
NE-5	Flux chamber	Basement	06-GF-NE-5-1	Apr-06	<5.0	**5.4**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**6.4**	<5.0	<5.5	**5.4**	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
			06-GF-NE-5-2	Apr-06	<5.0	**5.9**	**12**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**8.3**	<5.5	**11**	**9.6**	**8.9**	<5.0	<5.0	<5.5	<5.0	<5.0
			D1-GF-04-08-06 (DUP of NE-5-2)	Apr-06	<5.0	**7.5**	**9.6**	<5.0	<5.0	<5.0	<5.0	<5.0	**6.7**	**23**	<5.5	**12**	<5.0	**8.8**	<5.0	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	MST	Basement	61-S	Mar-92	--	--	--	<0.21	--	--	--	--	--	--	--	--	--	--	<0.21	--	--	--	--
	MST	Upstairs	50-S	Mar-92	--	--	--	<0.16	--	--	--	--	--	--	--	--	--	--	**0.23**	--	--	--	--
	Summa	Main Living Area	05-AS-NE-5L	Dec-05	--	--	--	< 0.14	--	--	--	--	--	--	--	--	--	--	**0.13**	--	--	--	--
	Summa	Basement	05-AS-NE-5B	Dec-05	--	--	--	< 0.15	--	--	--	--	--	--	--	--	--	--	**0.088**	--	--	--	--
NE-6	Indoor air																						
	PDB2	Basement	WK 4199	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4749	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-7	Indoor air																						
	PDB2	Basement	WK 4581	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4476	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-8	Indoor air																						
	PDB2	Upstairs	WK 4850	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-9	Indoor air																						
	PDB2	Dirt Dugout	WK 4698	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4786	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4776	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-10	Indoor air																						
	PDB2	Dirt Dugout	WD 6060	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 6096	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-11	Indoor air																						
	PDB2	Upstairs	WD 5788	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-12	Indoor air																						
	PDB2	Basement	WK 4661	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4500	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					4-methyl-2-pentanone	trans-1,3-dichloro-propene	toluene	1,1,2-trichloro-ethane	2-hexanone	dibromo-chloro-methane	tetrachloro-ethene	1,2-dibromoethane (EDB)	chloro-benzene	ethyl-benzene	m,p-xylene	styrene	o-xylene	bromoform	1,1,2,2-tetrachloro-ethane	4-ethyl-toluene	1,3,5-trimethyl-benzene	1,2,4-trimethyl-benzene	1,3-dichloro benzene
Target Indoor Air Screening Level (µg/m³)[b]					80	0.61	400	0.15	NA	0.10	0.81	0.011	60	2.2	7,000	1,000	7,000	2.2	0.042	NA	6	6	110
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					4,000	30.5	20,000	7.5	NA	5	40.5	0.55	3,000	110	350,000	50,000	350,000	110	2.1	NA	300	300	5,500
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
NE-3	Indoor air																						
	MST	Basement	51	Feb-92	--	--	--	--	--	--	**8.56**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	83	Feb-92	--	--	--	--	--	--	**13.7**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	121-S	Mar-92	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	17-S	Mar-92	--	--	--	--	--	--	<5.56	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	2560	Nov-92	--	--	--	--	--	--	**2.2**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	27	Nov-92	--	--	--	--	--	--	<1.9	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	43	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	131	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	2506	Nov-92	--	--	--	--	--	--	**2.4**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	84	Nov-92	--	--	--	--	--	--	<1.7	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	05-AS-NE-3L	Dec-05	--	--	--	--	--	--	**0.58**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-NE-3B	Dec-05	--	--	--	--	--	--	**0.57**	--	--	--	--	--	--	--	--	--	--	--	--
NE-4	Flux chamber	Basement	06-GF-NE-4-1	Apr-06	<5.0	<5.0	**15U[j]**	<5.0	<5.0	<6.5	**8.9U**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	<5.0	<10
			06-GF-NE-4-2	Apr-06	<5.0	<5.0	**16U**	<5.0	<5.0	<6.5	**75U**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	**5.0**	<10
	Indoor air																						
	MST	Basement	25-S	Mar-92	--	--	--	--	--	--	**18.4**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	20-S	Mar-92	--	--	--	--	--	--	**5.66**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	9-S	Mar-92	--	--	--	--	--	--	**6.18**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	05-AS-NE-4L	Dec-05	--	--	--	--	--	--	**0.69**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-NE-4B	Dec-05	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--	--	--	--
NE-5	Flux chamber	Basement	06-GF-NE-5-1	Apr-06	<5.0	<5.0	<5.0	<5.0	<5.0	<6.5	**12U**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	**5.8**	<10
			06-GF-NE-5-2	Apr-06	<5.0	<5.0	**30U**	<5.0	<5.0	<6.5	**28U**	<5.0	<5.0	**5.0**	**8.8**	<5.0	**6.5**	<5.0	<6.0	<5.0	<5.0	**11**	<10
			D1-GF-04-08-06 (DUP of NE-5-2)	Apr-06	<5.0	<5.0	**49B**	<5.0	<5.0	<6.5	**110B**	<5.0	<5.0	<5.0	**7.5**	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	**9.8**	<10
	Indoor air																						
	MST	Basement	61-S	Mar-92	--	--	--	--	--	--	**0.58**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	50-S	Mar-92	--	--	--	--	--	--	**1.07**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Main Living Area	05-AS-NE-5L	Dec-05	--	--	--	--	--	--	**0.36**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-NE-5B	Dec-05	--	--	--	--	--	--	**0.74**	--	--	--	--	--	--	--	--	--	--	--	--
NE-6	Indoor air																						
	PDB2	Basement	WK 4199	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4749	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
NE-7	Indoor air																						
	PDB2	Basement	WK 4581	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4476	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
NE-8	Indoor air																						
	PDB2	Upstairs	WK 4850	Jan-93	--	--	--	--	--	--	<4.5	--	--	--	--	--	--	--	--	--	--	--	--
NE-9	Indoor air																						
	PDB2	Dirt Dugout	WK 4698	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4786	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4776	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
NE-10	Indoor air																						
	PDB2	Dirt Dugout	WD 6060	Jan-93	--	--	--	--	--	--	**17.4**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 6096	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
NE-11	Indoor air																						
	PDB2	Upstairs	WD 5788	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
NE-12	Indoor air																						
	PDB2	Basement	WK 4661	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4500	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)					Other Chemicals (µg/m3 or as noted)[i]		
					benzyl chloride	1,4-dichloro-benzene	1,2-dichloro-benzene	1,2,4-trichloro-benzene	hexachloro-butadiene	1,1,2,2-tetrachloro-ethene	1,2-dichloro-ethene	Total Hydrocarbons (ppmv)
Target Indoor Air Screening Level (µg/m³)[b]					0.05	800	200	200	0.11	NA	NA	NA
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					2.5	40,000	10,000	10,000	5.5	NA	NA	NA
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**								
NE-3	Indoor air											
	MST	Basement	51	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	83	Feb-92	--	--	--	--	--	--	--	--
	MST	Soil Gas	121-S	Mar-92	--	--	--	--	--	--	--	--
	MST	Soil Gas	17-S	Mar-92	--	--	--	--	--	--	--	--
	PDB4	Basement	2560	Nov-92	--	--	--	--	--	--	--	--
	MST	Basement	27	Nov-92	--	--	--	--	--	--	--	--
	MST	Basement	43	Nov-92	--	--	--	--	--	--	--	--
	MST	Basement	131	Nov-92	--	--	--	--	--	--	--	--
	PDB4	Upstairs	2506	Nov-92	--	--	--	--	--	--	--	--
	MST	Upstairs	84	Nov-92	--	--	--	--	--	--	--	--
	Summa	Living Room	05-AS-NE-3L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-NE-3B	Dec-05	--	--	--	--	--	--	--	--
NE-4	Flux chamber	Basement	06-GF-NE-4-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-GF-NE-4-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	MST	Basement	25-S	Mar-92	--	--	--	--	--	--	--	--
	MST	Upstairs	20-S	Mar-92	--	--	--	--	--	--	--	--
	MST	Upstairs	9-S	Mar-92	--	--	--	--	--	--	--	--
	Summa	Living Room	05-AS-NE-4L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-NE-4B	Dec-05	--	--	--	--	--	--	--	--
NE-5	Flux chamber	Basement	06-GF-NE-5-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-GF-NE-5-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
			D1-GF-04-08-06 (DUP of NE-5-2)	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	MST	Basement	61-S	Mar-92	--	--	--	--	--	--	--	--
	MST	Upstairs	50-S	Mar-92	--	--	--	--	--	--	--	--
	Summa	Main Living Area	05-AS-NE-5L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-NE-5B	Dec-05	--	--	--	--	--	--	--	--
NE-6	Indoor air											
	PDB2	Basement	WK 4199	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4749	Jan-93	--	--	--	--	--	--	--	--
NE-7	Indoor air											
	PDB2	Basement	WK 4581	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4476	Jan-93	--	--	--	--	--	--	--	--
NE-8	Indoor air											
	PDB2	Upstairs	WK 4850	Jan-93	--	--	--	--	--	--	--	--
NE-9	Indoor air											
	PDB2	Dirt Dugout	WK 4698	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4786	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4776	Jan-93	--	--	--	--	--	--	--	--
NE-10	Indoor air											
	PDB2	Dirt Dugout	WD 6060	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 6096	Jan-93	--	--	--	--	--	--	--	--
NE-11	Indoor air											
	PDB2	Upstairs	WD 5788	Jan-93	--	--	--	--	--	--	--	--
NE-12	Indoor air											
	PDB2	Basement	WK 4661	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4500	Jan-93	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m³)[a]																		
					propene	dichloro-difluoro-methane	chloro-methane	dichloro-tetrafluoro-ethane	vinyl chloride	1,3-butadiene	bromo-methane	chloro-ethane	bromo-ethene	trichloro-fluoro-methane	acetone	1,1-dichloro-ethene	1,1,2-trichloro-trifluoro-ethane	allyl chloride	methylene chloride	carbon disulfide	trans-1,2-dichloro-ethene	methyl tert-butyl ether	vinyl acetate
Target Indoor Air Screening Level (µg/m³)[b]					NA[c]	200	2.4	NA	0.48	0.0087	NA	10,000	5.0	700	350	200	3,000	NA	5.2	700	70	3,000	200
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					NA	10,000	120	NA	24	0.435	NA	500,000	250	35,000	17,500	10,000	150,000	NA	260	35,000	3,500	150,000	10,000
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
NE-13	Indoor air																						
	PDB2	Basement	WK 4510	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4474	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-14	Indoor air																						
	PDB2	Skirting	WK 4195	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Trailer	WK 4218	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-15	Indoor air																						
	PDB2	Basement	WK 4632	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4662	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-16	Indoor air																						
	PDB2	Basement	WK 4818	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4695	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-17	Indoor air																						
	PDB2	Basement	WK 4445	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	WK 4560	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4651	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-18	Indoor air																						
	PDB2	Basement	WK 4536	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4422	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-19	Indoor air																						
	PDB2	Upstairs	WK 4755	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-20	Indoor air																						
	PDB2	Dirt Dugout	WK 4683	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4857	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-1	Flux chamber	Basement	06-GF-SE-1-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**36**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-GF-SE-1-2	Apr-06	**17**	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**30**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	MST	Basement	104	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Upstairs	93	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.20	--	--
	MST	Upstairs	102	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.26	--	--
	Summa	Living Room	06-AS-SE-1L	Apr-06	--	--	--	--	< 0.050	--	--	--	--	--	--	--	--	--	--	--	<0.78	--	--
	Summa	Basement	06-AS-SE-1B	Apr-06	--	--	--	--	< 0.051	--	--	--	--	--	--	--	--	--	--	--	<0.80	--	--
	Summa	Basement	06-AS-SE-1DUP	Apr-06	--	--	--	--	< 0.046	--	--	--	--	--	--	--	--	--	--	--	<0.71	--	--
SE-2	Soil gas	Subslab	06-SG-SE-2-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**220**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	MST	Basement	058-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Basement	14-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Upstairs	082-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Soil Gas	80-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.76	--	--
	MST	Soil Gas	69-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<5.56	--	--
	MST	Basement	077-V	Mar-92	--	--	--	--	**0.8**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	055-V	Mar-92	--	--	--	--	**0.64**	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-SE-2L	Apr-06	--	--	--	--	**0.50**	--	--	--	--	--	--	--	--	--	--	--	<0.72	--	--
	Summa	Basement	06-AS-SE-2B	Apr-06	--	--	--	--	**0.29**	--	--	--	--	--	--	--	--	--	--	--	<0.76	--	--
SE-3	Indoor air																						
	MST	Basement	66	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
	MST	Upstairs	52	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
SE-4	Indoor air																						
	MST	Basement	015-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.17	--	--
	MST	Upstairs	58	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
	MST	Upstairs	094-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					1,1-dichloro-ethane	2-butanone	n-hexane	cis-1.2-dichloro-ethene	ethyl acetate	chloroform	tetrahydro-furan	1,1,1-trichloro-ethane	1,2-dichloro-ethane	benzene	carbon tetrachloride	cyclohexane	2,2,4-trimethyl-pentane	n-heptane	trichloroethene	1,2-dichloro-propane	1,4-dioxane	bromo-dichloro-methane	cis-1,3-dichloro-propene
Target Indoor Air Screening Level (µg/m³)[b]					500	1,000	NA	35	3,200	0.11	NA	2,200	0.094	0.31	0.16	NA	NA	NA	0.11	4	NA	0.14	0.61
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					25,000	50,000	NA	1,750	160,000	5.5	NA	110,000	4.7	15.5	8	NA	NA	NA	5.5	200	NA	7	30.5
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
NE-13	Indoor air																						
	PDB2	Basement	WK 4510	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4474	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-14	Indoor air																						
	PDB2	Skirting	WK 4195	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Trailer	WK 4218	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-15	Indoor air																						
	PDB2	Basement	WK 4632	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4662	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-16	Indoor air																						
	PDB2	Basement	WK 4818	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4695	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-17	Indoor air																						
	PDB2	Basement	WK 4445	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	WK 4560	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4651	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-18	Indoor air																						
	PDB2	Basement	WK 4536	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4422	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-19	Indoor air																						
	PDB2	Upstairs	WK 4755	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
NE-20	Indoor air																						
	PDB2	Dirt Dugout	WK 4683	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4857	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-1	Flux chamber	Basement	06-GF-SE-1-1	Apr-06	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**5.8**	<5.0	<5.5	**5.8**	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
			06-GF-SE-1-2	Apr-06	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.5	**6.5**	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	MST	Basement	104	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	<0.19	--	--	--	--
	MST	Upstairs	93	Feb-92	--	--	--	<0.20	--	--	--	--	--	--	--	--	--	--	**0.77**	--	--	--	--
	MST	Upstairs	102	Feb-92	--	--	--	<0.26	--	--	--	--	--	--	--	--	--	--	**0.68**	--	--	--	--
	Summa	Living Room	06-AS-SE-1L	Apr-06	--	--	--	< 0.16	--	--	--	--	--	--	--	--	--	--	**0.42**	--	--	--	--
	Summa	Basement	06-AS-SE-1B	Apr-06	--	--	--	<0.16	--	--	--	--	--	--	--	--	--	--	**0.51**	--	--	--	--
	Summa	Basement	06-AS-SE-1DUP	Apr-06	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**0.30**	--	--	--	--
SE-2	Soil gas	Subslab	06-SG-SE-2-1	Apr-06	<5.0	**6.1**	<5.0	<5.0	<5.0	<5.0	<5.0	**8.7**	<5.0	<5.0	<5.5	**23**	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	MST	Basement	058-N	Feb-92	--	--	--	**0.26**	--	--	--	--	--	--	--	--	--	--	**0.3**	--	--	--	--
	MST	Basement	14-N	Feb-92	--	--	--	**0.27**	--	--	--	--	--	--	--	--	--	--	**0.31**	--	--	--	--
	MST	Upstairs	082-N	Feb-92	--	--	--	**0.26**	--	--	--	--	--	--	--	--	--	--	**0.3**	--	--	--	--
	MST	Soil Gas	80-S	Mar-92	--	--	--	<0.76	--	--	--	--	--	--	--	--	--	--	**9.55**	--	--	--	--
	MST	Soil Gas	69-S	Mar-92	--	--	--	<5.56	--	--	--	--	--	--	--	--	--	--	<5.56	--	--	--	--
	MST	Basement	077-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	055-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-SE-2L	Apr-06	--	--	--	< 0.14	--	--	--	--	--	--	--	--	--	--	**0.15**	--	--	--	--
	Summa	Basement	06-AS-SE-2B	Apr-06	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	**0.15**	--	--	--	--
SE-3	Indoor air																						
	MST	Basement	66	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	**0.22**	--	--	--	--
	MST	Upstairs	52	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	<0.18	--	--	--	--
SE-4	Indoor air																						
	MST	Basement	015-N	Feb-92	--	--	--	<0.17	--	--	--	--	--	--	--	--	--	--	**<0.17**	--	--	--	--
	MST	Upstairs	58	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	**1.62**	--	--	--	--
	MST	Upstairs	094-N	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	**1.71**	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					4-methyl-2-pentanone	trans-1,3-dichloro-propene	toluene	1,1,2-trichloro-ethane	2-hexanone	dibromo-chloro-methane	tetrachloro-ethene	1,2-dibromoethane (EDB)	chloro-benzene	ethyl-benzene	m,p-xylene	styrene	o-xylene	bromoform	1,1,2,2-tetrachloro-ethane	4-ethyl-toluene	1,3,5-trimethyl-benzene	1,2,4-trimethyl-benzene	1,3-dichloro benzene
Target Indoor Air Screening Level (µg/m³)[b]					80	0.61	400	0.15	NA	0.10	0.81	0.011	60	2.2	7,000	1,000	7,000	2.2	0.042	NA	6	6	110
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					4,000	30.5	20,000	7.5	NA	5	40.5	0.55	3,000	110	350,000	50,000	350,000	110	2.1	NA	300	300	5,500
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
NE-13	Indoor air																						
	PDB2	Basement	WK 4510	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4474	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
NE-14	Indoor air																						
	PDB2	Skirting	WK 4195	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Trailer	WK 4218	Jan-93	--	--	--	--	--	--	**4.2**	--	--	--	--	--	--	--	--	--	--	--	--
NE-15	Indoor air																						
	PDB2	Basement	WK 4632	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4662	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
NE-16	Indoor air																						
	PDB2	Basement	WK 4818	Jan-93	--	--	--	--	--	--	**14**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4695	Jan-93	--	--	--	--	--	--	**19**	--	--	--	--	--	--	--	--	--	--	--	--
NE-17	Indoor air																						
	PDB2	Basement	WK 4445	Jan-93	--	--	--	--	--	--	**18.9**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	WK 4560	Jan-93	--	--	--	--	--	--	**20**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4651	Jan-93	--	--	--	--	--	--	**10**	--	--	--	--	--	--	--	--	--	--	--	--
NE-18	Indoor air																						
	PDB2	Basement	WK 4536	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4422	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
NE-19	Indoor air																						
	PDB2	Upstairs	WK 4755	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
NE-20	Indoor air																						
	PDB2	Dirt Dugout	WK 4683	Jan-93	--	--	--	--	--	--	**8.2**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4857	Jan-93	--	--	--	--	--	--	**8.7**	--	--	--	--	--	--	--	--	--	--	--	--
SE-1	Flux chamber	Basement	06-GF-SE-1-1	Apr-06	<5.0	<5.0	**6.5U**	<5.0	<5.0	<6.5	**15U**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	**5.7**	<10
			06-GF-SE-1-2	Apr-06	<5.0	<5.0	**8U**	<5.0	<5.0	<6.5	**15U**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	<5.0	<10
	Indoor air																						
	MST	Basement	104	Feb-92	--	--	--	--	--	--	**3.35**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	93	Feb-92	--	--	--	--	--	--	**27**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	102	Feb-92	--	--	--	--	--	--	**24.6**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-SE-1L	Apr-06	--	--	--	--	--	--	**0.27**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-SE-1B	Apr-06	--	--	--	--	--	--	**0.87**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-SE-1DUP	Apr-06	--	--	--	--	--	--	**0.70**	--	--	--	--	--	--	--	--	--	--	--	--
SE-2	Soil gas	Subslab	06-SG-SE-2-1	Apr-06	<5.0	<5.0	**15**	<5.0	<5.0	<6.5	**26**	<5.0	<5.0	<5.0	<7.9	<5.5	<7.1	<5.0	<6.0	<5.0	<5.0	**5**	<10
	Indoor air																						
	MST	Basement	058-N	Feb-92	--	--	--	--	--	--	**6.31**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	14-N	Feb-92	--	--	--	--	--	--	**6.87**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	082-N	Feb-92	--	--	--	--	--	--	**5.47**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	80-S	Mar-92	--	--	--	--	--	--	**9.09**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	69-S	Mar-92	--	--	--	--	--	--	**5.56**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	077-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	055-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-SE-2L	Apr-06	--	--	--	--	--	--	**1.7**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-SE-2B	Apr-06	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--	--	--	--	--	--
SE-3	Indoor air																						
	MST	Basement	66	Feb-92	--	--	--	--	--	--	**1.39**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	52	Feb-92	--	--	--	--	--	--	**1.43**	--	--	--	--	--	--	--	--	--	--	--	--
SE-4	Indoor air																						
	MST	Basement	015-N	Feb-92	--	--	--	--	--	--	**2.19**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	58	Feb-92	--	--	--	--	--	--	**3.84**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	094-N	Feb-92	--	--	--	--	--	--	**5.2**	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)					Other Chemicals (µg/m3 or as noted)[i]		
					benzyl chloride	1,4-dichloro-benzene	1,2-dichloro-benzene	1,2,4-trichloro-benzene	hexachloro-butadiene	1,1,2,2-tetrachloro-ethene	1,2-dichloro-ethene	Total Hydrocarbons (ppmv)
Target Indoor Air Screening Level (µg/m³)[b]					0.05	800	200	200	0.11	NA	NA	NA
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					2.5	40,000	10,000	10,000	5.5	NA	NA	NA
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**								
NE-13	Indoor air											
	PDB2	Basement	WK 4510	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4474	Jan-93	--	--	--	--	--	--	--	--
NE-14	Indoor air											
	PDB2	Skirting	WK 4195	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Trailer	WK 4218	Jan-93	--	--	--	--	--	--	--	--
NE-15	Indoor air											
	PDB2	Basement	WK 4632	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4662	Jan-93	--	--	--	--	--	--	--	--
NE-16	Indoor air											
	PDB2	Basement	WK 4818	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4695	Jan-93	--	--	--	--	--	--	--	--
NE-17	Indoor air											
	PDB2	Basement	WK 4445	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Basement	WK 4560	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4651	Jan-93	--	--	--	--	--	--	--	--
NE-18	Indoor air											
	PDB2	Basement	WK 4536	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4422	Jan-93	--	--	--	--	--	--	--	--
NE-19	Indoor air											
	PDB2	Upstairs	WK 4755	Jan-93	--	--	--	--	--	--	--	--
NE-20	Indoor air											
	PDB2	Dirt Dugout	WK 4683	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4857	Jan-93	--	--	--	--	--	--	--	--
SE-1	Flux chamber	Basement	06-GF-SE-1-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-GF-SE-1-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	MST	Basement	104	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	93	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	102	Feb-92	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-SE-1L	Apr-06	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-SE-1B	Apr-06	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-SE-1DUP	Apr-06	--	--	--	--	--	--	--	--
SE-2	Soil gas	Subslab	06-SG-SE-2-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	MST	Basement	058-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Basement	14-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	082-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Soil Gas	80-S	Mar-92	--	--	--	--	--	--	--	--
	MST	Soil Gas	69-S	Mar-92	--	--	--	--	--	--	--	--
	MST	Basement	077-V	Mar-92	--	--	--	--	--	--	--	--
	MST	Basement	055-V	Mar-92	--	--	--	--	--	--	--	--
	Summa	Living Room	06-AS-SE-2L	Apr-06	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-SE-2B	Apr-06	--	--	--	--	--	--	--	--
SE-3	Indoor air											
	MST	Basement	66	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	52	Feb-92	--	--	--	--	--	--	--	--
SE-4	Indoor air											
	MST	Basement	015-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	58	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	094-N	Feb-92	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m³)[a]																		
					propene	dichloro-difluoro-methane	chloro-methane	dichloro-tetrafluoro-ethane	vinyl chloride	1,3-butadiene	bromo-methane	chloro-ethane	bromo-ethene	trichloro-fluoro-methane	acetone	1,1-dichloro-ethene	1,1,2-trichloro-trifluoro-ethane	allyl chloride	methylene chloride	carbon disulfide	trans-1,2-dichloro-ethene	methyl tert-butyl ether	vinyl acetate
Target Indoor Air Screening Level (µg/m³)[b]					NA[c]	200	2.4	NA	0.48	0.0087	NA	10,000	5.0	700	350	200	3,000	NA	5.2	700	70	3,000	200
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					NA	10,000	120	NA	24	0.435	NA	500,000	250	35,000	17,500	10,000	150,000	NA	260	35,000	3,500	150,000	10,000
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
SE-5	Flux chamber	Basement	06-GF-SE-5-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**39**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-GF-SE-5-2	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**160**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	MST	Basement	001-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.16	--	--
	MST	Basement	30-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.23	--	--
	MST	Upstairs	117-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.23	--	--
	MST	Soil Gas	048-V	Mar-92	--	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	11	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.7	--	--
	PDB2	Basement	2690	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	7	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.8	--	--
	PDB2	Upstairs	5221	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	89	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<1.8	--	--
	PDB4	Upstairs	5061	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	2720	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	WK 4682	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	WK 4847	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	WK 4694	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Downstairs	05-AS-SE-5L	Dec-05	--	--	--	--	<0.047												<0.72	--	--
SE-6	Indoor air																						
	MST	Basement	47	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
	MST	Upstairs	26	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
SE-7	Indoor air																						
	MST	Basement	19	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
	MST	Upstairs	14	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.24	--	--
SE-8	Indoor air																						
	MST	Living Room	CTL-1	Nov-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	35	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.22	--	--
	MST	Outdoor	96	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.17	--	--
	MST	Upstairs	61	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Upstairs	67	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.31	--	--
	MST	Basement	112-V	Mar-92	--	--	--	--	<0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-9	Indoor air																						
	MST	Dining Room	TL-1	Nov-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	079-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.15	--	--
	MST	Upstairs	038-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
SE-10	Indoor air																						
	PDB2	Basement	WK 4828	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4833	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-11	Indoor air																						
	PDB2	Basement	WK 4181	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4245	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-12	Indoor air																						
	PDB2	Basement	WD 5847	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 5991	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-14	Indoor air																						
	PDB2	Basement	WK 4423	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4573	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-15	Indoor air																						
	PDB2	Basement	WD 6111	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Split Level-up	WD 6221	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-16	Indoor air																						
	PDB2	Upstairs	WK 4750	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					1,1-dichloro-ethane	2-butanone	n-hexane	cis-1.2-dichloro-ethene	ethyl acetate	chloroform	tetrahydro-furan	1,1,1-trichloro-ethane	1,2-dichloro-ethane	benzene	carbon tetrachloride	cyclohexane	2,2,4-trimethyl-pentane	n-heptane	trichloroethene	1,2-dichloro-propane	1,4-dioxane	bromo-dichloro-methane	cis-1,3-dichloro-propene
Target Indoor Air Screening Level (µg/m³)[b]					500	1,000	NA	35	3,200	0.11	NA	2,200	0.094	0.31	0.16	NA	NA	NA	0.11	4	NA	0.14	0.61
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					25,000	50,000	NA	1,750	160,000	5.5	NA	110,000	4.7	15.5	8	NA	NA	NA	5.5	200	NA	7	30.5
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
SE-5	Flux chamber	Basement	06-GF-SE-5-1	Apr-06	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
			06-GF-SE-5-2	Apr-06	<5.0	**28**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**8.6**	<5.0	<5.5	**5.4**	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	MST	Basement	001-N	Feb-92	--	--	--	<0.16	--	--	--	--	--	--	--	--	--	--	**2.35**	--	--	--	--
	MST	Basement	30-N	Feb-92	--	--	--	<0.23	--	--	--	--	--	--	--	--	--	--	**1.45**	--	--	--	--
	MST	Upstairs	117-N	Feb-92	--	--	--	<0.23	--	--	--	--	--	--	--	--	--	--	**0.9**	--	--	--	--
	MST	Soil Gas	048-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	11	Nov-92	--	--	--	<1.7	--	--	--	--	--	--	--	--	--	--	<1.7	--	--	--	--
	PDB2	Basement	2690	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	7	Nov-92	--	--	--	<1.8	--	--	--	--	--	--	--	--	--	--	<1.8	--	--	--	--
	PDB2	Upstairs	5221	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	89	Nov-92	--	--	--	<1.8	--	--	--	--	--	--	--	--	--	--	<1.8	--	--	--	--
	PDB4	Upstairs	5061	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	2720	Nov-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	WK 4682	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	WK 4847	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	WK 4694	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Downstairs	05-AS-SE-5L	Dec-05	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**0.27**	--	--	--	--
SE-6	Indoor air																						
	MST	Basement	47	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	**0.22**	--	--	--	--
	MST	Upstairs	26	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	**0.22**	--	--	--	--
SE-7	Indoor air																						
	MST	Basement	19	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	**0.21**	--	--	--	--
	MST	Upstairs	14	Feb-92	--	--	--	<0.24	--	--	--	--	--	--	--	--	--	--	<0.24	--	--	--	--
SE-8	Indoor air																						
	MST	Living Room	CTL-1	Nov-89	--	--	--	--	--	--	--	<200	--	--	--	--	--	--	<200	--	--	--	--
	MST	Basement	35	Feb-92	--	--	--	< 0.22	--	--	--	--	--	--	--	--	--	--	**0.29**	--	--	--	--
	MST	Outdoor	96	Feb-92	--	--	--	<0.17	--	--	--	--	--	--	--	--	--	--	<0.17	--	--	--	--
	MST	Upstairs	61	Feb-92	--	--	--	< 0.23	--	--	--	--	--	--	--	--	--	--	**0.49**	--	--	--	--
	MST	Upstairs	67	Feb-92	--	--	--	<0.31	--	--	--	--	--	--	--	--	--	--	**0.49**	--	--	--	--
	MST	Basement	112-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-9	Indoor air																						
	MST	Dining Room	TL-1	Nov-89	--	--	--	--	--	--	--	<290	--	--	--	--	--	--	<290	--	--	--	--
	MST	Basement	079-N	Feb-92	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	**0.15**	--	--	--	--
	MST	Upstairs	038-N	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	<0.18	--	--	--	--
SE-10	Indoor air																						
	PDB2	Basement	WK 4828	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4833	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-11	Indoor air																						
	PDB2	Basement	WK 4181	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4245	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-12	Indoor air																						
	PDB2	Basement	WD 5847	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 5991	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-14	Indoor air																						
	PDB2	Basement	WK 4423	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4573	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-15	Indoor air																						
	PDB2	Basement	WD 6111	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Split Level-up	WD 6221	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-16	Indoor air																						
	PDB2	Upstairs	WK 4750	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					4-methyl-2-pentanone	trans-1,3-dichloro-propene	toluene	1,1,2-trichloro-ethane	2-hexanone	dibromo-chloro-methane	tetrachloro-ethene	1,2-dibromoethane (EDB)	chloro-benzene	ethyl-benzene	m,p-xylene	styrene	o-xylene	bromoform	1,1,2,2-tetrachloro-ethane	4-ethyl-toluene	1,3,5-trimethyl-benzene	1,2,4-trimethyl-benzene	1,3-dichloro benzene
Target Indoor Air Screening Level (µg/m³)[b]					80	0.61	400	0.15	NA	0.10	0.81	0.011	60	2.2	7,000	1,000	7,000	2.2	0.042	NA	6	6	110
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					4,000	30.5	20,000	7.5	NA	5	40.5	0.55	3,000	110	350,000	50,000	350,000	110	2.1	NA	300	300	5,500
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
SE-5	Flux chamber	Basement	06-GF-SE-5-1	Apr-06	<5.0	<5.0	**6.6**	<5.0	<5.0	<6.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	<5.0	<10
			06-GF-SE-5-2	Apr-06	<5.0	<5.0	**12**	<5.0	<5.0	<6.5	**31**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	**5.4**	<10
	Indoor air																						
	MST	Basement	001-N	Feb-92	--	--	--	--	--	--	**43.2**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	30-N	Feb-92	--	--	--	--	--	--	**51.4**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	117-N	Feb-92	--	--	--	--	--	--	**11.3**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	048-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	11	Nov-92	--	--	--	--	--	--	**29.2**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	2690	Nov-92	--	--	--	--	--	--	**49**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	7	Nov-92	--	--	--	--	--	--	**8.9**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	5221	Nov-92	--	--	--	--	--	--	**18**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	89	Nov-92	--	--	--	--	--	--	**9.1**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	5061	Nov-92	--	--	--	--	--	--	**27**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	2720	Nov-92	--	--	--	--	--	--	**59**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Basement	WK 4682	Jan-93	--	--	--	--	--	--	**5.2**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	WK 4847	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB4	Upstairs	WK 4694	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Downstairs	05-AS-SE-5L	Dec-05	--	--	--	--	--	--	**0.42**	--	--	--	--	--	--	--	--	--	--	--	
SE-6	Indoor air																						
	MST	Basement	47	Feb-92	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	26	Feb-92	--	--	--	--	--	--	**1.63**	--	--	--	--	--	--	--	--	--	--	--	--
SE-7	Indoor air																						
	MST	Basement	19	Feb-92	--	--	--	--	--	--	**1.1**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	14	Feb-92	--	--	--	--	--	--	**1.23**	--	--	--	--	--	--	--	--	--	--	--	--
SE-8	Indoor air																						
	MST	Living Room	CTL-1	Nov-89	--	--	--	--	--	--	<200	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	35	Feb-92	--	--	--	--	--	--	**1.83**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Outdoor	96	Feb-92	--	--	--	--	--	--	**1.55**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	61	Feb-92	--	--	--	--	--	--	**1.02**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	67	Feb-92	--	--	--	--	--	--	**0.9**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	112-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-9	Indoor air																						
	MST	Dining Room	TL-1	Nov-89	--	--	--	--	--	--	<290	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	079-N	Feb-92	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	038-N	Feb-92	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	--	--	--	--	--
SE-10	Indoor air																						
	PDB2	Basement	WK 4828	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4833	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-11	Indoor air																						
	PDB2	Basement	WK 4181	Jan-93	--	--	--	--	--	--	<4.5	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4245	Jan-93	--	--	--	--	--	--	<4.5	--	--	--	--	--	--	--	--	--	--	--	--
SE-12	Indoor air																						
	PDB2	Basement	WD 5847	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 5991	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-14	Indoor air																						
	PDB2	Basement	WK 4423	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4573	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-15	Indoor air																						
	PDB2	Basement	WD 6111	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Split Level-up	WD 6221	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-16	Indoor air																						
	PDB2	Upstairs	WK 4750	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)					Other Chemicals (µg/m3 or as noted)[i]		
					benzyl chloride	1,4-dichloro-benzene	1,2-dichloro-benzene	1,2,4-trichloro-benzene	hexachloro-butadiene	1,1,2,2-tetrachloro-ethene	1,2-dichloro-ethene	Total Hydrocarbons (ppmv)
Target Indoor Air Screening Level (µg/m³)[b]					0.05	800	200	200	0.11	NA	NA	NA
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					2.5	40,000	10,000	10,000	5.5	NA	NA	NA
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**								
SE-5	Flux chamber	Basement	06-GF-SE-5-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-GF-SE-5-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	MST	Basement	001-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Basement	30-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	117-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Soil Gas	048-V	Mar-92	--	--	--	--	--	--	--	--
	MST	Basement	11	Nov-92	--	--	--	--	--	--	--	--
	PDB2	Basement	2690	Nov-92	--	--	--	--	--	--	--	--
	MST	Upstairs	7	Nov-92	--	--	--	--	--	--	--	--
	PDB2	Upstairs	5221	Nov-92	--	--	--	--	--	--	--	--
	MST	Upstairs	89	Nov-92	--	--	--	--	--	--	--	--
	PDB4	Upstairs	5061	Nov-92	--	--	--	--	--	--	--	--
	PDB4	Basement	2720	Nov-92	--	--	--	--	--	--	--	--
	PDB4	Basement	WK 4682	Jan-93	--	--	--	--	--	--	--	--
	PDB4	Upstairs	WK 4847	Jan-93	--	--	--	--	--	--	--	--
	PDB4	Upstairs	WK 4694	Jan-93	--	--	--	--	--	--	--	--
	Summa	Downstairs	05-AS-SE-5L	Dec-05						--	--	--
SE-6	Indoor air											
	MST	Basement	47	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	26	Feb-92	--	--	--	--	--	--	--	--
SE-7	Indoor air											
	MST	Basement	19	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	14	Feb-92	--	--	--	--	--	--	--	--
SE-8	Indoor air											
	MST	Living Room	CTL-1	Nov-89	--	--	--	--	--	--	--	--
	MST	Basement	35	Feb-92	--	--	--	--	--	--	--	--
	MST	Outdoor	96	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	61	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	67	Feb-92	--	--	--	--	--	--	--	--
	MST	Basement	112-V	Mar-92	--	--	--	--	--	--	--	--
SE-9	Indoor air											
	MST	Dining Room	TL-1	Nov-89	--	--	--	--	--	--	--	--
	MST	Basement	079-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	038-N	Feb-92	--	--	--	--	--	--	--	--
SE-10	Indoor air											
	PDB2	Basement	WK 4828	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4833	Jan-93	--	--	--	--	--	--	--	--
SE-11	Indoor air											
	PDB2	Basement	WK 4181	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4245	Jan-93	--	--	--	--	--	--	--	--
SE-12	Indoor air											
	PDB2	Basement	WD 5847	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 5991	Jan-93	--	--	--	--	--	--	--	--
SE-14	Indoor air											
	PDB2	Basement	WK 4423	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4573	Jan-93	--	--	--	--	--	--	--	--
SE-15	Indoor air											
	PDB2	Basement	WD 6111	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Split Level-up	WD 6221	Jan-93	--	--	--	--	--	--	--	--
SE-16	Indoor air											
	PDB2	Upstairs	WK 4750	Jan-93	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m³)[a]																		
					propene	dichloro-difluoro-methane	chloro-methane	dichloro-tetrafluoro-ethane	vinyl chloride	1,3-butadiene	bromo-methane	chloro-ethane	bromo-ethene	trichloro-fluoro-methane	acetone	1,1-dichloro-ethene	1,1,2-trichloro-trifluoro-ethane	allyl chloride	methylene chloride	carbon disulfide	trans-1,2-dichloro-ethene	methyl tert-butyl ether	vinyl acetate
Target Indoor Air Screening Level (µg/m³)[b]					NA[c]	200	2.4	NA	0.48	0.0087	NA	10,000	5.0	700	350	200	3,000	NA	5.2	700	70	3,000	200
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					NA	10,000	120	NA	24	0.435	NA	500,000	250	35,000	17,500	10,000	150,000	NA	260	35,000	3,500	150,000	10,000
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
SE-17	Indoor air																						
	PDB2	Crawlspace	WK 4878	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4649	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4450	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-18	Indoor air																						
	PDB2	Crawlspace	WD 6203	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 5757	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-19	Indoor air																						
	PDB2	Crawlspace	WK 4589	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4671	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-20	Indoor air																						
	PDB2	Upstairs	WK 4827	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-21	Indoor air																						
	PDB2	Upstairs	WD 6092	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-22	Indoor air																						
	PDB2	Trailer	WK 4438	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-23	Indoor air																						
	PDB2	Upstairs	WK 4168	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-24	Indoor air																						
	PDB2	Crawlspace	WK 4593	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4600	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-25	Indoor air																						
	MST	Unknown	WQL-1	Nov-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4635	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-26	Indoor air																						
	IRM	Crawlspace	Unknown	Aug-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	WR-1	Oct-89	--	--	--	--	<1.0	--	--	--	--	--	--	--	--	--	--	--	<1.0	--	--
	PDB2	Crawlspace	WK 4303	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4242	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-27	Indoor air																						
	MST	Basement	140103-A-02	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	140103-A-03	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Crawlspace	140103-A-01	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Downstairs	140103-A-06	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Downstairs	140103-A-08	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Steel Well	140103-A-05	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	140103-A-04	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	140103-A-07	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	WK 4766	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	WK 4448	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4456	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					1,1-dichloro-ethane	2-butanone	n-hexane	cis-1.2-dichloro-ethene	ethyl acetate	chloroform	tetrahydro-furan	1,1,1-trichloro-ethane	1,2-dichloro-ethane	benzene	carbon tetrachloride	cyclohexane	2,2,4-trimethyl-pentane	n-heptane	trichloroethene	1,2-dichloro-propane	1,4-dioxane	bromo-dichloro-methane	cis-1,3-dichloro-propene
Target Indoor Air Screening Level (µg/m³)[b]					500	1,000	NA	35	3,200	0.11	NA	2,200	0.094	0.31	0.16	NA	NA	NA	0.11	4	NA	0.14	0.61
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					25,000	50,000	NA	1,750	160,000	5.5	NA	110,000	4.7	15.5	8	NA	NA	NA	5.5	200	NA	7	30.5
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
SE-17	Indoor air																						
	PDB2	Crawlspace	WK 4878	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Upstairs	WK 4649	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Upstairs	WK 4450	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-18	Indoor air																						
	PDB2	Crawlspace	WD 6203	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Upstairs	WD 5757	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-19	Indoor air																						
	PDB2	Crawlspace	WK 4589	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Upstairs	WK 4671	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-20	Indoor air																						
	PDB2	Upstairs	WK 4827	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-21	Indoor air																						
	PDB2	Upstairs	WD 6092	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-22	Indoor air																						
	PDB2	Trailer	WK 4438	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-23	Indoor air																						
	PDB2	Upstairs	WK 4168	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-24	Indoor air																						
	PDB2	Crawlspace	WK 4593	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Upstairs	WK 4600	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-25	Indoor air																						
	MST	Unknown	WQL-1	Nov-89	--	--	--	--	--	--	--	<270	--	--	--	--	--	--	<270	--	--	--	--
	PDB2	Upstairs	WK 4635	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-26	Indoor air																						
	IRM	Crawlspace	Unknown	Aug-89	--	--	--	--	--	--	--	**16,350**	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	WR-1	Oct-89	--	--	--	<1.0	--	--	--	**3**	--	--	--	--	--	--	<1.0	--	--	--	--
	PDB2	Crawlspace	WK 4303	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Upstairs	WK 4242	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-27	Indoor air																						
	MST	Basement	140103-A-02	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**570**	--	--	--	--
	MST	Basement	140103-A-03	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<86	--	--	--	--
	MST	Crawlspace	140103-A-01	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**73**	--	--	--	--
	MST	Downstairs	140103-A-06	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<69	--	--	--	--
	MST	Downstairs	140103-A-08	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<67	--	--	--	--
	MST	Steel Well	140103-A-05	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<330	--	--	--	--
	MST	Upstairs	140103-A-04	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<87	--	--	--	--
	MST	Upstairs	140103-A-07	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<77	--	--	--	--
	PDB2	Basement	WK 4766	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Basement	WK 4448	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Upstairs	WK 4456	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					4-methyl-2-pentanone	trans-1,3-dichloro-propene	toluene	1,1,2-trichloro-ethane	2-hexanone	dibromo-chloro-methane	tetrachloro-ethene	1,2-dibromoethane (EDB)	chloro-benzene	ethyl-benzene	m,p-xylene	styrene	o-xylene	bromoform	1,1,2,2-tetrachloro-ethane	4-ethyl-toluene	1,3,5-trimethyl-benzene	1,2,4-trimethyl-benzene	1,3-dichloro benzene
Target Indoor Air Screening Level (µg/m³)[b]					80	0.61	400	0.15	NA	0.10	0.81	0.011	60	2.2	7,000	1,000	7,000	2.2	0.042	NA	6	6	110
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					4,000	30.5	20,000	7.5	NA	5	40.5	0.55	3,000	110	350,000	50,000	350,000	110	2.1	NA	300	300	5,500
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
SE-17	Indoor air																						
	PDB2	Crawlspace	WK 4878	Jan-93	--	--	--	--	--	--	**5.0**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4649	Jan-93	--	--	--	--	--	--	**4.5**	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4450	Jan-93	--	--	--	--	--	--	**4.5**	--	--	--	--	--	--	--	--	--	--	--	--
SE-18	Indoor air																						
	PDB2	Crawlspace	WD 6203	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 5757	Jan-93	--	--	--	--	--	--	**15.7**	--	--	--	--	--	--	--	--	--	--	--	--
SE-19	Indoor air																						
	PDB2	Crawlspace	WK 4589	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4671	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-20	Indoor air																						
	PDB2	Upstairs	WK 4827	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-21	Indoor air																						
	PDB2	Upstairs	WD 6092	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-22	Indoor air																						
	PDB2	Trailer	WK 4438	Jan-93	--	--	--	--	--	--	<4.5	--	--	--	--	--	--	--	--	--	--	--	--
SE-23	Indoor air																						
	PDB2	Upstairs	WK 4168	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-24	Indoor air																						
	PDB2	Crawlspace	WK 4593	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4600	Jan-93	--	--	--	--	--	--	**6.8**	--	--	--	--	--	--	--	--	--	--	--	--
SE-25	Indoor air																						
	MST	Unknown	WQL-1	Nov-89	--	--	--	--	--	--	<270	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4635	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-26	Indoor air																						
	IRM	Crawlspace	Unknown	Aug-89	--	--	**41,470**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	WR-1	Oct-89	--	--	<1.0	--	--	--	<1.0	--	--	<1.0	<1.0	--	--	--	--	--	--	--	--
	PDB2	Crawlspace	WK 4303	Jan-93	--	--	--	--	--	--	<4.5	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4242	Jan-93	--	--	--	--	--	--	<4.5	--	--	--	--	--	--	--	--	--	--	--	--
SE-27	Indoor air																						
	MST	Basement	140103-A-02	Nov-90	--	--	<25	--	--	--	<50	--	--	**50**	**140**	--	--	--	--	--	--	--	--
	MST	Basement	140103-A-03	Nov-90	--	--	<43	--	--	--	<86	--	--	<43	<110	--	--	--	--	--	--	--	--
	MST	Crawlspace	140103-A-01	Nov-90	--	--	<29	--	--	--	<58	--	--	<29	<73	--	--	--	--	--	--	--	--
	MST	Downstairs	140103-A-06	Nov-90	--	--	<34	--	--	--	<69	--	--	<34	<86	--	--	--	--	--	--	--	--
	MST	Downstairs	140103-A-08	Nov-90	--	--	<34	--	--	--	<67	--	--	<34	<84	--	--	--	--	--	--	--	--
	MST	Steel Well	140103-A-05	Nov-90	--	--	<170	--	--	--	<330	--	--	<170	<420	--	--	--	--	--	--	--	--
	MST	Upstairs	140103-A-04	Nov-90	--	--	<43	--	--	--	<87	--	--	<43	<110	--	--	--	--	--	--	--	--
	MST	Upstairs	140103-A-07	Nov-90	--	--	<39	--	--	--	<77	--	--	<39	<96	--	--	--	--	--	--	--	--
	PDB2	Basement	WK 4766	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Basement	WK 4448	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4456	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m^3)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)					Other Chemicals (µg/m3 or as noted)[i]		
					benzyl chloride	1,4-dichloro-benzene	1,2-dichloro-benzene	1,2,4-trichloro-benzene	hexachloro-butadiene	1,1,2,2-tetrachloro-ethene	1,2-dichloro-ethene	Total Hydrocarbons (ppmv)
Target Indoor Air Screening Level (µg/m^3)[b]					0.05	800	200	200	0.11	NA	NA	NA
Target Shallow Gas Screening Level (µg/m^3) with attenuation factor = 0.02					2.5	40,000	10,000	10,000	5.5	NA	NA	NA
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**								
SE-17	Indoor air											
	PDB2	Crawlspace	WK 4878	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4649	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4450	Jan-93	--	--	--	--	--	--	--	--
SE-18	Indoor air											
	PDB2	Crawlspace	WD 6203	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WD 5757	Jan-93	--	--	--	--	--	--	--	--
SE-19	Indoor air											
	PDB2	Crawlspace	WK 4589	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4671	Jan-93	--	--	--	--	--	--	--	--
SE-20	Indoor air											
	PDB2	Upstairs	WK 4827	Jan-93	--	--	--	--	--	--	--	--
SE-21	Indoor air											
	PDB2	Upstairs	WD 6092	Jan-93	--	--	--	--	--	--	--	--
SE-22	Indoor air											
	PDB2	Trailer	WK 4438	Jan-93	--	--	--	--	--	--	--	--
SE-23	Indoor air											
	PDB2	Upstairs	WK 4168	Jan-93	--	--	--	--	--	--	--	--
SE-24	Indoor air											
	PDB2	Crawlspace	WK 4593	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4600	Jan-93	--	--	--	--	--	--	--	--
SE-25	Indoor air											
	MST	Unknown	WQL-1	Nov-89	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4635	Jan-93	--	--	--	--	--	--	--	--
SE-26	Indoor air											
	IRM	Crawlspace	Unknown	Aug-89	--	--	--	--	--	--	--	**17**
	MST	Unknown	WR-1	Oct-89	--	--	--	--	--	<1.0	<1.0	--
	PDB2	Crawlspace	WK 4303	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4242	Jan-93	--	--	--	--	--	--	--	--
SE-27	Indoor air											
	MST	Basement	140103-A-02	Nov-90	--	--	--	--	--	**71**	<76	--
	MST	Basement	140103-A-03	Nov-90	--	--	--	--	--	<73	<130	--
	MST	Crawlspace	140103-A-01	Nov-90	--	--	--	--	--	<73	<87	--
	MST	Downstairs	140103-A-06	Nov-90	--	--	--	--	--	<94	<100	--
	MST	Downstairs	140103-A-08	Nov-90	--	--	--	--	--	<84	<100	--
	MST	Steel Well	140103-A-05	Nov-90	--	--	--	--	--	<417	<500	--
	MST	Upstairs	140103-A-04	Nov-90	--	--	--	--	--	<110	<130	--
	MST	Upstairs	140103-A-07	Nov-90	--	--	--	--	--	<96	<120	--
	PDB2	Basement	WK 4766	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Basement	WK 4448	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4456	Jan-93	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m³)[a]																		
					propene	dichloro-difluoro-methane	chloro-methane	dichloro-tetrafluoro-ethane	vinyl chloride	1,3-butadiene	bromo-methane	chloro-ethane	bromo-ethene	trichloro-fluoro-methane	acetone	1,1-dichloro-ethene	1,1,2-trichloro-trifluoro-ethane	allyl chloride	methylene chloride	carbon disulfide	trans-1,2-dichloro-ethene	methyl tert-butyl ether	vinyl acetate
Target Indoor Air Screening Level (µg/m³)[b]					NA[c]	200	2.4	NA	0.48	0.0087	NA	10,000	5.0	700	350	200	3,000	NA	5.2	700	70	3,000	200
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					NA	10,000	120	NA	24	0.435	NA	500,000	250	35,000	17,500	10,000	150,000	NA	260	35,000	3,500	150,000	10,000
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
SE-28	Indoor air																						
	PDB2	Crawlspace	WK 4831	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4688	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-29	Indoor air																						
	PDB2	Trailer	WK 4606	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Trailer	WK 4530	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
U-1	Indoor air																						
	MST	Upstairs	126-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Basement	37-S	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.15	--	--
U-2	Indoor air																						
	PDB2	Basement	WK 4641	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4721	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Indoor air																						
	Summa	Main Living Area	05-AS-23L	Dec-05	< 0.057	--	--	--	< 0.057	--	--	--	--	--	--	--	--	--	--	--	<0.88	--	--
	Summa	Main Lving Area	D1-AS-12-14-05	Dec-05	< 0.046	--	--	--	< 0.046	--	--	--	--	--	--	--	--	--	--	--	<0.71	--	--
43	Indoor air																						
	Summa	Rec. Room	05-AS-43L	Dec-05	< 0.053	--	--	--	< 0.053	--	--	--	--	--	--	--	--	--	--	--	<0.82	--	--
78	Soil gas	Subslab	06-SG-78-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**240**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-SG-78-2	Apr-06	**240**	<5.5	<5.0	<5.5	<5.0	**18**	<5.0	<5.0	<5.0	<5.0	**7000E**	<5.0	**7.1**	<5.0	<5.0	**20**	<5.0	<5.0	<5.0
			D1-SG-04-06-06 (DUP of 78-2)	Apr-06	**180**	<5.5	<5.0	<5.5	<5.0	**12**	<5.0	<5.0	<5.0	<5.0	**4400E**	<5.0	**7.7**	<5.0	<5.0	**12**	<5.0	<5.0	<5.0
	Indoor air																						
	Summa	Lab Area	05-AS-78L	Dec-05	--	--	--	--	< 0.048	--	--	--	--	--	--	--	--	--	--	--	<0.74	--	--
	Summa	Basement	05-AS-78B	Dec-05	--	--	--	--	<0.049	--	--	--	--	--	--	--	--	--	--	--	<0.76	--	--
80-5	Indoor air																						
	Summa	Living Room	05-AS-80-5L	Dec-05	<0.049	--	--	--	<0.049	--	--	--	--	--	--	--	--	--	--	--	<0.76	--	--
89-1	Indoor air																						
	MST	Living Room	CL-1	Nov-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
89-2	Indoor air																						
	IRM	Basement	Unknown	Aug-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	JR-1	Oct-89	--	--	--	--	<0.8	--	--	--	--	--	--	--	--	--	--	--	<6.0	--	--
	MST	Basement	JL-3	Nov-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Child's Room	JL-2	Nov-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
90-1	Indoor air																						
	MST	Basement	140103-A-10	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
89-3	Indoor air																						
	IRM	Basement	Unknown	Aug-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	PR-2	Oct-89	--	--	--	--	<0.6	--	--	--	--	--	--	--	--	--	--	--	<0.6	--	--
	MST	Unknown	PR-1	Oct-89	--	--	--	--	<0.8	--	--	--	--	--	--	--	--	--	--	--	<0.8	--	--
	MST	Basement	PR-4	Nov-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Living Room	PR-3	Nov-89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
99	Soil gas	Subslab	06-SG-99-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<20.0	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	Summa	Living Room	05-AS-99L	Dec-05	--	--	--	--	<0.047	--	--	--	--	--	--	--	--	--	--	--	<0.72	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					1,1-dichloro-ethane	2-butanone	n-hexane	cis-1.2-dichloro-ethene	ethyl acetate	chloroform	tetrahydro-furan	1,1,1-trichloro-ethane	1,2-dichloro-ethane	benzene	carbon tetrachloride	cyclohexane	2,2,4-trimethyl-pentane	n-heptane	trichloroethene	1,2-dichloro-propane	1,4-dioxane	bromo-dichloro-methane	cis-1,3-dichloro-propene
Target Indoor Air Screening Level (µg/m³)[b]					500	1,000	NA	35	3,200	0.11	NA	2,200	0.094	0.31	0.16	NA	NA	NA	0.11	4	NA	0.14	0.61
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					25,000	50,000	NA	1,750	160,000	5.5	NA	110,000	4.7	15.5	8	NA	NA	NA	5.5	200	NA	7	30.5
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
SE-28	Indoor air																						
	PDB2	Crawlspace	WK 4831	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Upstairs	WK 4688	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SE-29	Indoor air																						
	PDB2	Trailer	WK 4606	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Trailer	WK 4530	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
U-1	Indoor air																						
	MST	Upstairs	126-N	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	**0.30**	--	--	--	--
	MST	Basement	37-S	Mar-92	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	<0.15	--	--	--	--
U-2	Indoor air																						
	PDB2	Basement	WK 4641	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**--**	--	--	--	--
	PDB2	Upstairs	WK 4721	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
23	Indoor air																						
	Summa	Main Living Area	05-AS-23L	Dec-05	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	**0.072**	--	--	--	--
	Summa	Main Lving Area	D1-AS-12-14-05	Dec-05	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**0.077**	--	--	--	--
43	Indoor air																						
	Summa	Rec. Room	05-AS-43L	Dec-05	--	--	--	<0.16	--	--	--	--	--	--	--	--	--	--	<0.033	--	--	--	--
78	Soil gas	Subslab	06-SG-78-1	Apr-06	<5.0	**13**	<5.0	<5.0	<5.0	**14**	<5.0	<5.0	**8.8**	<5.0	<5.5	**27**	<5.0	<5.0	**95**	<5.0	<5.5	<5.0	<5.0
			06-SG-78-2	Apr-06	<5.0	**330**	**370**	<5.0	<5.0	<5.0	**33**	<5.0	**11**	**74**	<5.5	**58**	<5.0	**250**	<5.0	<5.0	<5.5	<5.0	<5.0
			D1-SG-04-06-06 (DUP of 78-2)	Apr-06	<5.0	**210**	**260**	<5.0	<5.0	<5.0	**21**	<5.0	**6.7**	**46**	<5.5	**34**	<5.0	**180**	<5.0	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	Summa	Lab Area	05-AS-78L	Dec-05	--	--	--	< 0.15	--	--	--	--	--	--	--	--	--	--	< 0.030	--	--	--	--
	Summa	Basement	05-AS-78B	Dec-05	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	<0.031	--	--	--	--
80-5	Indoor air																						
	Summa	Living Room	05-AS-80-5L	Dec-05	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	**0.075**	--	--	--	--
89-1	Indoor air																						
	MST	Living Room	CL-1	Nov-89	--	--	--	--	--	--	--	<250	--	--	--	--	--	--	<250	--	--	--	--
89-2	Indoor air																						
	IRM	Basement	Unknown	Aug-89	--	--	--	--	--	--	--	**10900**	--	--	--	--	--	--	<540	--	--	--	--
	MST	Unknown	JR-1	Oct-89	--	--	--	<0.8	--	--	--	**1**	--	--	--	--	--	--	<0.8	--	--	--	--
	MST	Basement	JL-3	Nov-89	--	--	--	--	--	--	--	<450	--	--	--	--	--	--	<450	--	--	--	--
	MST	Child's Room	JL-2	Nov-89	--	--	--	--	--	--	--	<260	--	--	--	--	--	--	<260	--	--	--	--
90-1	Indoor air																						
	MST	Basement	140103-A-10	Nov-90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<57	--	--	--	--
89-3	Indoor air																						
	IRM	Basement	Unknown	Aug-89	--	--	--	--	--	--	--	**16350**	--	--	--	--	--	--	<540	--	--	--	--
	MST	Unknown	PR-2	Oct-89	--	--	--	<0.6	--	--	--	<0.6	--	--	--	--	--	--	<0.6	--	--	--	--
	MST	Unknown	PR-1	Oct-89	--	--	--	<0.8	--	--	--	<0.8	--	--	--	--	--	--	<0.8	--	--	--	--
	MST	Basement	PR-4	Nov-89	--	--	--	--	--	--	--	<260	--	--	--	--	--	--	<260	--	--	--	--
	MST	Living Room	PR-3	Nov-89	--	--	--	--	--	--	--	<240	--	--	--	--	--	--	<240	--	--	--	--
99	Soil gas	Subslab	06-SG-99-1	Apr-06	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	Summa	Living Room	05-AS-99L	Dec-05	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**0.084**	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					4-methyl-2-pentanone	trans-1,3-dichloro-propene	toluene	1,1,2-trichloro-ethane	2-hexanone	dibromo-chloro-methane	tetrachloro-ethene	1,2-dibromoethane (EDB)	chloro-benzene	ethyl-benzene	m,p-xylene	styrene	o-xylene	bromoform	1,1,2,2-tetrachloro-ethane	4-ethyl-toluene	1,3,5-trimethyl-benzene	1,2,4-trimethyl-benzene	1,3-dichloro benzene
Target Indoor Air Screening Level (µg/m³)[b]					80	0.61	400	0.15	NA	0.10	0.81	0.011	60	2.2	7,000	1,000	7,000	2.2	0.042	NA	6	6	110
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					4,000	30.5	20,000	7.5	NA	5	40.5	0.55	3,000	110	350,000	50,000	350,000	110	2.1	NA	300	300	5,500
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
SE-28	Indoor air																						
	PDB2	Crawlspace	WK 4831	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4688	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
SE-29	Indoor air																						
	PDB2	Trailer	WK 4606	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Trailer	WK 4530	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
U-1	Indoor air																						
	MST	Upstairs	126-N	Feb-92	--	--	--	--	--	--	**2.9**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Basement	37-S	Mar-92	--	--	--	--	--	--	**1.16**	--	--	--	--	--	--	--	--	--	--	--	--
U-2	Indoor air																						
	PDB2	Basement	WK 4641	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4721	Jan-93	--	--	--	--	--	--	<4.2	--	--	--	--	--	--	--	--	--	--	--	--
23	Indoor air																						
	Summa	Main Living Area	05-AS-23L	Dec-05	--	--	--	--	--	--	**0.45**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Main Lving Area	D1-AS-12-14-05	Dec-05	--	--	--	--	--	--	**0.30**	--	--	--	--	--	--	--	--	--	--	--	--
43	Indoor air																						
	Summa	Rec. Room	05-AS-43L	Dec-05	--	--	--	--	--	--	<0.28	--	--	--	--	--	--	--	--	--	--	--	--
78	Soil gas	Subslab	06-SG-78-1	Apr-06	<5.0	<5.0	**21**	<5.0	<5.0	<6.5	**1500**	<5.0	<5.0	**8.8**	**22**	**6.4**	**21**	<5.0	<6.0	**21**	**16**	**74**	<10
			06-SG-78-2	Apr-06	**17**	<5.0	**100**	<5.0	<5.0	<6.5	**43**	<5.0	<5.0	**26**	**29**	**8.8**	**25**	<5.0	<6.0	**8.7**	**15**	**62**	<10
			D1-SG-04-06-06 (DUP of 78-2)	Apr-06	**13**	<5.0	**78**	<5.0	<5.0	<6.5	**39**	<5.0	<5.0	**22**	**23**	**8.6**	**22**	<5.0	<6.0	**6.8**	**15**	**56**	<10
	Indoor air																						
	Summa	Lab Area	05-AS-78L	Dec-05	--	--	--	--	--	--	**2.0**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-78B	Dec-05	--	--	--	--	--	--	**1.1**	--	--	--	--	--	--	--	--	--	--	--	--
80-5	Indoor air																						
	Summa	Living Room	05-AS-80-5L	Dec-05	--	--	--	--	--	--	<0.26	--	--	--	--	--	--	--	--	--	--	--	--
89-1	Indoor air																						
	MST	Living Room	CL-1	Nov-89	--	--	--	--	--	--	<250	--	--	--	--	--	--	--	--	--	--	--	--
89-2	Indoor air																						
	IRM	Basement	Unknown	Aug-89	--	--	--	--	--	--	<680	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	JR-1	Oct-89	--	--	<0.8	--	--	--	<0.8	--	--	**<0.8**	**<0.8**	--	--	--	--	--	--	--	--
	MST	Basement	JL-3	Nov-89	--	--	--	--	--	--	<450	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Child's Room	JL-2	Nov-89	--	--	--	--	--	--	<260	--	--	--	--	--	--	--	--	--	--	--	--
90-1	Indoor air																						
	MST	Basement	140103-A-10	Nov-90	--	--	<28	--	--	--	<57	--	--	<28	<71	--	--	--	--	--	--	--	--
89-3	Indoor air																						
	IRM	Basement	Unknown	Aug-89	--	--	--	--	--	--	<680	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	PR-2	Oct-89	--	--	<0.6	--	--	--	<0.6	--	--	**<0.6**	**<0.6**	--	--	--	--	--	--	--	--
	MST	Unknown	PR-1	Oct-89	--	--	<0.8	--	--	--	<0.8	--	--	**<0.8**	**<0.8**	--	--	--	--	--	--	--	--
	MST	Basement	PR-4	Nov-89	--	--	--	--	--	--	<260	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Living Room	PR-3	Nov-89	--	--	--	--	--	--	<240	--	--	--	--	--	--	--	--	--	--	--	--
99	Soil gas	Subslab	06-SG-99-1	Apr-06	<5.0	<5.0	<5.0	<5.0	<5.0	<6.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	<5.0	<10.0
	Indoor air																						
	Summa	Living Room	05-AS-99L	Dec-05	--	--	--	--	--	--	**1.7**	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)					Other Chemicals (µg/m3 or as noted)[i]		
					benzyl chloride	1,4-dichloro-benzene	1,2-dichloro-benzene	1,2,4-trichloro-benzene	hexachloro-butadiene	1,1,2,2-tetrachloro-ethene	1,2-dichloro-ethene	Total Hydrocarbons (ppmv)
Target Indoor Air Screening Level (µg/m³)[b]					0.05	800	200	200	0.11	NA	NA	NA
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					2.5	40,000	10,000	10,000	5.5	NA	NA	NA
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**								
SE-28	Indoor air											
	PDB2	Crawlspace	WK 4831	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4688	Jan-93	--	--	--	--	--	--	--	--
SE-29	Indoor air											
	PDB2	Trailer	WK 4606	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Trailer	WK 4530	Jan-93	--	--	--	--	--	--	--	--
U-1	Indoor air											
	MST	Upstairs	126-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Basement	37-S	Mar-92	--	--	--	--	--	--	--	--
U-2	Indoor air											
	PDB2	Basement	WK 4641	Jan-93	--	--	--	--	--	--	--	--
	PDB2	Upstairs	WK 4721	Jan-93	--	--	--	--	--	--	--	--
23	Indoor air											
	Summa	Main Living Area	05-AS-23L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Main Lving Area	D1-AS-12-14-05	Dec-05	--	--	--	--	--	--	--	--
43	Indoor air											
	Summa	Rec. Room	05-AS-43L	Dec-05	--	--	--	--	--	--	--	--
78	Soil gas	Subslab	06-SG-78-1	Apr-06	<10	<10	<10	**22**	**27**	--	--	--
			06-SG-78-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
			D1-SG-04-06-06 (DUP of 78-2)	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	Summa	Lab Area	05-AS-78L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-78B	Dec-05	--	--	--	--	--	--	--	--
80-5	Indoor air											
	Summa	Living Room	05-AS-80-5L	Dec-05	--	--	--	--	--	--	--	--
89-1	Indoor air											
	MST	Living Room	CL-1	Nov-89	--	--	--	--	--	--	--	--
89-2	Indoor air											
	IRM	Basement	Unknown	Aug-89	--	--	--	--	--	--	--	--
	MST	Unknown	JR-1	Oct-89	--	--	--	--	--	<0.8	<0.8	--
	MST	Basement	JL-3	Nov-89	--	--	--	--	--	--	--	--
	MST	Child's Room	JL-2	Nov-89	--	--	--	--	--	--	--	--
90-1	Indoor air											
	MST	Basement	140103-A-10	Nov-90	--	--	--	--	--	<71	<85	--
89-3	Indoor air											
	IRM	Basement	Unknown	Aug-89	--	--	--	--	--	--	--	--
	MST	Unknown	PR-2	Oct-89	--	--	--	--	--	<0.6	<0.6	--
	MST	Unknown	PR-1	Oct-89	--	--	--	--	--	<0.8	<0.8	--
	MST	Basement	PR-4	Nov-89	--	--	--	--	--	--	--	--
	MST	Living Room	PR-3	Nov-89	--	--	--	--	--	--	--	--
99	Soil gas	Subslab	06-SG-99-1	Apr-06	<10.0	<10.0	<10.0	<20.0	<11.0	--	--	--
	Indoor air											
	Summa	Living Room	05-AS-99L	Dec-05	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m³)[a]																		
					propene	dichloro-difluoro-methane	chloro-methane	dichloro-tetrafluoro-ethane	vinyl chloride	1,3-butadiene	bromo-methane	chloro-ethane	bromo-ethene	trichloro-fluoro-methane	acetone	1,1-dichloro-ethene	1,1,2-trichloro-trifluoro-ethane	allyl chloride	methylene chloride	carbon disulfide	trans-1,2-dichloro-ethene	methyl tert-butyl ether	vinyl acetate
Target Indoor Air Screening Level (µg/m³)[b]					NA[c]	200	2.4	NA	0.48	0.0087	NA	10,000	5.0	700	350	200	3,000	NA	5.2	700	70	3,000	200
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					NA	10,000	120	NA	24	0.435	NA	500,000	250	35,000	17,500	10,000	150,000	NA	260	35,000	3,500	150,000	10,000
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
108	Soil gas	Subslab	06-SG-108-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**91**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-SG-108-2	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**130**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-SG-108-3	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**47**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	Summa	Office Area	05-AS-108L	Dec-05	--	--	--	--	<0.047	--	--	--	--	--	--	--	--	--	--	--	<0.72	--	--
132	Indoor air																						
	Summa	Main Living Area	05-AS-132L	Dec-05	Jan-00	--	--	--	<0.049	--	--	--	--	--	--	--	--	--	--	--	<0.76	--	--
142	Soil gas	Subslab	06-SG-142-1	Apr-06	**71**	<5.5[c]	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**360**	<5.0	<6.0	<5.0	**9.3**	<5.0	<5.0	<5.0	<5.0
			06-SG-142-2	Apr-06	**51**	<5.5	<5.0	<5.5	<5.0	**8.4**	<5.0	<5.0	<5.0	<5.0	**160**	<5.0	**6.2**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-SG-142-3	Apr-06	**57**	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**460**	<5.0	<6.0	<5.0	**10**	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	Summa	Main Floor	05-AS-142L	Dec-05	--[d]	--	--	--	**0.20**	--	--	--	--	--	--	--	--	--	--	--	<0.74	--	--
	Summa	Basement	05-AS-142B	Dec-05	--	--	--	--	**0.11**	--	--	--	--	--	--	--	--	--	--	--	<0.80	--	--
157	Indoor air																						
	Summa	Living Room	05-AS-157L	Dec-05	--	--	--	--	< 0.047	--	--	--	--	--	--	--	--	--	--	--	<0.72	--	--
	Summa	Basement	05-AS-157B	Dec-05	--	--	--	--	< 0.048	--	--	--	--	--	--	--	--	--	--	--	<0.74	--	--
167	Flux chamber	Basement	06-GF-167-1	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**120**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
			06-GF-167-2	Apr-06	<10	<5.5	<5.0	<5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**30**	<5.0	<6.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	Indoor air																						
	Summa	Living Room	05-AS-167L	Dec-05	--	--	--	--	< 0.040	--	--	--	--	--	--	--	--	--	--	--	<0.63	--	--
	Summa	Basement	05-AS-167B	Dec-05	--	--	--	--	< 0.053	--	--	--	--	--	--	--	--	--	--	--	<0.82	--	--
Background Locations																							
BG29	Indoor air																						
	Summa	Living Room	05-AS-BG29L	Dec-05	--	--	--	--	< 0.049	--	--	--	--	--	--	--	--	--	--	--	< 0.76	< 0.15	< 0.15
	Summa	Basement	05-AS-BG29B	Dec-05	--	--	--	--	< 0.044	--	--	--	--	--	--	--	--	--	--	--	< 0.68	--	--
	Summa	Lving Room	06-AS-BG29L	Apr-06	--	--	--	--	< 0.049	--	--	--	--	--	--	--	--	--	--	--	< 0.76	--	--
	Summa	Basement	06-AS-BG29B	Apr-06	--	--	--	--	< 0.048	--	--	--	--	--	--	--	--	--	--	--	< 0.74	--	--
BG11	Indoor air																						
	Summa	Living Room	05-AS-BG11L	Dec-05	--	--	--	--	< 0.046	--	--	--	--	--	--	--	--	--	--	--	<0.71	0.16	0.16
	Summa	Basement	05-AS-BG11B	Dec-05	--	--	--	--	< 0.047	--	--	--	--	--	--	--	--	--	--	--	<0.72	--	--
	Summa	Lving Room	06-AS-BG11L	Apr-06	--	--	--	--	< 0.051	--	--	--	--	--	--	--	--	--	--	--	<0.76	--	--
	Summa	Basement	06-AS-BG11B	Apr-06	--	--	--	--	< 0.049	--	--	--	--	--	--	--	--	--	--	--	<0.80	--	--
BG-1	Indoor air																						
	MST	Basement	90	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Upstairs	64	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
BG-2	Indoor air																						
	MST	Basement	29	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.16	--	--
	MST	Upstairs	82	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
	MST	Soil Gas	106-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.39	--	--
	MST	Soil Gas	107-V	Mar-92	--	--	--	--	<0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					1,1-dichloro-ethane	2-butanone	n-hexane	cis-1.2-dichloro-ethene	ethyl acetate	chloroform	tetrahydro-furan	1,1,1-trichloro-ethane	1,2-dichloro-ethane	benzene	carbon tetrachloride	cyclohexane	2,2,4-trimethyl-pentane	n-heptane	trichloroethene	1,2-dichloro-propane	1,4-dioxane	bromo-dichloro-methane	cis-1,3-dichloro-propene
Target Indoor Air Screening Level (µg/m³)[b]					500	1,000	NA	35	3,200	0.11	NA	2,200	0.094	0.31	0.16	NA	NA	NA	0.11	4	NA	0.14	0.61
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					25,000	50,000	NA	1,750	160,000	5.5	NA	110,000	4.7	15.5	8	NA	NA	NA	5.5	200	NA	7	30.5
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
108	Soil gas	Subslab	06-SG-108-1	Apr-06	<5.0	**13**	<5.0	<5.0	<5.0	**5.1**	<5.0	<5.0	**38**	<5.0	<5.5	**34**	<5.0	**6.2**	**5.6**	<5.0	<5.5	<5.0	<5.0
			06-SG-108-2	Apr-06	<5.0	**81**	<5.0	<5.0	<5.0	**9.5**	**11**	<5.0	**53**	<5.0	<5.5	**37**	<5.0	**6.4**	**7.3**	<5.0	<5.5	<5.0	<5.0
			06-SG-108-3	Apr-06	<5.0	**13**	**7.6**	<5.0	<5.0	<5.0	<5.0	<5.0	**15**	**7.4**	<5.5	**28**	<5.0	**8.6**	**7.2**	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	Summa	Office Area	05-AS-108L	Dec-05	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**120**	--	--	--	--
132	Indoor air																						
	Summa	Main Living Area	05-AS-132L	Dec-05	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	**0.032**	--	--	--	--
142	Soil gas	Subslab	06-SG-142-1	Apr-06	<5.0	**55**	**37**	<5.0	<5.0	**310**	<5.0	<5.0	**22000**	**11**	**850**	**31**	<5.0	**25**	**13**	<5.0	<5.5	**29**	<5.0
			06-SG-142-2	Apr-06	<5.0	**20**	**38**	<5.0	<5.0	**160**	<5.0	<5.0	**9600**	**27**	**590**	**40**	**6.2**	**24**	**7.2**	**9.0**	<5.5	**8.5**	<5.0
			06-SG-142-3	Apr-06	<5.0	**50**	**26**	<5.0	<5.0	**340**	<5.0	<5.0	**23000**	**13**	**820**	**41**	**7.4**	**21**	**18**	<5.0	<5.5	**33**	<5.0
	Indoor air																						
	Summa	Main Floor	05-AS-142L	Dec-05	--	--	--	< 0.15	--	--	--	--	--	--	--	--	--	--	**0.33**	--	--	--	--
	Summa	Basement	05-AS-142B	Dec-05	--	--	--	<0.16	--	--	--	--	--	--	--	--	--	--	**0.39**	--	--	--	--
157	Indoor air																						
	Summa	Living Room	05-AS-157L	Dec-05	--	--	--	< 0.14	--	--	--	--	--	--	--	--	--	--	**0.045**	--	--	--	--
	Summa	Basement	05-AS-157B	Dec-05	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	**0.06**	--	--	--	--
167	Flux chamber	Basement	06-GF-167-1	Apr-06	<5.0	**10**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.5	**5.2**	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
			06-GF-167-2	Apr-06	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	**6.7**	<5.0	<5.5	**6.4**	<5.0	<5.0	<5.0	<5.0	<5.5	<5.0	<5.0
	Indoor air																						
	Summa	Living Room	05-AS-167L	Dec-05	--	--	--	<0.12	--	--	--	--	--	--	--	--	--	--	**0.12**	--	--	--	--
	Summa	Basement	05-AS-167B	Dec-05	--	--	--	<0.16	--	--	--	--	--	--	--	--	--	--	**0.086**	--	--	--	--
Background Locations																							
BG29	Indoor air																						
	Summa	Living Room	05-AS-BG29L	Dec-05	< 0.15	< 0.15	< 0.15	< 0.15	--	--	--	--	--	--	--	--	--	--	**6.1**	--	--	--	--
	Summa	Basement	05-AS-BG29B	Dec-05	--	--	--	< 0.14	--	--	--	--	--	--	--	--	--	--	**0.11**	--	--	--	--
	Summa	Lving Room	06-AS-BG29L	Apr-06	--	--	--	< 0.15	--	--	--	--	--	--	--	--	--	--	**5.9**	--	--	--	--
	Summa	Basement	06-AS-BG29B	Apr-06	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	**0.23**	--	--	--	--
BG11	Indoor air																						
	Summa	Living Room	05-AS-BG11L	Dec-05	0.16	0.16	0.16	< 0.14	--	--	--	--	--	--	--	--	--	--	< 0.029	--	--	--	--
	Summa	Basement	05-AS-BG11B	Dec-05	--	--	--	< 0.14	--	--	--	--	--	--	--	--	--	--	< 0.037	--	--	--	--
	Summa	Lving Room	06-AS-BG11L	Apr-06	--	--	--	< 0.16	--	--	--	--	--	--	--	--	--	--	**0.340**	--	--	--	--
	Summa	Basement	06-AS-BG11B	Apr-06	--	--	--	<0.15	--	--	--	--	--	--	--	--	--	--	**0.060**	--	--	--	--
BG-1	Indoor air																						
	MST	Basement	90	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	<0.19	--	--	--	--
	MST	Upstairs	64	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	<0.19	--	--	--	--
BG-2	Indoor air																						
	MST	Basement	29	Feb-92	--	--	--	<0.16	--	--	--	--	--	--	--	--	--	--	<0.36	--	--	--	--
	MST	Upstairs	82	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	<1.06	--	--	--	--
	MST	Soil Gas	106-V	Mar-92	--	--	--	<0.39	--	--	--	--	--	--	--	--	--	--	<5.0	--	--	--	--
	MST	Soil Gas	107-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					4-methyl-2-pentanone	trans-1,3-dichloro-propene	toluene	1,1,2-trichloro-ethane	2-hexanone	dibromo-chloro-methane	tetrachloro-ethene	1,2-dibromoethane (EDB)	chloro-benzene	ethyl-benzene	m,p-xylene	styrene	o-xylene	bromoform	1,1,2,2-tetrachloro-ethane	4-ethyl-toluene	1,3,5-trimethyl-benzene	1,2,4-trimethyl-benzene	1,3-dichloro benzene
Target Indoor Air Screening Level (µg/m³)[b]					80	0.61	400	0.15	NA	0.10	0.81	0.011	60	2.2	7,000	1,000	7,000	2.2	0.042	NA	6	6	110
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					4,000	30.5	20,000	7.5	NA	5	40.5	0.55	3,000	110	350,000	50,000	350,000	110	2.1	NA	300	300	5,500
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
108	Soil gas	Subslab	06-SG-108-1	Apr-06	**110**	<5.0	**54**	<5.0	<5.0	<6.5	**51**	<5.0	<5.0	**17**	**40**	**8.0**	**31**	<5.0	<6.0	**9.6**	**12**	**53**	<10
			06-SG-108-2	Apr-06	**37**	<5.0	**54**	<5.0	<5.0	<6.5	**120**	<5.0	<5.0	**18**	**40**	**6.5**	**31**	<5.0	<6.0	**21**	**11**	**52**	<10
			06-SG-108-3	Apr-06	**7.0**	<5.0	**60**	<5.0	<5.0	<6.5	**15**	<5.0	<5.0	**18**	**44**	**6.1**	**32**	<5.0	<6.0	**9.1**	**14**	**56**	<10
	Indoor air																						
	Summa	Office Area	05-AS-108L	Dec-05	--	--	--	--	--	--	**0.41**	--	--	--	--	--	--	--	--	--	--	--	--
132	Indoor air																						
	Summa	Main Living Area	05-AS-132L	Dec-05	--	--	--	--	--	--	**0.64**	--	--	--	--	--	--	--	--	--	--	--	--
142	Soil gas	Subslab	06-SG-142-1	Apr-06	**13**	<5.0	**130**	<5.0	<5.0	<6.5	**19**	**510**	<5.0	**190**	**370**	**17**	**370**	**8.2**	<6.0	**7.9**	**18**	**18**	<10
			06-SG-142-2	Apr-06	<5.0	<5.0	**70**	<5.0	<5.0	<6.5	**17**	<5.0	<5.0	**16**	**32**	**7.6**	**24**	**7.7**	<6.0	**6.7**	**13**	**39**	<10
			06-SG-142-3	Apr-06	**8.7**	<5.0	**84**	<5.0	<5.0	<6.5	**24**	**480**	<5.0	**17**	**34**	**7.3**	**25**	**7.9**	<6.0	**6.0**	**10**	**36**	<10
	Indoor air																						
	Summa	Main Floor	05-AS-142L	Dec-05	--	--	--	--	--	--	**0.68**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-142B	Dec-05	--	--	--	--	--	--	**0.53**	--	--	--	--	--	--	--	--	--	--	--	--
157	Indoor air																						
	Summa	Living Room	05-AS-157L	Dec-05	--	--	--	--	--	--	<0.25	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-157B	Dec-05	--	--	--	--	--	--	<0.25	--	--	--	--	--	--	--	--	--	--	--	--
167	Flux chamber	Basement	06-GF-167-1	Apr-06	<5.0	<5.0	**5.2**	<5.0	<5.0	<6.5	**7.2**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	**5.0**	<10
			06-GF-167-2	Apr-06	<5.0	<5.0	**7.4U**	<5.0	<5.0	<6.5	**9.8U[f]**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<6.0	<5.0	<5.0	<5.0	<10
	Indoor air																						
	Summa	Living Room	05-AS-167L	Dec-05	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-167B	Dec-05	--	--	--	--	--	--	**0.49**	--	--	--	--	--	--	--	--	--	--	--	--
Background Locations																							
BG29	Indoor air																						
	Summa	Living Room	05-AS-BG29L	Dec-05	--	--	--	--	--	--	< 0.26	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-BG29B	Dec-05	--	--	--	--	--	--	< 0.23	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Lving Room	06-AS-BG29L	Apr-06	--	--	--	--	--	--	< 0.26	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-BG29B	Apr-06	--	--	--	--	--	--	< 0.25	--	--	--	--	--	--	--	--	--	--	--	--
BG11	Indoor air																						
	Summa	Living Room	05-AS-BG11L	Dec-05	--	--	--	--	--	--	**0.91**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-BG11B	Dec-05	--	--	--	--	--	--	**0.25**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Lving Room	06-AS-BG11L	Apr-06	--	--	--	--	--	--	**0.27**	--	--	--	--	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-BG11B	Apr-06	--	--	--	--	--	--	< 0.26	--	--	--	--	--	--	--	--	--	--	--	--
BG-1	Indoor air																						
	MST	Basement	90	Feb-92	--	--	--	--	--	--	**1.1**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	64	Feb-92	--	--	--	--	--	--	**1.19**	--	--	--	--	--	--	--	--	--	--	--	--
BG-2	Indoor air																						
	MST	Basement	29	Feb-92	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	82	Feb-92	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	106-V	Mar-92	--	--	--	--	--	--	**14.4**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Soil Gas	107-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)					Other Chemicals (µg/m3 or as noted)[i]		
					benzyl chloride	1,4-dichloro-benzene	1,2-dichloro-benzene	1,2,4-trichloro-benzene	hexachloro-butadiene	1,1,2,2-tetrachloro-ethene	1,2-dichloro-ethene	Total Hydrocarbons (ppmv)
Target Indoor Air Screening Level (µg/m³)[b]					0.05	800	200	200	0.11	NA	NA	NA
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					2.5	40,000	10,000	10,000	5.5	NA	NA	NA
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**								
108	Soil gas	Subslab	06-SG-108-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-SG-108-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-SG-108-3	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	Summa	Office Area	05-AS-108L	Dec-05	--	--	--	--	--	--	--	--
132	Indoor air											
	Summa	Main Living Area	05-AS-132L	Dec-05	--	--	--	--	--	--	--	--
142	Soil gas	Subslab	06-SG-142-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-SG-142-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-SG-142-3	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	Summa	Main Floor	05-AS-142L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-142B	Dec-05	--	--	--	--	--	--	--	--
157	Indoor air											
	Summa	Living Room	05-AS-157L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-157B	Dec-05	--	--	--	--	--	--	--	--
167	Flux chamber	Basement	06-GF-167-1	Apr-06	<10	<10	<10	<20	<11	--	--	--
			06-GF-167-2	Apr-06	<10	<10	<10	<20	<11	--	--	--
	Indoor air											
	Summa	Living Room	05-AS-167L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-167B	Dec-05	--	--	--	--	--	--	--	--
Background Locations												
BG29	Indoor air											
	Summa	Living Room	05-AS-BG29L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-BG29B	Dec-05	--	--	--	--	--	--	--	--
	Summa	Lving Room	06-AS-BG29L	Apr-06	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-BG29B	Apr-06	--	--	--	--	--	--	--	--
BG11	Indoor air											
	Summa	Living Room	05-AS-BG11L	Dec-05	--	--	--	--	--	--	--	--
	Summa	Basement	05-AS-BG11B	Dec-05	--	--	--	--	--	--	--	--
	Summa	Lving Room	06-AS-BG11L	Apr-06	--	--	--	--	--	--	--	--
	Summa	Basement	06-AS-BG11B	Apr-06	--	--	--	--	--	--	--	--
BG-1	Indoor air											
	MST	Basement	90	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	64	Feb-92	--	--	--	--	--	--	--	--
BG-2	Indoor air											
	MST	Basement	29	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	82	Feb-92	--	--	--	--	--	--	--	--
	MST	Soil Gas	106-V	Mar-92	--	--	--	--	--	--	--	--
	MST	Soil Gas	107-V	Mar-92	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m³)[a]																		
					propene	dichloro-difluoro-methane	chloro-methane	dichloro-tetrafluoro-ethane	vinyl chloride	1,3-butadiene	bromo-methane	chloro-ethane	bromo-ethene	trichloro-fluoro-methane	acetone	1,1-dichloro-ethene	1,1,2-trichloro-trifluoro-ethane	allyl chloride	methylene chloride	carbon disulfide	trans-1,2-dichloro-ethene	methyl tert-butyl ether	vinyl acetate
Target Indoor Air Screening Level (µg/m³)[b]					NA[c]	200	2.4	NA	0.48	0.0087	NA	10,000	5.0	700	350	200	3,000	NA	5.2	700	70	3,000	200
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					NA	10,000	120	NA	24	0.435	NA	500,000	250	35,000	17,500	10,000	150,000	NA	260	35,000	3,500	150,000	10,000
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
BG-2A	Indoor air																						
	MST	Soil Gas	114-V	Mar-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.38	--	--
BG-3	Indoor air																						
	MST	Basement	10	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
	MST	Outdoor	120	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.18	--	--
	MST	Upstairs	119	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
BG-4	Indoor air																						
	MST	Basement	041-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.16	--	--
	MST	Upstairs	127-N	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.19	--	--
BG-5	Indoor air																						
	MST	Basement	50	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.17	--	--
	MST	Upstairs	32	Feb-92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.17	--	--
Ambient Air Samples																							
05-AS-AMB-1		Upwind	05-AS-AMB-1-12-12-05	Dec-05	--	--	--	--	< 0.045	--	--	--	--	--	--	--	--	--	--	--	<0.69	--	--
05-AS-AMB-2		Upwind	05-AS-AMB-2-12-12-05	Dec-05	--	--	--	--	< 0.042	--	--	--	--	--	--	--	--	--	--	--	<0.65	--	--
05-AS-AMB-3		Downwind	05-AS-AMB-3-12-12-05	Dec-05	--	--	--	--	< 0.046	--	--	--	--	--	--	--	--	--	--	--	<0.71	--	--
05-AS-AMB-1		Upwind	05-AS-AMB-1-12-14-05	Dec-05	--	--	--	--	< 0.036	--	--	--	--	--	--	--	--	--	--	--	<0.56	--	--
05-AS-AMB-2		Upwind	05-AS-AMB-2-12-14-05	Dec-05	--	--	--	--	< 0.042	--	--	--	--	--	--	--	--	--	--	--	<0.65	--	--
05-AS-AMB-3		Downwind	05-AS-AMB-3-12-14-05	Dec-05	--	--	--	--	< 0.041	--	--	--	--	--	--	--	--	--	--	--	<0.64	--	--
AMB-1	PDB2	Unknown	WK 4762	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	103	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AMB-2	PDB2	Unknown	WK 4715	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	8	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AMB-3	PDB2	Unknown	WK 4930	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	32	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	51	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AMB-4	PDB2	Unknown	WK 4879	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	118	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					1,1-dichloro-ethane	2-butanone	n-hexane	cis-1.2-dichloro-ethene	ethyl acetate	chloroform	tetrahydro-furan	1,1,1-trichloro-ethane	1,2-dichloro-ethane	benzene	carbon tetrachloride	cyclohexane	2,2,4-trimethyl-pentane	n-heptane	trichloroethene	1,2-dichloro-propane	1,4-dioxane	bromo-dichloro-methane	cis-1,3-dichloro-propene
Target Indoor Air Screening Level (µg/m³)[b]					500	1,000	NA	35	3,200	0.11	NA	2,200	0.094	0.31	0.16	NA	NA	NA	0.11	4	NA	0.14	0.61
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					25,000	50,000	NA	1,750	160,000	5.5	NA	110,000	4.7	15.5	8	NA	NA	NA	5.5	200	NA	7	30.5
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
BG-2A	Indoor air																						
	MST	Soil Gas	114-V	Mar-92	--	--	--	<0.38	--	--	--	--	--	--	--	--	--	--	**9.24**	--	--	--	--
BG-3	Indoor air																						
	MST	Basement	10	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	<0.18	--	--	--	--
	MST	Outdoor	120	Feb-92	--	--	--	<0.18	--	--	--	--	--	--	--	--	--	--	<0.18	--	--	--	--
	MST	Upstairs	119	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	**0.19**	--	--	--	--
BG-4	Indoor air																						
	MST	Basement	041-N	Feb-92	--	--	--	<0.16	--	--	--	--	--	--	--	--	--	--	< 0.250	--	--	--	--
	MST	Upstairs	127-N	Feb-92	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	**0.3**	--	--	--	--
BG-5	Indoor air																						
	MST	Basement	50	Feb-92	--	--	--	<0.17	--	--	--	--	--	--	--	--	--	--	< 2.71	--	--	--	--
	MST	Upstairs	32	Feb-92	--	--	--	<0.17	--	--	--	--	--	--	--	--	--	--	**1.11**	--	--	--	--
Ambient Air Samples																							
05-AS-AMB-1		Upwind	05-AS-AMB-1-12-12-05	Dec-05	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**0.041**	--	--	--	--
05-AS-AMB-2		Upwind	05-AS-AMB-2-12-12-05	Dec-05	--	--	--	<0.13	--	--	--	--	--	--	--	--	--	--	**0.036**	--	--	--	--
05-AS-AMB-3		Downwind	05-AS-AMB-3-12-12-05	Dec-05	--	--	--	<0.14	--	--	--	--	--	--	--	--	--	--	**0.038**	--	--	--	--
05-AS-AMB-1		Upwind	05-AS-AMB-1-12-14-05	Dec-05	--	--	--	<0.11	--	--	--	--	--	--	--	--	--	--	**0.026**	--	--	--	--
05-AS-AMB-2		Upwind	05-AS-AMB-2-12-14-05	Dec-05	--	--	--	<0.13	--	--	--	--	--	--	--	--	--	--	< 0.026	--	--	--	--
05-AS-AMB-3		Downwind	05-AS-AMB-3-12-14-05	Dec-05	--	--	--	<0.13	--	--	--	--	--	--	--	--	--	--	**0.027**	--	--	--	--
AMB-1	PDB2	Unknown	WK 4762	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	103	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AMB-2	PDB2	Unknown	WK 4715	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	8	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AMB-3	PDB2	Unknown	WK 4930	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	32	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	51	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AMB-4	PDB2	Unknown	WK 4879	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	118	Jan-93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m³)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)[a]																		
					4-methyl-2-pentanone	trans-1,3-dichloro-propene	toluene	1,1,2-trichloro-ethane	2-hexanone	dibromo-chloro-methane	tetrachloro-ethene	1,2-dibromoethane (EDB)	chloro-benzene	ethyl-benzene	m,p-xylene	styrene	o-xylene	bromoform	1,1,2,2-tetrachloro-ethane	4-ethyl-toluene	1,3,5-trimethyl-benzene	1,2,4-trimethyl-benzene	1,3-dichloro benzene
Target Indoor Air Screening Level (µg/m³)[b]					80	0.61	400	0.15	NA	0.10	0.81	0.011	60	2.2	7,000	1,000	7,000	2.2	0.042	NA	6	6	110
Target Shallow Gas Screening Level (µg/m³) with attenuation factor = 0.02					4,000	30.5	20,000	7.5	NA	5	40.5	0.55	3,000	110	350,000	50,000	350,000	110	2.1	NA	300	300	5,500
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**																			
BG-2A	Indoor air																						
	MST	Soil Gas	114-V	Mar-92	--	--	--	--	--	--	**12.8**	--	--	--	--	--	--	--	--	--	--	--	--
BG-3	Indoor air																						
	MST	Basement	10	Feb-92	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Outdoor	120	Feb-92	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	119	Feb-92	--	--	--	--	--	--	**1.47**	--	--	--	--	--	--	--	--	--	--	--	--
BG-4	Indoor air																						
	MST	Basement	041-N	Feb-92	--	--	--	--	--	--	**1.9**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	127-N	Feb-92	--	--	--	--	--	--	**2.54**	--	--	--	--	--	--	--	--	--	--	--	--
BG-5	Indoor air																						
	MST	Basement	50	Feb-92	--	--	--	--	--	--	**0.6**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Upstairs	32	Feb-92	--	--	--	--	--	--	**0.56**	--	--	--	--	--	--	--	--	--	--	--	--
Ambient Air Samples																							
05-AS-AMB-1		Upwind	05-AS-AMB-1-12-12-05	Dec-05	--	--	--	--	--	--	<0.24	--	--	--	--	--	--	--	--	--	--	--	--
05-AS-AMB-2		Upwind	05-AS-AMB-2-12-12-05	Dec-05	--	--	--	--	--	--	<0.22	--	--	--	--	--	--	--	--	--	--	--	--
05-AS-AMB-3		Downwind	05-AS-AMB-3-12-12-05	Dec-05	--	--	--	--	--	--	<0.24	--	--	--	--	--	--	--	--	--	--	--	--
05-AS-AMB-1		Upwind	05-AS-AMB-1-12-14-05	Dec-05	--	--	--	--	--	--	<0.19	--	--	--	--	--	--	--	--	--	--	--	--
05-AS-AMB-2		Upwind	05-AS-AMB-2-12-14-05	Dec-05	--	--	--	--	--	--	<0.22	--	--	--	--	--	--	--	--	--	--	--	--
05-AS-AMB-3		Downwind	05-AS-AMB-3-12-14-05	Dec-05	--	--	--	--	--	--	<0.22	--	--	--	--	--	--	--	--	--	--	--	--
AMB-1	PDB2	Unknown	WK 4762	Jan-93	--	--	--	--	--	--	<2.8	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	103	Jan-93	--	--	--	--	--	--	<0.5	--	--	--	--	--	--	--	--	--	--	--	--
AMB-2	PDB2	Unknown	WK 4715	Jan-93	--	--	--	--	--	--	<2.8	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	8	Jan-93	--	--	--	--	--	--	**32.2**	--	--	--	--	--	--	--	--	--	--	--	--
AMB-3	PDB2	Unknown	WK 4930	Jan-93	--	--	--	--	--	--	<2.8	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	32	Jan-93	--	--	--	--	--	--	**14**	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	51	Jan-93	--	--	--	--	--	--	**11.4**	--	--	--	--	--	--	--	--	--	--	--	--
AMB-4	PDB2	Unknown	WK 4879	Jan-93	--	--	--	--	--	--	<2.8	--	--	--	--	--	--	--	--	--	--	--	--
	MST	Unknown	118	Jan-93	--	--	--	--	--	--	**3.2**	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS (µg/m^3)
Burlington Northern Livingston Shop Complex

					TO-15 Chemicals (µg/m3)					Other Chemicals (µg/m3 or as noted)[i]		
					benzyl chloride	1,4-dichloro-benzene	1,2-dichloro-benzene	1,2,4-trichloro-benzene	hexachloro-butadiene	1,1,2,2-tetrachloro-ethene	1,2-dichloro-ethene	Total Hydrocarbons (ppmv)
Target Indoor Air Screening Level (µg/m^3)[b]					0.05	800	200	200	0.11	NA	NA	NA
Target Shallow Gas Screening Level (µg/m^3) with attenuation factor = 0.02					2.5	40,000	10,000	10,000	5.5	NA	NA	NA
Location	**Sample Type[d]**	**Location**	**Sample ID**	**Sample Date**								
BG-2A	Indoor air											
	MST	Soil Gas	114-V	Mar-92	--	--	--	--	--	--	--	--
BG-3	Indoor air											
	MST	Basement	10	Feb-92	--	--	--	--	--	--	--	--
	MST	Outdoor	120	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	119	Feb-92	--	--	--	--	--	--	--	--
BG-4	Indoor air											
	MST	Basement	041-N	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	127-N	Feb-92	--	--	--	--	--	--	--	--
BG-5	Indoor air											
	MST	Basement	50	Feb-92	--	--	--	--	--	--	--	--
	MST	Upstairs	32	Feb-92	--	--	--	--	--	--	--	--
Ambient Air Samples												
05-AS-AMB-1		Upwind	05-AS-AMB-1-12-12-05	Dec-05	--	--	--	--	--	--	--	--
05-AS-AMB-2		Upwind	05-AS-AMB-2-12-12-05	Dec-05	--	--	--	--	--	--	--	--
05-AS-AMB-3		Downwind	05-AS-AMB-3-12-12-05	Dec-05	--	--	--	--	--	--	--	--
05-AS-AMB-1		Upwind	05-AS-AMB-1-12-14-05	Dec-05	--	--	--	--	--	--	--	--
05-AS-AMB-2		Upwind	05-AS-AMB-2-12-14-05	Dec-05	--	--	--	--	--	--	--	--
05-AS-AMB-3		Downwind	05-AS-AMB-3-12-14-05	Dec-05	--	--	--	--	--	--	--	--
AMB-1	PDB2	Unknown	WK 4762	Jan-93	--	--	--	--	--	--	--	--
	MST	Unknown	103	Jan-93	--	--	--	--	--	--	--	--
AMB-2	PDB2	Unknown	WK 4715	Jan-93	--	--	--	--	--	--	--	--
	MST	Unknown	8	Jan-93	--	--	--	--	--	--	--	--
AMB-3	PDB2	Unknown	WK 4930	Jan-93	--	--	--	--	--	--	--	--
	MST	Unknown	32	Jan-93	--	--	--	--	--	--	--	--
	MST	Unknown	51	Jan-93	--	--	--	--	--	--	--	--
AMB-4	PDB2	Unknown	WK 4879	Jan-93	--	--	--	--	--	--	--	--
	MST	Unknown	118	Jan-93	--	--	--	--	--	--	--	--

TABLE 2
SUMMARY OF SOIL GAS AND INDOOR AIR ANALYTICAL RESULTS ($\mu g/m^3$)
Burlington Northern Livingston Shop Complex

Notes:

(a) The samples were analyzed for various volatile organic compounds during the monitoring programs as noted below. Only the results of detected analytes are summarized in this table.
- Samples collected in August 1989 were analyzed for toluene; 1,1,1-trichloroethane (1,1,1-TCA); tetrachloroethane (PCE); and trichloroethene (TCE) in the field using an organic vapor meter. Concentrations were converted from ppm to ug/m3 using a temperature of 25 degrees Celcius and a pressure of 1 atmosphere.
- Samples collected in October 1989 were analyzed for toluene; ethylbenzene; xylenes; 1,2-dichloroethene (1,2-DCE); 1,1,1-TCA; cis-1,2-dichloroethene (cis-1,2-DCE); trans-1,2-dichloroethene (trans-1,2-DCE); 1,1,2,2-tetrachloroethene (1,1,2,2-PCE); PCE; TCE; and vinyl chloride using National Institue of Occupational Safety and Heath (NIOSH) methods.
- Samples collected in November 1989 were analyzed for 1,1,1-TCA; PCE, and TCE using NIOSH methods.
- Samples collected in November 1990 were analyzed for benzene; toluene; ethylbenzene; xylenes; 1,2-DCE; 1,1,2,2-TCA; PCE; and TCE using NIOSH methods.
- Samples collected in February and March 1992 were analyzed for cis-1,2-DCE, trans-1,2-DCE; PCE; and TCE using thermal desorption-gas chromatography/mass spectrometry (GC/MS) with selective ion monitoring (SIM). Select samples collected in March 1992 were also analyzed for vinyl chloride using GC/MS.
- Samples collected in November 1992 were analyzed for PCE using GC/MS with SIMs for samples collected on multisorbent tubes (MST) and NIOSH Method 127 for samples collected on dosimeter badges.
- Samples collected in January/February 1993 were analyzed for PCE using GC/MS with SIMs for samples collected on MST and NIOSH Method 1003 for samples collected on dosimeter badges.
- Samples collected in September and October 1994 were analyzed for PCE using NIOSH Method 1003.
- Indoor air and ambient air samples collected in December 2005 and April 2006 were analyzed for cis-1,2-dichloroethene, tetrachloroethene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride by modified EPA Method TO-15 with selective ion monitoring. (Note: Ambient air samples were not collected in April 2006)
- Soil gas samples collected in April 2006 were analyzed using EPA Method TO-15.

(b) Target Indoor Air Screening Levels include Revised Task I Indoor Air Screening Levels for cis-1,2-dichloroethene, tetrachloroethene, trans-1,2-dichloroethene, trichloroethene, and vinyl chloride, and generic indoor air screening levels from Table 2c of EPA's *Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)* (EPA 2002).

(c) "NA" indicates that a target indoor air screening level was not listed in Table 2c of EPA's Subsurface Vapor Intrusion Guidance document.

(d) Sample Types are as follows:
IRM = Infrared Absorption Meter MST = Multisorbent Tube PDB2 = 2-week passive dosimeter badge PDB4 = 4-week passive dosimeter badge PDB3 = 3-week passive dosimeter badge.

(e) "<" denotes analyte was not detected at the indicated method reporting limit. Method reporting limits for each sample vary dependent on the

(f) "--" denotes not analyzed.

(g) "E" indicates that the concentration indicated for this analyte is an estimated value above the calibration range of the instrument.

(h) "B" indicates that blank contamination was associated with the samples. The concentrations of PCE detected in these samples relative to the concentration in the blank sample is such that the blank contamination is unlikely to have biased the data.

(i) 1,1,2,2-PCE and 1,2-DCE results from the October 1989 sampling event are presented separately, as these chemicals are not included on the TO-15 list. Select samples from the August 1989 investigation were analyzed for petroleum hydrocarbon vapors. These samples were reported in parts per million by volume (ppmv).

(j) "U" indicates the compound was not reliably detected because of blank contamination and the reported result is viewed as a tentative non-detection at the reported concentration.

Detected values shown in bold.

$\mu g/m^3$ = micrograms per cubic meter.

TABLE 3

SOIL GAS ANALYTICAL RESULTS
Burlington Northern Livingston Shop Complex

		Volatile Organic Compounds (mg/m3)(a)												
Sample ID and Location	**Area**	**Date**	**Benzene**	**Toluene**	**Ethyl benzene**	**Xylenes**	**Chloro benzene**	**2-Chloro toluene**	**1,1-DCE**	**cis-1,2-DCE**	**Tetrachloro ethene**	**1,1,1-TCA**	**Trichloro ethene**	**Vinyl Chloride**
SG-001	Electric Shop - Outside	Jan-91	- -[b]	- -	- -	- -	<0.50[c]	<0.50	<0.50	**1.3**	**420**	<0.50	**2.3**	<0.50
SG-002	Electric Shop - Outside	Jan-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	**6.0**	**1,900**	**0.65**	**48**	<0.50
SG-003	Electric Shop - Inside	Jan-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	**5.6**	**1,100**	<0.50	**17**	<0.50
SG-004	Electric Shop - Inside	Jan-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	**36**	**1,200**	<0.50	**15**	<0.50
SG-005/SG-005[d]	Electric Shop - Inside	Jan-91	- -	- -	- -	- -	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	**2.3/2.3**	**420/390**	<0.50/<0.50	**10/11**	<0.50/<0.50
SG-006	Transfer Pit	Jan-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	**1.1**	**1,300**	<0.50	**1.5**	<0.50
SG-007	Transfer Pit - E. side (Door #10)	Jan-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50	<0.50
SG-008	Transfer Pit - E. side (Door #6)	Jan-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**0.50**	<0.50	<0.50	<0.50
SG-009/SG-009[d]	Transfer Pit - E. side	Feb-91	- -	- -	- -	- -	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50
SG-010	Shop Drains - W. of MRL Shop	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-011	Shop Drains - W. of MRL Shop	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-012	Transfer Pit - S. end	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-013	Shop Drains - S. of Wheel Shop	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-014	Shop Drains - W. of Electric Shop	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-015	Electric Shop - Distiller Room	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-017	Shop Drains - N. of Electric Shop	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	**1.1**	**110**	<0.50	**2.6**	<0.50
SG-018/SG-018[d]	Shop Drains - N. of Electric Shop	Feb-91	- -	- -	- -	- -	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	**2.0/2.1**	**530/560**	<0.50/<0.50	**11/12**	<0.50/<0.50
SG-019	W. of Electric Shop	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**42**	<0.50	<0.50	<0.50
SG-020	Shop Drains - E. of Locomotive Shop	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	**100**	**840**	<0.50	**49**	<0.50
SG-021	Shop Drains - Inside Locomotive Shop	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	**2.0**	**140**	<0.50	**4.1**	<0.50
SG-022	Shop Drains - Inside Locomotive Shop	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	**0.50**	**60**	<0.50	**1.3**	<0.50
SG-023	Transfer Pit - E. side	Feb-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**16**	<0.50	<0.50	<0.50
SG-024	Transfer Pit - W. side	Mar-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**4.6**	<0.50	<0.50	<0.50
SG-025	Transfer Pit - W. side	Mar-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**28**	<0.50	<0.50	<0.50
SG-026/SG-026[d]	Shop Drains - E. of Locomotive Shop	Mar-91	- -	- -	- -	- -	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50	**4.6/4.1**	<0.50/<0.50	<0.50/<0.50	<0.50/<0.50
SG-027	E. of Locomotive Shop	Mar-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**22**	<0.50	<0.50	<0.50
SG-028	Shop Drains - Inside Locomotive Shop	Mar-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**22**	<0.50	<0.50	<0.50
SG-029	Locomotive Shop - Inside	Mar-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**140**	<0.50	**4.2**	<0.50
SG-030	API Separator Area - E. of Bennett St.	Jun-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-031	API Separator Area - E. of Bennett St.	Jun-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	**1.3**	<0.50	<0.50	<0.50	<0.50
SG-032	API Separator Area - N. of ponds	Jun-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-033	API Separator Area - N. of ponds	Jun-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-034	API Separator Area - N. of ponds	Jun-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-035	API Separator Area - N. of ponds	Jun-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**0.98**	<0.50	<0.50	<0.50
SG-036	API Separator Area - N. of ponds	Jun-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	**1.4**	<0.50	<0.50	<0.50
SG-037	API Separator Area - N. of ponds	Jun-91	- -	- -	- -	- -	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
SG-162[e]	Shop Drains	Jun-92	*<0.214*	*<0.214*	*<0.214*	*<0.214*	*<0.214*	*<0.214*	- -	*<0.214*	*<0.214*	*<0.214*	*<0.214*	- -
SG-163[e]	Shop Drains	Jun-92	*<0.214*	*<0.214*	*<0.214*	*<0.214*	*<0.214*	*<0.214*	- -	*<0.214*	*<0.214*	*<0.214*	*<0.214*	- -
SG-164[e]	Shop Drains	Jun-92	*<0.221*	*<0.221*	*<0.221*	*<0.221*	*<0.221*	*<0.221*	- -	*<0.221*	*<0.221*	*<0.221*	*<0.221*	- -

TABLE 3

SOIL GAS ANALYTICAL RESULTS
Burlington Northern Livingston Shop Complex

		Volatile Organic Compounds (mg/m3)(a)												
Sample ID and Location	**Area**	**Date**	**Benzene**	**Toluene**	**Ethyl benzene**	**Xylenes**	**Chloro benzene**	**2-Chloro toluene**	**1,1-DCE**	**cis-1,2-DCE**	**Tetrachloro ethene**	**1,1,1-TCA**	**Trichloro ethene**	**Vinyl Chloride**
SG-170	Shop Drains - abandone manway S. side of Wheel Shop	Jun-92	- -	- -	- -	- -	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
SG-172	Shop Drains - manway near MRL Wash Rack	Jun-92	- -	- -	- -	- -	<0.21	<0.21	<0.21	<0.21	<0.21	**0.92**	<0.21	<0.21
SG-173	Shop Drains - manway 65' W. of subway	Jun-92	- -	- -	- -	- -	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
SG-174	Shop Drains - 20' W. of subway	Jun-92	- -	- -	- -	- -	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
SG-176	Shop Drains - 18" SE of manway at Turntable	Jun-92	- -	- -	- -	- -	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
SG-177	Shop Drains - manway at SE corner of MRL Shop	Jun-92	- -	- -	- -	- -	<0.21	<0.21	<0.21	<0.21	<0.21	**0.90**	**3.1**	<0.21
SG-178/178[d]	Shop Drains - 60' E. of MRL Shop	Jun-92	- -	- -	- -	- -	<0.21/<0.21	<0.21/<0.21	<0.21/<0.21	<0.21/<0.21	<0.21/<0.21	<0.21/<0.21	<0.21/<0.21	<0.21/<0.21
SG-179	100' E. of MRL Shop (outside)	Jun-92	- -	- -	- -	- -	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
SG-180	E. MRL Shop (outside 3rd door)	Jun-92	- -	- -	- -	- -	**92[f]**	**4.5**	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1
SG-195 (Front)	Maintenance Shop (outside 4th door from south)	Jul-92	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	- -	**1.1**	**0.41**	**1.7**	**3.7**	- -
SG-196 (Front)	Maintenance Shop (outside 2nd door from south)	Jul-92	**0.76**	**0.59**	<0.19	<0.19	**110[f]**	**15[g]**	- -	**5[g]**	<0.19	<0.19	<0.19	- -
SG-196 (Back)	Maintenance Shop (outside 2nd door from south)	Jul-92	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	- -	**1.4**	<0.19	<0.19	<0.19	- -
SG-197 (Back)	Maintenance Shop (outside 3rd door from south)	Jul-92	<0.19	<0.19	<0.19	<0.19	**0.58**	<0.19	- -	**7.8[g]**	<0.19	<0.19	<0.19	- -
SG-197 (Front)	Maintenance Shop (outside 3rd door from south)	Jul-92	<1.9	**4.4**	<1.9	<1.9	**330[f]**	**37**	- -	**11**	<1.9	<1.9	<1.9	- -
SG-198 (Back)	MRL Maintenance Shop (outside 1st door from south)	Jul-92	<0.19	<0.19	<0.19	<0.19	**0.30**	<0.19	- -	<0.19	<0.19	<0.19	<0.19	- -
SG-198 (Front)	MRL Maintenance Shop (outside 1st door from south)	Jul-92	<0.19	**0.85**	**0.59**	**1.8**	**170[f]**	**37[g]**	- -	**1.2**	**0.44**	**0.48**	<0.19	- -
SG-329	Roundhouse - N. end N-S tunnel under MRL Rotto	Feb-94	<0.222	<0.222	<0.222	<0.222	<0.222	<0.222	<0.222	<0.222	<0.222	<0.222	<0.222	- -
SG-330	Roundhouse - middle N-S tunnel under MRL Rotto	Feb-94	<0.185	<0.185	<0.185	<0.185	<0.185	<0.185	<0.185	<0.185	<0.185	<0.185	<0.185	- -
SG-331	Roundhouse - S. end N-S tunnel under MRL Rotto	Feb-94	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	<0.198	- -
SG-332	MRL Drop Pit - S. end	Feb-94	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	- -
SG-333	MRL Drop Pit - N. end	Feb-94	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	<0.206	- -
SG-334	Wheel Shop - sump in NE. corner	Feb-94	- -	- -	- -	- -	<2.5	<2.5	**6.8**	<2.5	<2.5	<2.5	<2.5	<2.5
SG-335	Shop Drains - N. end of drain trench	Feb-94	- -	- -	- -	- -	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
SG-336	Shop Drains - middle of drain trench	Feb-94	- -	- -	- -	- -	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
SG-337	Shop Drains - S. end of drain outside Wheel Shop	Feb-94	- -	- -	- -	- -	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5

TABLE 3

SOIL GAS ANALYTICAL RESULTS
Burlington Northern Livingston Shop Complex

		Volatile Organic Compounds (mg/m3)(a)												
Sample ID and Location	**Area**	**Date**	**Benzene**	**Toluene**	**Ethyl benzene**	**Xylenes**	**Chloro benzene**	**2-Chloro toluene**	**1,1-DCE**	**cis-1,2-DCE**	**Tetrachloro ethene**	**1,1,1-TCA**	**Trichloro ethene**	**Vinyl Chloride**
200,1400	NA[h]	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
200, 1850	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	**0.242**	**298**	<0.011	**6.99**	<0.256
220, 1575	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
400, 1400	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.136**	**0.026**	**0.193**	<0.256
500, 1700	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	**0.317**	<0.014	**0.007**	**0.161**	<0.256
500, 1810	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	**0.052**	<0.014	<0.011	<0.011	<0.256
575, 1500	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**42.1**	<0.011	**2.79**	<0.256
750, 1550	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.427**	<0.011	<0.011	<0.256
800, 1800	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.950**	**0.060**	**2.04**	<0.256
850, 1300	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.950**	<0.011	**0.145**	<0.256
900, 1450	NA	Jul-88	<0.013	**0.158**	<0.022	<0.152	<0.092	- -	- -	<0.040	**3.05**	<0.011	**0.344**	<0.256
1010, 1600	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**1.76**	<0.011	<0.011	<0.256
1100, 1270	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1250, 1600	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1380, 1310	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.597**	<0.011	<0.011	<0.256
1380, 1410	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.285**	<0.011	<0.011	<0.256
1000, 1900	NA	Jul-88	**0.042**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**2.03**	<0.011	<0.011	<0.256
1650, 1370	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2010, 1490	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2020, 1350	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2140, 1400	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2150, 1400	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2200, 1325	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2220, 1470	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2310, 1540	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
3200, 1310	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
3470, 1340	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
3770, 1300	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1, 1	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.136**	<0.011	<0.011	<0.256
2280, 1250	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	**6.740**	**9.50**	<0.011	**3.49**	<0.256
2600, 1250	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**1.36**	**0.055**	**0.113**	<0.256
2720, 1430	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**26.5**	**0.022**	**0.527**	<0.256
2900, 1350	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**1.29**	<0.011	<0.011	<0.256
2940, 1250	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**2.10**	<0.011	<0.011	<0.256
4090, 1170	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	**1.94**	<0.014	<0.011	<0.011	<0.256
4110, 1280	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.170**	<0.011	**0.199**	<0.256
4300, 1175	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.109**	<0.011	**0.027**	<0.256
4410, 1250	NA	Jul-88	MI [i]	MI	MI	MI	MI	- -	- -	MI	MI	MI	MI	MI
4560, 1130	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.129**	<0.011	<0.091	<0.256
4790, 1181	NA	Jul-88	**0.102**	<0.015	<0.022	<0.152	<0.092	- -	- -	**0.079**	**0.210**	<0.011	**0.156**	<0.256
160, 1010	NA	Jul-88	**0.038**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.054**	<0.011	<0.011	<0.256
470, 1010	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	**0.451**	<0.256

TABLE 3

SOIL GAS ANALYTICAL RESULTS
Burlington Northern Livingston Shop Complex

		Volatile Organic Compounds (mg/m3)(a)												
Sample ID and Location	**Area**	**Date**	**Benzene**	**Toluene**	**Ethyl benzene**	**Xylenes**	**Chloro benzene**	**2-Chloro toluene**	**1,1-DCE**	**cis-1,2-DCE**	**Tetrachloro ethene**	**1,1,1-TCA**	**Trichloro ethene**	**Vinyl Chloride**
780, 1005	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.054**	<0.011	**0.059**	<0.256
975, 1030	NA	Jul-88	**0.032**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.102**	<0.011	<0.011	<0.256
1350, 1040	NA	Jul-88	**0.019**	<0.015	<0.022	**3.13**	<0.092	- -	- -	<0.040	**2.17**	<0.011	**0.059**	<0.256
1680, 1040	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**1.76**	<0.011	**0.048**	<0.256
1980, 1040	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	**0.793**	**32.6**	**0.098**	**3.82**	<0.256
2340, 1040	NA	Jul-88	**0.093**	<0.015	<0.022	**4.34**	<0.092	- -	- -	**1.27**	**102**	**0.153**	**5.37**	<0.256
2580, 1040	NA	Jul-88	**0.045**	<0.015	<0.022	**2.21**	<0.092	- -	- -	**1.11**	**33.2**	**0.027**	**2.69**	<0.256
2860, 1040	NA	Jul-88	<0.013	<0.015	<0.022	**4.34**	<0.092	- -	- -	**0.210**	**5.56**	**0.022**	**0.322**	<0.256
3180, 1040	NA	Jul-88	**0.042**	<0.015	<0.022	<0.152	<0.092	- -	- -	**1.11**	**5.36**	<0.011	**0.537**	<0.256
3450, 1040	NA	Jul-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	**0.083**	**2.03**	<0.011	**0.220**	<0.256
3790, 1040	NA	Jul-88	**0.051**	<0.015	<0.022	**1.52**	<0.092	- -	- -	**0.063**	**1.29**	<0.011	**0.231**	<0.256
4045, 1010	NA	Jul-88	<0.013	<0.015	<0.022	**1.95**	<0.092	- -	- -	<0.040	**0.088**	<0.011	**0.011**	<0.256
4400, 1030	NA	Jul-88	**0.099**	<0.015	<0.022	**1.91**	<0.092	- -	- -	**0.167**	**2.31**	<0.011	**0.462**	<0.256
2400, 1400	NA	Aug-88	<0.013	**0.094**	<0.022	**12.2**	<0.092	- -	- -	<0.040	<0.014	<0.011	**0.054**	<0.256
2430, 1470	NA	Aug-88	<0.013	<0.015	<0.022	**8.68**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2480, 1350	NA	Aug-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2575, 1400	NA	Aug-88	**0.026**	**0.023**	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2600, 1600	NA	Aug-88	**0.144**	**0.106**	<0.022	**4.34**	<0.092	- -	- -	<0.040	**14.9**	<0.011	**0.161**	<0.256
-370, 1670	NA	Aug-88	**0.038**	**0.057**	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.814**	**0.087**	**0.140**	<0.256
-410, 1830	NA	Aug-88	**0.067**	**0.109**	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-500, 2045	NA	Aug-88	**0.061**	**0.087**	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-2280, 1060	NA	Aug-88	**0.048**	**0.087**	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-2550, 1090	NA	Aug-88	**0.061**	**0.102**	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-2860, 1070	NA	Aug-88	**0.102**	**0.414**	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
250, 2175	NA	Aug-88	**0.045**	**0.128**	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.020**	<0.011	<0.011	<0.256
270, 1770	NA	Aug-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**7.46**	**0.120**	**1.18**	<0.256
280, 1605	NA	Aug-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**8.14**	**0.120**	**1.18**	<0.256
550, 2170	NA	Aug-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
800, 2100	NA	Aug-88	<0.013	**0.038**	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-2250, 1260	NA	Aug-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.054**	<0.011	<0.011	<0.256
410, 1500	NA	Aug-88	<0.013	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.095**	<0.011	**0.064**	<0.256
600, 1375	NA	Aug-88	**0.038**	<0.015	<0.022	<2.909	<0.092	- -	- -	<0.040	**0.014**	<0.011	<0.011	<0.256
2000, 2000	NA	Aug-88	<0.014	<0.015	<0.022	<0.169	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
280, 900	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.014**	<0.011	<0.011	<0.256
680, 900	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1070, 900	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.034**	**0.038**	<0.011	<0.256
1460, 900	NA	Aug-88	**0.035**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1890, 900	NA	Aug-88	**0.066**	<0.015	<0.022	**0.122**	<0.092	- -	- -	<0.040	**0.081**	<0.011	<0.011	<0.256

TABLE 3

SOIL GAS ANALYTICAL RESULTS
Burlington Northern Livingston Shop Complex

		Volatile Organic Compounds (mg/m3)(a)												
Sample ID and Location	Area	Date	Benzene	Toluene	Ethyl benzene	Xylenes	Chloro benzene	2-Chloro toluene	1,1-DCE	cis-1,2-DCE	Tetrachloro ethene	1,1,1-TCA	Trichloro ethene	Vinyl Chloride
2240, 900	NA	Aug-88	**0.087**	<0.015	<0.022	**0.113**	<0.092	- -	- -	<0.040	**10.9**	<0.011	**0.091**	<0.256
2730, 900	NA	Aug-88	<0.014	<0.015	<0.022	**0.152**	<0.092	- -	- -	<0.040	**1.09**	<0.011	<0.011	<0.256
3060, 900	NA	Aug-88	**0.024**	<0.015	<0.022	**0.148**	<0.092	- -	- -	<0.040	**0.109**	<0.011	<0.011	<0.256
3600, 900	NA	Aug-88	**0.031**	<0.015	<0.022	**0.069**	<0.092	- -	- -	**0.515**	**17.0**	<0.011	**0.860**	<0.256
4020, 890	NA	Aug-88	**0.017**	<0.015	<0.022	**0.143**	<0.092	- -	- -	<0.040	**14.2**	<0.011	**0.124**	<0.256
1060, 490	NA	Aug-88	**0.017**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1450, 480	NA	Aug-88	**0.031**	<0.026	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1900, 480	NA	Aug-88	**0.122**	**0.226**	**0.082**	**0.161**	<0.092	- -	- -	<0.040	**0.183**	<0.011	<0.011	<0.256
2350, 480	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.454**	<0.011	<0.011	<0.256
2780, 480	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**1.22**	<0.011	<0.011	<0.256
3130, 450	NA	Aug-88	**0.031**	**0.041**	<0.022	**0.056**	<0.092	- -	- -	<0.040	**1.36**	<0.011	<0.011	<0.256
3310, 450	NA	Aug-88	**0.038**	**0.041**	<0.022	<0.152	<0.092	- -	- -	<0.040	**2.10**	<0.011	<0.011	<0.256
3570, -20	NA	Aug-88	**0.024**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.176**	<0.011	<0.011	<0.256
4300, 850	NA	Aug-88	**0.021**	**0.041**	<0.022	<0.152	<0.092	- -	- -	**0.436**	**6.24**	<0.011	**0.478**	<0.256
4680, 970	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	**0.262**	**8.82**	<0.011	**0.511**	<0.256
4740, 780	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**2.92**	<0.011	**0.140**	<0.256
2990, 1670	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**4.14**	<0.011	<0.011	<0.256
3300, 1960	NA	Aug-88	**1.949**	**1.017**	**0.109**	**0.738**	<0.092	- -	- -	**2.74**	**0.136**	<0.011	<0.011	<0.256
3840, 1960	NA	Aug-88	**0.063**	**0.053**	<0.022	**0.130**	<0.092	- -	- -	<0.040	**5.83**	<0.011	<0.011	<0.256
4280, 1910	NA	Aug-88	**0.073**	**0.136**	<0.022	**0.165**	<0.092	- -	- -	<0.040	**3.60**	<0.011	<0.011	<0.256
4530, 1560	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.210**	<0.011	<0.011	<0.256
1420, 2245	NA	Aug-88	**0.118**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1460, 1920	NA	Aug-88	**0.045**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**5.36**	<0.011	<0.011	<0.256
1010, 2245	NA	Aug-88	**0.017**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.366**	<0.011	<0.011	<0.256
1810, 2245	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.081**	<0.011	<0.011	<0.256
1830, 1880	NA	Aug-88	**0.031**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**1.49**	<0.011	<0.011	<0.256
2245, 2245	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.244**	<0.011	<0.011	<0.256
2280, 1860	NA	Aug-88	<0.014	<0.015	**0.135**	**0.265**	<0.092	- -	- -	<0.040	**25.8**	<0.011	<0.011	<0.256
2620, 2245	NA	Aug-88	**0.115**	**0.083**	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.054**	**0.049**	<0.011	<0.256
2740, 1850	NA	Aug-88	**0.024**	**0.452**	**0.274**	**30.4**	<0.092	- -	- -	<0.040	**2.92**	<0.011	<0.011	<0.256
3000, 3000	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
3005, 2245	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.312**	<0.011	<0.011	<0.256
3430, 2245	NA	Aug-88	**0.024**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.034**	<0.011	<0.011	<0.256
3500, 1670	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.638**	<0.011	<0.011	<0.256
3810, 2225	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.075**	<0.011	<0.011	<0.256
4200, 1460	NA	Aug-88	**1.50**	**1.73**	<0.022	**0.912**	<0.092	- -	- -	<0.040	**0.353**	<0.011	<0.011	<0.256
3990, 2560	NA	Aug-88	**0.024**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
4330, 2430	NA	Aug-88	**0.052**	**0.057**	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.529**	<0.011	<0.011	<0.256
1840, 70	NA	Aug-88	**0.522**	**0.490**	<0.022	**0.326**	<0.092	- -	- -	<0.040	**0.054**	**0.207**	<0.011	<0.256

TABLE 3

SOIL GAS ANALYTICAL RESULTS
Burlington Northern Livingston Shop Complex

		Volatile Organic Compounds (mg/m3)(a)												
Sample ID and Location	**Area**	**Date**	**Benzene**	**Toluene**	**Ethyl benzene**	**Xylenes**	**Chloro benzene**	**2-Chloro toluene**	**1,1-DCE**	**cis-1,2-DCE**	**Tetrachloro ethene**	**1,1,1-TCA**	**Trichloro ethene**	**Vinyl Chloride**
2570, 60	NA	Aug-88	**0.244**	<0.015	**0.052**	**0.230**	<0.092	- -	- -	<0.040	**3.66**	**0.065**	<0.011	<0.256
4510, 2160	NA	Aug-88	<0.014	<0.015	<0.022	**0.182**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
4550, 2730	NA	Aug-88	**0.049**	<0.015	<0.022	**0.074**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
4780, 1930	NA	Aug-88	**0.226**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
5050, 1470	NA	Aug-88	**0.418**	**0.369**	**0.043**	**0.230**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
5240, 1030	NA	Aug-88	**0.233**	**0.347**	**0.100**	**0.565**	<0.092	- -	- -	<0.040	**0.814**	<0.011	<0.011	<0.256
5580, 1210	NA	Aug-88	**0.766**	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.109**	<0.011	<0.011	<0.256
-360, 1760	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.034**	**0.065**	<0.011	<0.256
-580, 1390	NA	Aug-88	<0.014	<0.015	<0.022	**0.217**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-580, 1350	NA	Aug-88	<0.014	**25.6**	<0.022	**69.5**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-740, 1360	NA	Aug-88	<0.014	**32.0**	<0.022	**42.6**	<0.092	- -	- -	<0.040	<0.014	**0.033**	<0.011	<0.256
-470, 1280	NA	Aug-88	<0.014	<0.015	<0.022	**2.26**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-350, 1250	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-490, 1350	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
750, 2240	NA	Aug-88	**0.766**	**0.215**	**0.113**	**0.608**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
2950, -10	NA	Aug-88	**0.143**	**0.094**	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.088**	<0.011	<0.011	<0.256
2230, -5	NA	Aug-88	**0.042**	**0.083**	**0.052**	**0.269**	<0.092	- -	- -	<0.040	**0.020**	<0.011	<0.011	<0.256
1620, -5	NA	Aug-88	**0.042**	**0.038**	<0.022	**0.152**	<0.092	- -	- -	<0.040	**0.020**	<0.011	<0.011	<0.256
1860, 2720	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
300, 1870	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**5.97**	<0.011	**0.124**	<0.256
110, 1760	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**2.85**	<0.011	<0.011	<0.256
205, 1800	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**2.92**	**0.060**	<0.011	<0.256
650, 1640	NA	Aug-88	<0.014	**0.072**	<0.022	<0.152	<0.092	- -	- -	<0.040	**7.46**	**0.071**	**0.188**	<0.256
1160, 1470	NA	Aug-88	<0.014	**0.045**	<0.022	<0.152	<0.092	- -	- -	**1.11**	**17.0**	**0.049**	**4.30**	<0.256
2580, 280	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**2.51**	<0.011	<0.011	<0.256
1110, -10	NA	Aug-88	<0.014	**0.034**	<0.022	**0.074**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1800, 0	NA	Aug-88	<0.014	**0.045**	<0.022	**0.096**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1870, -440	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
5280, 870	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**1.56**	<0.011	<0.011	<0.256
2220, 2720	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
1890, 1640	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**15.6**	**0.087**	**0.118**	<0.256
2450, 1175	NA	Aug-88	**0.070**	**0.068**	<0.022	<0.152	<0.092	- -	- -	**3.89**	**7.46**	<0.011	**0.860**	<0.256
2110, 1175	NA	Aug-88	<0.014	<0.015	<0.022	**0.074**	<0.092	- -	- -	<0.040	**0.102**	<0.011	<0.011	<0.256
1500, 1530	NA	Aug-88	<0.014	**0.098**	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.109**	<0.011	<0.011	<0.256
2250, 1625	NA	Aug-88	**0.087**	**0.207**	<0.022	**0.178**	<0.092	- -	- -	**0.555**	**17.0**	**0.033**	**1.45**	<0.256
3130, 1800	NA	Aug-88	**0.038**	**0.147**	<0.022	**0.174**	<0.092	- -	- -	<0.040	**6.65**	<0.011	<0.011	<0.256
3670, 1950	NA	Aug-88	<0.014	**0.049**	<0.022	**0.139**	<0.092	- -	- -	<0.040	**1.09**	<0.011	<0.011	<0.256
3810, 1550	NA	Aug-88	**0.104**	**0.098**	<0.022	**0.156**	<0.092	- -	- -	<0.040	**0.047**	<0.011	<0.011	<0.256
4100, 2150	NA	Aug-88	**0.292**	**0.528**	<0.022	**1.216**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-3530, 1220	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256

TABLE 3

SOIL GAS ANALYTICAL RESULTS
Burlington Northern Livingston Shop Complex

			Volatile Organic Compounds (mg/m3)(a)											
Sample ID and Location	**Area**	**Date**	**Benzene**	**Toluene**	**Ethyl benzene**	**Xylenes**	**Chloro benzene**	**2-Chloro toluene**	**1,1-DCE**	**cis-1,2-DCE**	**Tetrachloro ethene**	**1,1,1-TCA**	**Trichloro ethene**	**Vinyl Chloride**
-150, 1400	NA	Aug-88	**0.244**	**0.324**	**0.100**	**0.565**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
-150, 1780	NA	Aug-88	**0.038**	**0.068**	<0.022	<0.152	<0.092	- -	- -	**0.214**	**59.0**	<0.011	**0.537**	<0.256
-150, 2070	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
5780, 600	NA	Aug-88	<0.014	<0.015	<0.022	**0.069**	<0.092	- -	- -	<0.040	<0.014	<0.011	<0.011	<0.256
3300, 875	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.549**	<0.011	<0.011	<0.256
2950, 2010	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**9.50**	<0.011	**0.113**	<0.256
2575, 670	NA	Aug-88	<0.014	**0.068**	<0.022	**0.117**	<0.092	- -	- -	<0.040	**0.136**	<0.011	<0.011	<0.256
2485, 900	NA	Aug-88	<0.014	**0.068**	<0.022	**0.100**	<0.092	- -	- -	**0.159**	**8.14**	<0.011	**0.699**	<0.256
3250, 1670	NA	Aug-88	<0.014	<0.015	<0.022	<0.152	<0.092	- -	- -	<0.040	**0.380**	<0.011	<0.011	<0.256

Notes:
(a) Samples were analyzed for volatile organic compounds (VOCs) by EPA Method 8260. Only the results of detected analytes are summarized in this table.
(b) "- -" denotes not analyzed.
(c) "<" denotes less than the indicated method reporting limit.
(d) Second result is a laboratory quality assurance duplicate analysis.
(e) Result reported in (micrograms per tube (ug/Tube). Insufficient information was provided on the laboratory analytical reports to enable conversion to milligrams per cubic meter (ug/m^3).
(f) Value derived from 100 times dilution of the original extract.
(g) Value derived from 10 times dilution of the original extract.
(h) "NA" denotes not available.
(i) "MI" denotes matrix interference.

Detected values are shown in bold.

TABLE 4

PROPOSED INDOOR/OUTDOOR AIR AND SUBSLAB SOIL GAS SAMPLING LOCATIONS
Burlington Northern Livingston Shop Complex

Area ID	Location ID	Basement (Yes or No)	Sample Type[(a)]
A	154	Yes (partial)	Indoor air, subslab, downwind outdoor air
	SE-10	No	Indoor air, upwind outdoor air
	SE-11	Yes	Indoor air, subslab
	168	Yes (Full)	Indoor air, subslab
B	111	No	Indoor air, upwind and downwind outdoor air, subslab
C	78	Yes	Indoor air, upwind outdoor air
D	68	Yes	Indoor air, soil gas, downwind outdoor air
E	NE-4	Yes (Partial)	Indoor air, subslab
	NE-16	Yes (Full)	Indoor air, subslab
	3	Vacant	Upwind outdoor air
	27	Vacant	Downwind outdoor air
F	305	Yes (Full)	Indoor air, subslab
	291	No	Indoor air, subslab
Railyard	Former Talgo office	Yes	Indoor air, subslab
	Former Talgo warehouse	Yes (partial)	Indoor air, subslab
	Former Talgo paint shop	No?	Indoor air, subslab
	319	No	Indoor air, crawlspace

Note:

(a) At locations where subslab samples have been identified, if subsequent follow up discovers that an earthen basement is present, a soil gas sample will be attempted at a depth of between 1.5 to 5 feet. If it is not possible to obtain a soil gas sample, DEQ will choose a location outside of the structure for subsequent collection of a soil gas sample using procedures discussed in section 2.2 of this plan.

TABLE 5

INDOOR AIR SCREENING LEVELS AND AIR TOXICS' METHOD DETECTION LIMITS AND REPORTING LIMITS

Analyte[a]	Target Indoor Air Screening Level (µg/m3)	Method Detection Limits (µg/m3)[b]	Reporting Limits (µg/m3)[c]
propene	NA[d]	--[e]	--
dichlorodifluoromethane (Freon 12)	200	0.08	0.50
chloromethane	2.4	0.10	0.21
dichlorotetrafluoroethane (Freon 114)	NA	0.14	0.71
vinyl chloride	0.48	0.026	0.026[f]
1,3-butadiene	0.0087	0.22	0.22[f]
bromomethane	NA	0.19	0.39
chloroethane	10000	0.13	0.27
bromoethene	5	--	--
trichlorofluoromethane (Freon 11)	700	0.11	0.57
acetone	350	1.2	1.2
1,1-dichloroethene	200	0.04	0.40
1,1,2-trichlorotrifluoroethane (Freon 113)	3000	0.15	0.78
allyl chloride	NA	--	--
methylene chloride	5.2	0.07	0.71
carbon disulfide	700	0.3	1.6
trans-1,2-dichloroethene	70	0.40	0.40
methyl tert-butyl ether	3000	0.37	0.37
vinyl acetate	200	--	--
1,1-dichloroethane	500	0.08	0.41
2-butanone	1000	0.30	0.30
n-hexane	NA	0.36	0.36
cis-1.2-dichloroethene	35	0.08	0.40
ethyl acetate	3200	--	--
chloroform	0.11	0.099	0.099[f]
tetrahydrofuran	NA	1.5	1.5
1,1,1-trichloroethane	2200	0.11	0.55
1,2-dichloroethane	0.094	0.082	0.082[f]
benzene	0.31	0.16	0.16[f]
carbon tetrachloride	0.16	0.13	0.13[f]
cyclohexane	NA	0.35	0.35
2,2,4-trimethylpentane	NA	--	--
n-heptane	NA	0.42	0.42
trichloroethene	0.11	0.016	0.016[f]
1,2-dichloropropane	4	0.09	0.47
1,4-dioxane	NA	0.37	0.37
bromodichloromethane	0.14	0.68	0.68[f]
cis-1,3-dichloropropene	0.61	0.09	0.46
4-methyl-2-pentanone	80	0.42	0.42
trans-1,3-dichloropropene	0.61	0.09	0.46
toluene	400	0.08	0.38
1,1,2-trichloroethane	0.15	0.11	0.11[f]
2-hexanone	NA	0.41	2.1
dibromochloromethane	0.1	0.86	0.86[f]

TABLE 5

INDOOR AIR SCREENING LEVELS AND AIR TOXICS' METHOD DETECTION LIMITS AND REPORTING LIMITS

Analyte[a]	Target Indoor Air Screening Level (µg/m3)	Method Detection Limits (µg/m3)[b]	Reporting Limits (µg/m3)[c]
tetrachloroethene	0.81	0.14	0.14[f]
1,2-dibromoethane (EDB)	0.011	0.16	0.16[f]
chlorobenzene	60	0.09	0.47
ethylbenzene	2.2	0.09	0.44
m,p-xylene	7000	0.17	0.44
styrene	1000	0.09	0.43
o-xylene	7000	0.09	0.44
bromoform	2.2	1.0	1.0
cumene	400	0.50	0.50
1,1,2,2-tetrachloroethane	0.042	0.14	0.14[f]
propylbenzene	140	0.50	0.50
4-ethyltoluene	NA	0.50	0.50
1,3,5-trimethylbenzene	6	0.10	0.50
1,2,4-trimethylbenzene	6	0.10	0.50
1,3-dichlorobenzene	110	0.12	0.61
benzyl chloride (alpha-chlorotoluene)	0.05	0.53	0.53
1,4-dichlorobenzene	800	0.12	0.61
1,2-dichlorobenzene	200	0.12	0.61
1,2,4-trichlorobenzene	200	0.7	3.8
hexachlorobutadiene	0.11	1.1	1.1[f]

Notes:

(a) Analytes listed listed are the chemicals included on Air Toxics' and H&P's TO-15 full lists Five analytes that are routinely reported on H&P's TO-15 full list are not reported on Air Toxics' TO-15 full list. Accordingly, "--" denoted that no reporting limit is provided by Air Toxics for such analytes.

(b) Method detection limits are instrument specific, and will vary slightly by instrument.

(c) Reporting limits are equal to the method detection limits (MDLs) for an undiluted sample. Reporting limits increase for samples that require dilution and are equal to the MDLs times the dilution factor, and will vary by sample.

(d) NA indicates that an indoor air screening level was not presented in Table 2c of of EPA's Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, 2002.

(e) "--" indicates that the chemical is not included as part of Air Toxics TO-15 low level list.

(f) Value provided is the MDL and reporting limit with analysis performed in SIM mode. TCE is SIM ultra low value.

TABLE 6

TARGET SOIL GAS SCREENING LEVELS AND H&P MOBILE GEOCHEMISTRY'S METHOD DETECTION LIMITS AND REPORTING LIMITS

Analyte[a]	Target Soil Gas Screening Level (µg/m3)[b]	Method Detection Limits (µg/m3)[c]	Reporting Limits (µg/m3)[d]
propene	NA[e]	2.2	10
dichlorodifluoromethane (Freon 12)	10000	8.3	10
chloromethane	120	2.5	5.0
dichlorotetrafluoroethane (Freon 114)	NA	7.6	10
vinyl chloride	24	1.5	5.0
1,3-butadiene	0.435	1.9	5.0
bromomethane	NA	4.3	5.0
chloroethane	500000	2.4	5.0
bromoethene	250	4.1	5.0
trichlorofluoromethane (Freon 11)	35000	4.8	5.0
acetone	17500	2.9	20
1,1-dichloroethene	10000	3.8	5.0
1,1,2-trichlorotrifluoroethane (Freon 113)	150000	10	10
allyl chloride	NA	2.2	5.0
methylene chloride	260	4.6	5.0
carbon disulfide	35000	2.2	5.0
trans-1,2-dichloroethene	3500	2.8	5.0
methyl tert-butyl ether	150000	1.7	5.0
vinyl acetate	10000	3.5	5.0
1,1-dichloroethane	25000	2.2	5.0
2-butanone	50000	2.7	5.0
n-hexane	NA	1.6	5.0
cis-1.2-dichloroethene	1750	2.1	5.0
ethyl acetate	160000	2.4	5.0
chloroform	5.5	3.4	5.0
tetrahydrofuran	NA	3.6	5.0
1,1,1-trichloroethane	110000	3.6	5.0
1,2-dichloroethane	4.7	3.3	5.0
benzene	15.5	1.1	5.0
carbon tetrachloride	8	4.7	5.5
cyclohexane	NA	2.9	5.0
2,2,4-trimethylpentane	NA	1.0	5.0
n-heptane	NA	2.1	5.0
trichloroethene	5.5	3.4	5.0
1,2-dichloropropane	200	1.6	5.0
1,4-dioxane	NA	3.3	5.5
bromodichloromethane	7	5.3	5.5
cis-1,3-dichloropropene	30.5	1.9	5.0
4-methyl-2-pentanone	4000	2.1	5.0
trans-1,3-dichloropropene	30.5	1.4	5.0
toluene	20000	1.3	5.0
1,1,2-trichloroethane	7.5	3.3	5.0
2-hexanone	NA	1.3	5.0
dibromochloromethane	5	3.8	5.5
tetrachloroethene	40.5	2.9	5.0

TABLE 6

TARGET SOIL GAS SCREENING LEVELS AND H&P MOBILE GEOCHEMISTRY'S METHOD DETECTION LIMITS AND REPORTING LIMITS

Analyte[a]	Target Soil Gas Screening Level (µg/m3)[b]	Method Detection Limits (µg/m3)[c]	Reporting Limits (µg/m3)[d]
1,2-dibromoethane (EDB)	0.55	4.0	5.0
chlorobenzene	3000	2.3	5.0
ethylbenzene	110	2.6	5.0
m,p-xylene	350000	1.9	5.0
styrene	50000	2.1	5.0
o-xylene	350000	2.2	5.0
bromoform	110	16	20
cumene	20000	--[f]	--
1,1,2,2-tetrachloroethane	2.1	4.3	6.0
propylbenzene	7000	--	--
4-ethyltoluene	NA	1.5	5.0
1,3,5-trimethylbenzene	300	3.7	5.0
1,2,4-trimethylbenzene	300	2.9	5.0
1,3-dichlorobenzene	5500	3.5	10
benzyl chloride (alpha-chlorotoluene)	2.5	2.0	5.0
1,4-dichlorobenzene	40000	5.7	10
1,2-dichlorobenzene	10000	3.8	10
1,2,4-trichlorobenzene	10000	5.9	10
hexachlorobutadiene	5.5	8.9	10

Notes:

(a) Analytes listed listed are the chemicals included on Air Toxics' and H&P's TO-15 full lists. Three analytes that are routinely reported on Air Toxis' TO-15 full list are not reported on H&P's TO-15 full list. Accordingly, "--" denoted that no reporting limit is provided by H&P for such analytes.

(b) Target soil gas screening levels are based on the indoor air screening levels adjusted by an attenuation factor of 0.02.

(c) Applicability of sample results reported below the reporting limits down to the method detection limits (MDLs) depend on the degree the canisters were cleaned before sample collection. H&P's standard procedure is to clean canisters to slightly below the reporting limits.

(d) Reporting limits will increase for samples that require dilution, and varies with the degree of dilution.

(e) NA indicates that an indoor air screening level was not presented in Table 2c of of EPA's Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils, 2002; therefore, a soil gas screening level could not be calculated.

(f) "--" indicates that the chemical is not included as part of H&P's TO-15 list.

Figures

LIVINGSTON RAILYARD BOUNDRY

YELLOWSTONE RIVER

LEGEND

SE-4 PREVIOUS INDOOR AIR SAMPLING LOCATION

BASEMAP SOURCE:
HORIZONS, INC. RAPID, SD (1989)

0 250 500
APPROXIMATE SCALE IN FEET

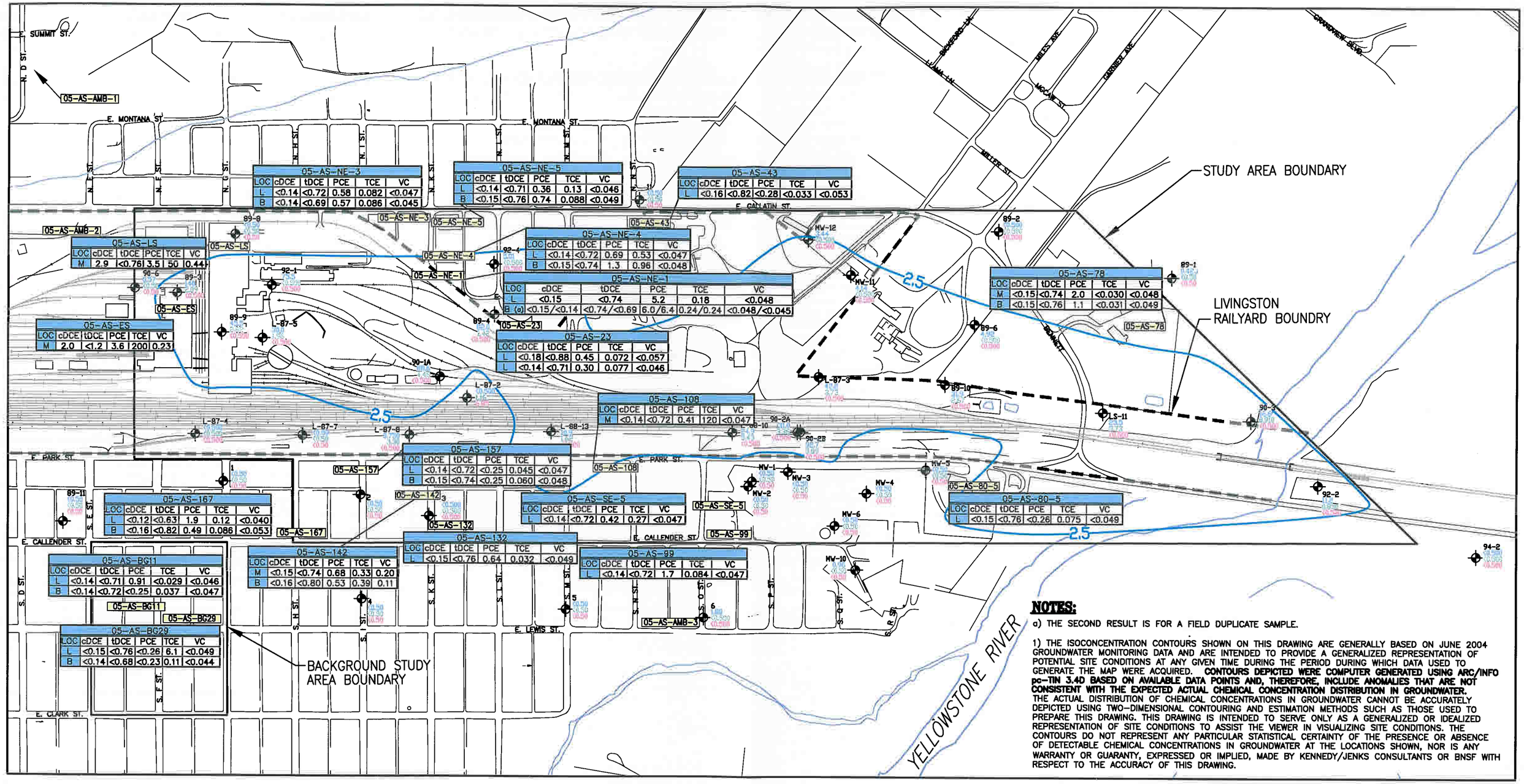
Kennedy/Jenks Consultants

BURLINGTON NORTHERN LIVINGSTON SHOP COMPLEX – LIVINGSTON, MT

PREVIOUS INDOOR AIR SAMPLING LOCATIONS

0796021.16/TASK I/AD2/P07SK001

1/07 (DEQ VERSION) **FIGURE 1**



05-AS-NE-3					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.14	<0.72	0.58	0.082	<0.047
B	<0.14	<0.69	0.57	0.086	<0.045

05-AS-NE-5					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.14	<0.71	0.36	0.13	<0.046
B	<0.15	<0.76	0.74	0.088	<0.049

05-AS-43					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.16	<0.82	<0.28	<0.033	<0.053

05-AS-LS					
LOC	cDCE	tDCE	PCE	TCE	VC
M	2.9	<0.76	3.5	50	0.44

05-AS-NE-4					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.14	<0.72	0.69	0.53	<0.047
B	<0.15	<0.74	1.3	0.96	<0.048

05-AS-NE-1					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.15	<0.74	5.2	0.18	<0.048
B (a)	<0.15/<0.14	<0.74/<0.69	6.0/6.4	0.24/0.24	<0.048/<0.045

05-AS-ES					
LOC	cDCE	tDCE	PCE	TCE	VC
M	2.0	<1.2	3.6	200	0.23

05-AS-23					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.18	<0.88	0.45	0.072	<0.057
L	<0.14	<0.71	0.30	0.077	<0.046

05-AS-78					
LOC	cDCE	tDCE	PCE	TCE	VC
M	<0.15	<0.74	2.0	<0.030	<0.048
B	<0.15	<0.76	1.1	<0.031	<0.049

05-AS-108					
LOC	cDCE	tDCE	PCE	TCE	VC
M	<0.14	<0.72	0.41	120	<0.047

05-AS-157					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.14	<0.72	<0.25	0.045	<0.047
B	<0.15	<0.74	<0.25	0.060	<0.048

05-AS-167					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.12	<0.63	1.9	0.12	<0.040
B	<0.16	<0.82	0.49	0.086	<0.053

05-AS-SE-5					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.14	<0.72	0.42	0.27	<0.047

05-AS-80-5					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.15	<0.76	<0.26	0.075	<0.049

05-AS-132					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.15	<0.76	0.64	0.032	<0.049

05-AS-142					
LOC	cDCE	tDCE	PCE	TCE	VC
M	<0.15	<0.74	0.68	0.33	0.20
B	<0.16	<0.80	0.53	0.39	0.11

05-AS-99					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.14	<0.72	1.7	0.084	<0.047

05-AS-BG11					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.14	<0.71	0.91	<0.029	<0.046
B	<0.14	<0.72	<0.25	0.037	<0.047

05-AS-BG29					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.15	<0.76	<0.26	6.1	<0.049
B	<0.14	<0.68	<0.23	0.11	<0.044

NOTES:

a) THE SECOND RESULT IS FOR A FIELD DUPLICATE SAMPLE.

1) THE ISOCONCENTRATION CONTOURS SHOWN ON THIS DRAWING ARE GENERALLY BASED ON JUNE 2004 GROUNDWATER MONITORING DATA AND ARE INTENDED TO PROVIDE A GENERALIZED REPRESENTATION OF POTENTIAL SITE CONDITIONS AT ANY GIVEN TIME DURING THE PERIOD DURING WHICH DATA USED TO GENERATE THE MAP WERE ACQUIRED. **CONTOURS DEPICTED WERE COMPUTER GENERATED USING ARC/INFO pc-TIN 3.4D BASED ON AVAILABLE DATA POINTS AND, THEREFORE, INCLUDE ANOMALIES THAT ARE NOT CONSISTENT WITH THE EXPECTED ACTUAL CHEMICAL CONCENTRATION DISTRIBUTION IN GROUNDWATER.** THE ACTUAL DISTRIBUTION OF CHEMICAL CONCENTRATIONS IN GROUNDWATER CANNOT BE ACCURATELY DEPICTED USING TWO-DIMENSIONAL CONTOURING AND ESTIMATION METHODS SUCH AS THOSE USED TO PREPARE THIS DRAWING. THIS DRAWING IS INTENDED TO SERVE ONLY AS A GENERALIZED OR IDEALIZED REPRESENTATION OF SITE CONDITIONS TO ASSIST THE VIEWER IN VISUALIZING SITE CONDITIONS. THE CONTOURS DO NOT REPRESENT ANY PARTICULAR STATISTICAL CERTAINTY OF THE PRESENCE OR ABSENCE OF DETECTABLE CHEMICAL CONCENTRATIONS IN GROUNDWATER AT THE LOCATIONS SHOWN, NOR IS ANY WARRANTY OR GUARANTY, EXPRESSED OR IMPLIED, MADE BY KENNEDY/JENKS CONSULTANTS OR BNSF WITH RESPECT TO THE ACCURACY OF THIS DRAWING.

LEGEND

05-AS-BG29					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.15	<0.76	<0.26	6.1	<0.049
B	<0.14	<0.68	<0.23	0.11	<0.044

SAMPLE LOCATION ID WITH cis-1,2-DICHLORO-ETHENE (cDCE), trans-1,2-DICHLOROETHENE (tDCE), TETRACHLOROETHENE (PCE), TRICHLOROETHENE (TCE), AND VINYL CHLORIDE (VC) (ug/M^3) FOR THE DECEMBER 2005 SAMPLING EVENT

LOC SAMPLE LOCATION WITHIN BUILDING

L LIVING AREA B BASEMENT M MAIN FLOOR

05-AS-NE-4 DECEMBER 2005 INDOOR AIR SAMPLING LOCATION

MONITORING WELL LOCATION WITH CONCENTRATION IN MICROGRAMS PER LITER (ug/L) BASED ON JUNE 2004 ANALYTICAL RESULTS OR LATEST AVAILABLE ANALYTICAL DATA FOR WELLS NOT SAMPLED IN JUNE 2004.

2.5 ESTIMATED PCE ISOCONCENTRATION CONTOUR (ug/L)

<0.50 PCE <0.50 TCE <0.50 VC

BASEMAP SOURCE:

HORIZONS, INC. RAPID, SD (1989)

N

0 250 500

APPROXIMATE SCALE IN FEET

Kennedy/Jenks Consultants

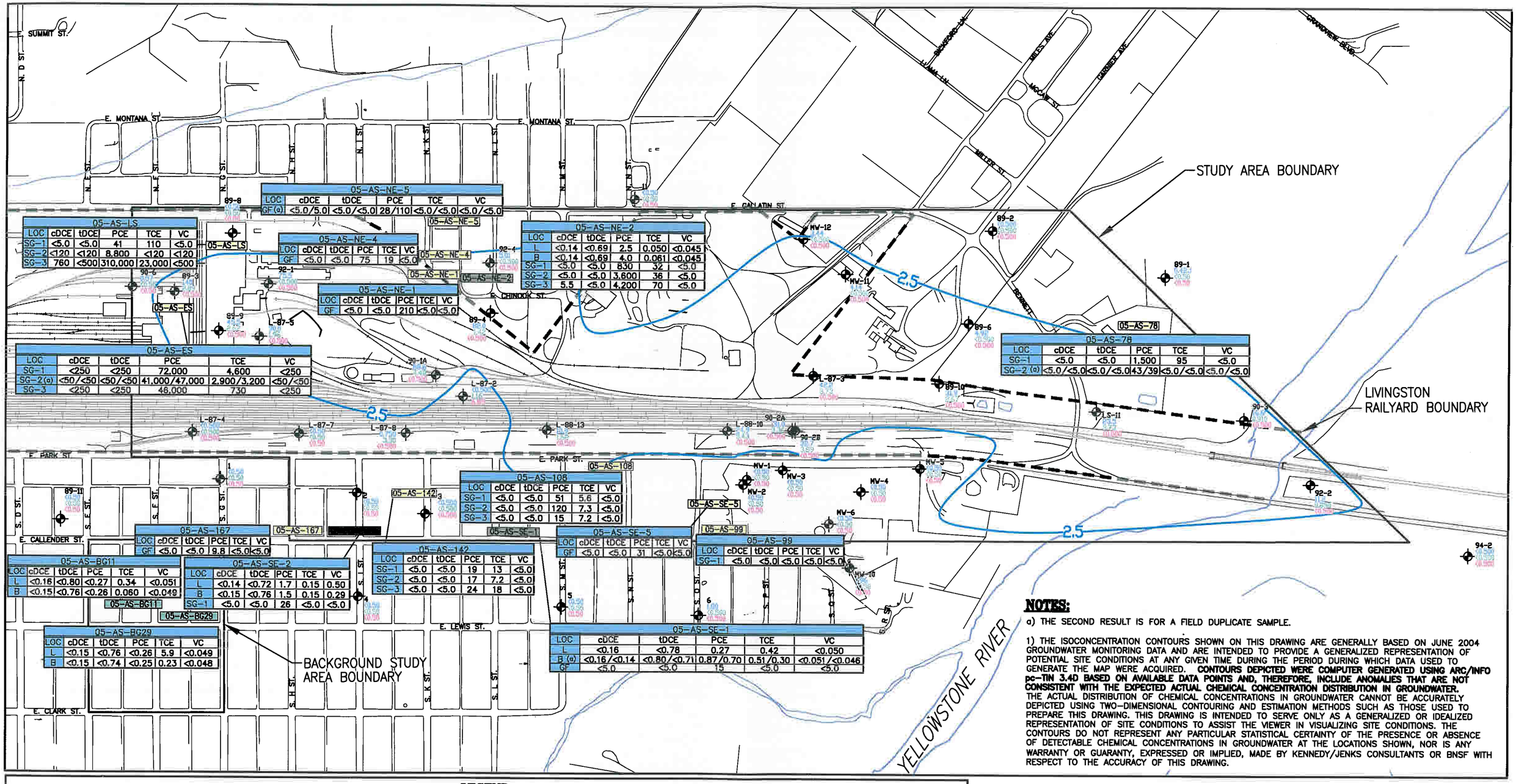
BURLINGTON NORTHERN LIVINGSTON SHOP COMPLEX – LIVINGSTON, MT

DECEMBER 2005 INDOOR AIR SAMPLING ANLYTICAL RESULTS

0796021.16/TASK 1/AD2/P07SK002

1/07 (DEQ VERSION)

FIGURE 2



05-AS-LS					
LOC	cDCE	tDCE	PCE	TCE	VC
SG-1	<5.0	<5.0	41	110	<5.0
SG-2	<120	<120	8,800	<120	<120
SG-3	760	<500	310,000	23,000	<500

05-AS-NE-5					
LOC	cDCE	tDCE	PCE	TCE	VC
GF (a)	<5.0/5.0	<5.0/<5.0	28/110	<5.0/<5.0	<5.0/<5.0

05-AS-NE-4					
LOC	cDCE	tDCE	PCE	TCE	VC
GF	<5.0	<5.0	75	19	<5.0

05-AS-NE-1					
LOC	cDCE	tDCE	PCE	TCE	VC
GF	<5.0	<5.0	210	<5.0	<5.0

05-AS-NE-2					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.14	<0.69	2.5	0.050	<0.045
B	<0.14	<0.69	4.0	0.061	<0.045
SG-1	<5.0	<5.0	830	32	<5.0
SG-2	<5.0	<5.0	3,600	36	<5.0
SG-3	5.5	<5.0	4,200	70	<5.0

05-AS-ES					
LOC	cDCE	tDCE	PCE	TCE	VC
SG-1	<250	<250	72,000	4,600	<250
SG-2 (a)	<50/<50	<50/<50	41,000/47,000	2,900/3,200	<50/<50
SG-3	<250	<250	46,000	730	<250

05-AS-78					
LOC	cDCE	tDCE	PCE	TCE	VC
SG-1	<5.0	<5.0	1,500	95	<5.0
SG-2 (a)	<5.0/<5.0	<5.0/<5.0	43/39	<5.0/<5.0	<5.0/<5.0

05-AS-108					
LOC	cDCE	tDCE	PCE	TCE	VC
SG-1	<5.0	<5.0	51	5.6	<5.0
SG-2	<5.0	<5.0	120	7.3	<5.0
SG-3	<5.0	<5.0	15	7.2	<5.0

05-AS-167					
LOC	cDCE	tDCE	PCE	TCE	VC
GF	<5.0	<5.0	9.8	<5.0	<5.0

05-AS-142					
LOC	cDCE	tDCE	PCE	TCE	VC
SG-1	<5.0	<5.0	19	13	<5.0
SG-2	<5.0	<5.0	17	7.2	<5.0
SG-3	<5.0	<5.0	24	18	<5.0

05-AS-SE-5					
LOC	cDCE	tDCE	PCE	TCE	VC
GF	<5.0	<5.0	31	<5.0	<5.0

05-AS-99					
LOC	cDCE	tDCE	PCE	TCE	VC
SG-1	<5.0	<5.0	<5.0	<5.0	<5.0

05-AS-BG11					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.16	<0.80	<0.27	0.34	<0.051
B	<0.15	<0.76	<0.26	0.060	<0.049

05-AS-SF-2					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.14	<0.72	1.7	0.15	0.50
B	<0.15	<0.76	1.5	0.15	0.29
SG-1	<5.0	<5.0	26	<5.0	<5.0

05-AS-BG29					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.15	<0.76	<0.26	5.9	<0.049
B	<0.15	<0.74	<0.25	0.23	<0.048

05-AS-SE-1					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.16	<0.78	0.27	0.42	<0.050
B (a)	<0.16/<0.14	<0.80/<0.71	0.87/0.70	0.51/0.30	<0.051/<0.046
GF	<5.0	<5.0	15	<5.0	<5.0

NOTES:

a) THE SECOND RESULT IS FOR A FIELD DUPLICATE SAMPLE.

1) THE ISOCONCENTRATION CONTOURS SHOWN ON THIS DRAWING ARE GENERALLY BASED ON JUNE 2004 GROUNDWATER MONITORING DATA AND ARE INTENDED TO PROVIDE A GENERALIZED REPRESENTATION OF POTENTIAL SITE CONDITIONS AT ANY GIVEN TIME DURING THE PERIOD DURING WHICH DATA USED TO GENERATE THE MAP WERE ACQUIRED. **CONTOURS DEPICTED WERE COMPUTER GENERATED USING ARC/INFO pc-TIN 3.4D BASED ON AVAILABLE DATA POINTS AND, THEREFORE, INCLUDE ANOMALIES THAT ARE NOT CONSISTENT WITH THE EXPECTED ACTUAL CHEMICAL CONCENTRATION DISTRIBUTION IN GROUNDWATER.** THE ACTUAL DISTRIBUTION OF CHEMICAL CONCENTRATIONS IN GROUNDWATER CANNOT BE ACCURATELY DEPICTED USING TWO-DIMENSIONAL CONTOURING AND ESTIMATION METHODS SUCH AS THOSE USED TO PREPARE THIS DRAWING. THIS DRAWING IS INTENDED TO SERVE ONLY AS A GENERALIZED OR IDEALIZED REPRESENTATION OF SITE CONDITIONS TO ASSIST THE VIEWER IN VISUALIZING SITE CONDITIONS. THE CONTOURS DO NOT REPRESENT ANY PARTICULAR STATISTICAL CERTAINTY OF THE PRESENCE OR ABSENCE OF DETECTABLE CHEMICAL CONCENTRATIONS IN GROUNDWATER AT THE LOCATIONS SHOWN, NOR IS ANY WARRANTY OR GUARANTY, EXPRESSED OR IMPLIED, MADE BY KENNEDY/JENKS CONSULTANTS OR BNSF WITH RESPECT TO THE ACCURACY OF THIS DRAWING.

LEGEND

05-AS-BG29					
LOC	cDCE	tDCE	PCE	TCE	VC
L	<0.15	<0.76	<0.26	5.9	<0.049
B	<0.15	<0.74	<0.25	0.23	<0.048

SAMPLE LOCATION ID WITH cis-1,2-DICHLOROETHENE (cDCE), trans-1,2-DICHLOROETHENE (tDCE), TETRACHLOROETHENE (PCE), TRICHLOROETHENE (TCE), AND VINYL CHLORIDE (VC) (ug/M^3) FOR THE APRIL 2006 SAMPLING EVENT

LOC — SAMPLE LOCATION WITHIN BUILDING

L LIVING AREA — B BASEMENT — M MAIN FLOOR

SG — SOIL GAS SAMPLE DESIGNATION

GF — FLUX CHAMBER SAMPLE DESIGNATION

05-AS-BG-11 — PLANNED ADDITIONAL INDOOR AIR SAMPLING LOCATION

05-AS-NE-4 — PLANNED SUBSLAB SOIL GAS OR FLUX CHAMBER SAMPLING LOCATION

PLANNED INDOOR AIR SAMPLING LOCATION AND SUBSLAB SOIL GAS OR FLUX CHAMBER SAMPLING LOCATION

MONITORING WELL LOCATION WITH CONCENTRATION IN MICROGRAMS PER LITER (ug/L) BASED ON JUNE 2004 ANALYTICAL RESULTS OR LATEST AVAILABLE ANALYTICAL DATA FOR WELLS NOT SAMPLED IN JUNE 2004.

2.5 — ESTIMATED PCE ISOCONCENTRATION CONTOUR (ug/L)

(PCE) TETRACHLOROETHENE — (TCE) TRICHLOROETHENE — (VC) VINYL CHLORIDE

BASEMAP SOURCE:

HORIZONS, INC. RAPID, SD (1989)

N

0 250 500

APPROXIMATE SCALE IN FEET

Kennedy/Jenks Consultants

BURLINGTON NORTHERN LIVINGSTON SHOP COMPLEX – LIVINGSTON, MT

APRIL 2006 INDOOR AIR AND SOIL GAS SAMPLING ANALYTICAL RESULTS

0796021.16/TASK I/AD2/P07SK003

1/07 (DEQ VERSION)

FIGURE 3

E. SUMMIT ST.
N. D ST.
E. MONTANA ST.
N. E ST.
N. F ST.
N. G ST.
N. H ST.
N. I ST.
N. L ST.
N. M ST.
N. N ST.
E. GALLATIN ST.
AS-AMB-1
05-AS-LS
05-AS-ES
05-AS-NE-4
05-AS-NE-2
E. CHINOOK ST.
SHOP
K/J FIELD OFFICE
(331 BENNETT)
LIVINGSTON
RAILYARD BOUNDRY
STUDY AREA BOUNDARY
05-AS-78
E. PARK ST.
05-AS-142
05-AS-SE-2
05-AS-SE-1
05-AS-108
05-AS-SE-5
05-AS-99
E. CALLENDER ST.
S. D ST.
S. E ST.
S. F ST.
S. G ST.
S. H ST.
S. I ST.
S. K ST.
S. L ST.
S. M ST.
S. N ST.
S. O ST.
S. P ST.
S. Q ST.
S. R ST.
05-AS-BG11
05-AS-BG29
E. LEWIS ST.
E. CLARK ST.
YELLOWSTONE RIVER
A
B
C
D
E
F

LEGEND

- DEQ PROPOSED SOIL GAS SAMPLING LOCATIONS (ONLY LOCATIONS WHERE SOIL BORINGS ARE PLANNED ARE SHOWN)
- DEQ DESIGNATED AMBIENT AIR SAMPLING AREAS
- PREVIOUS INDOOR AIR SAMPLING LOCATIONS (DECEMBER 2005 AND APRIL 2006)
- AREA IDENTIFICATION
- STUDY AREA BOUNDARY
- ESTIMATED PCE > 2.5 µg/L IN GROUND WATER AS INTERPRETED BY DEQ

NOTE:
WITHIN AMBIENT AIR SAMPLE AREAS, SUBSLAB SOIL GAS OR SHALLOW GAS SAMPLES WILL ALSO BE COLLECTED. THESE LOCATIONS ARE NOT IDENTIFIED ON THIS FIGURE, BUT ARE LISTED IN TABLE 4 OF THIS PLAN.

BASEMAP SOURCE:
HORIZONS, INC. RAPID, SD (1989)

N

0 250 500
APPROXIMATE SCALE IN FEET

Kennedy/Jenks Consultants

BURLINGTON NORTHERN LIVINGSTON SHOP COMPLEX – LIVINGSTON, MT

PROPOSED SAMPLING LOCATIONS

0796021.16/TASK I/AD2/P07SK004

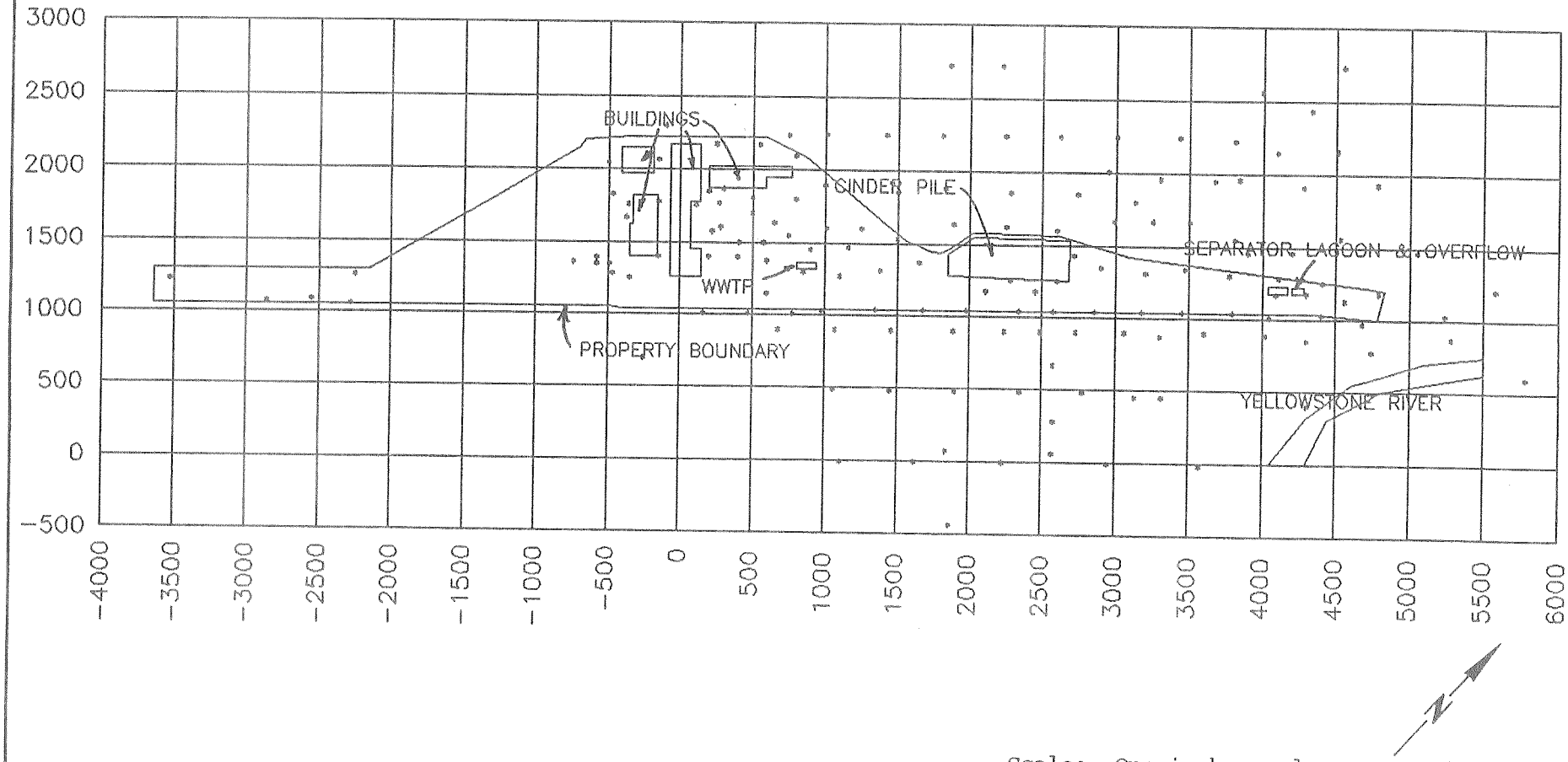
1/07 (DEQ VERSION)

FIGURE 4

Attachment A

Figures Showing Previous Soil Gas Sampling Locations

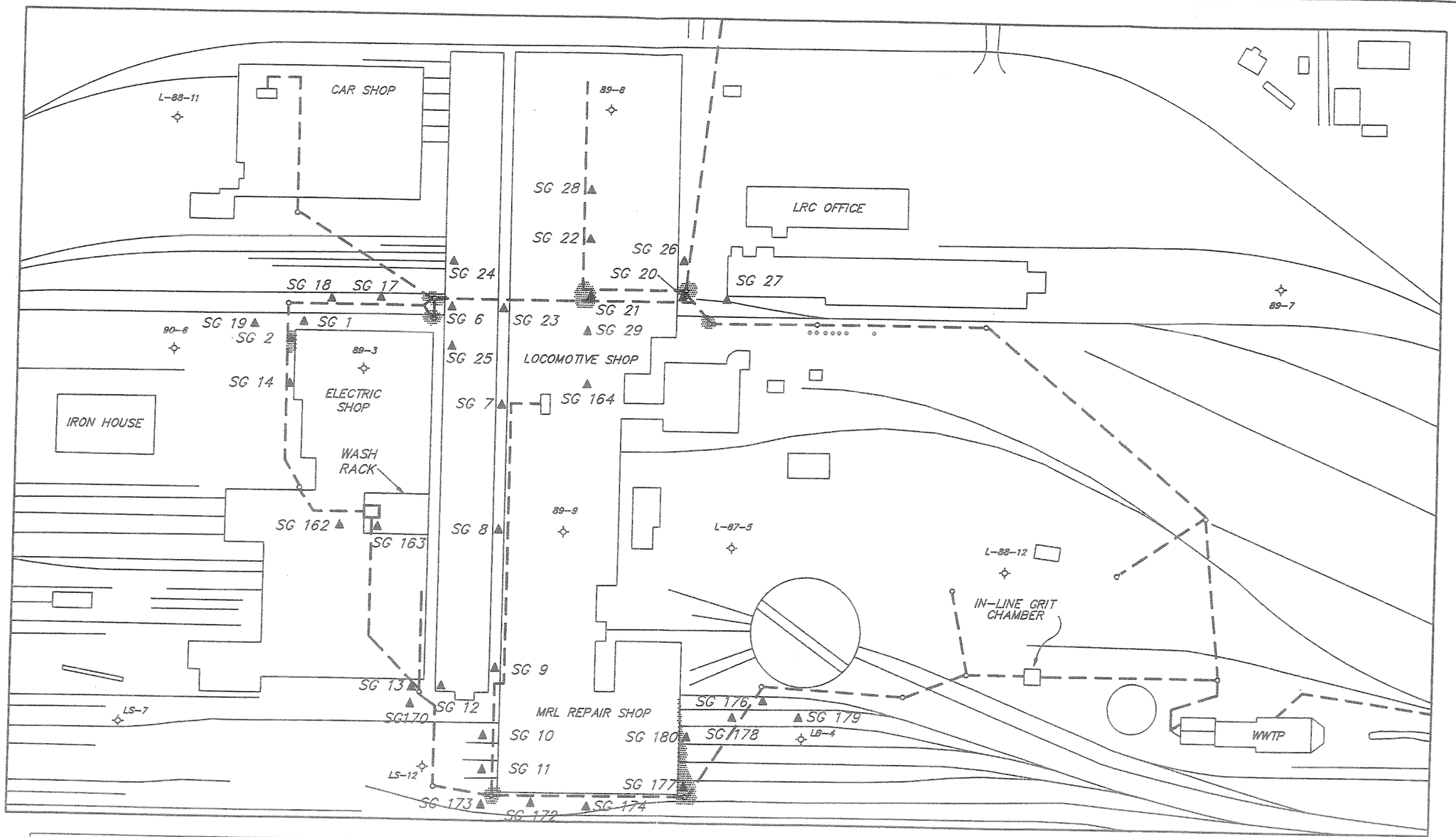
REIEC



Scale: One inch equals approx. 1,100 feet

SOIL GAS SAMPLING LOCATIONS

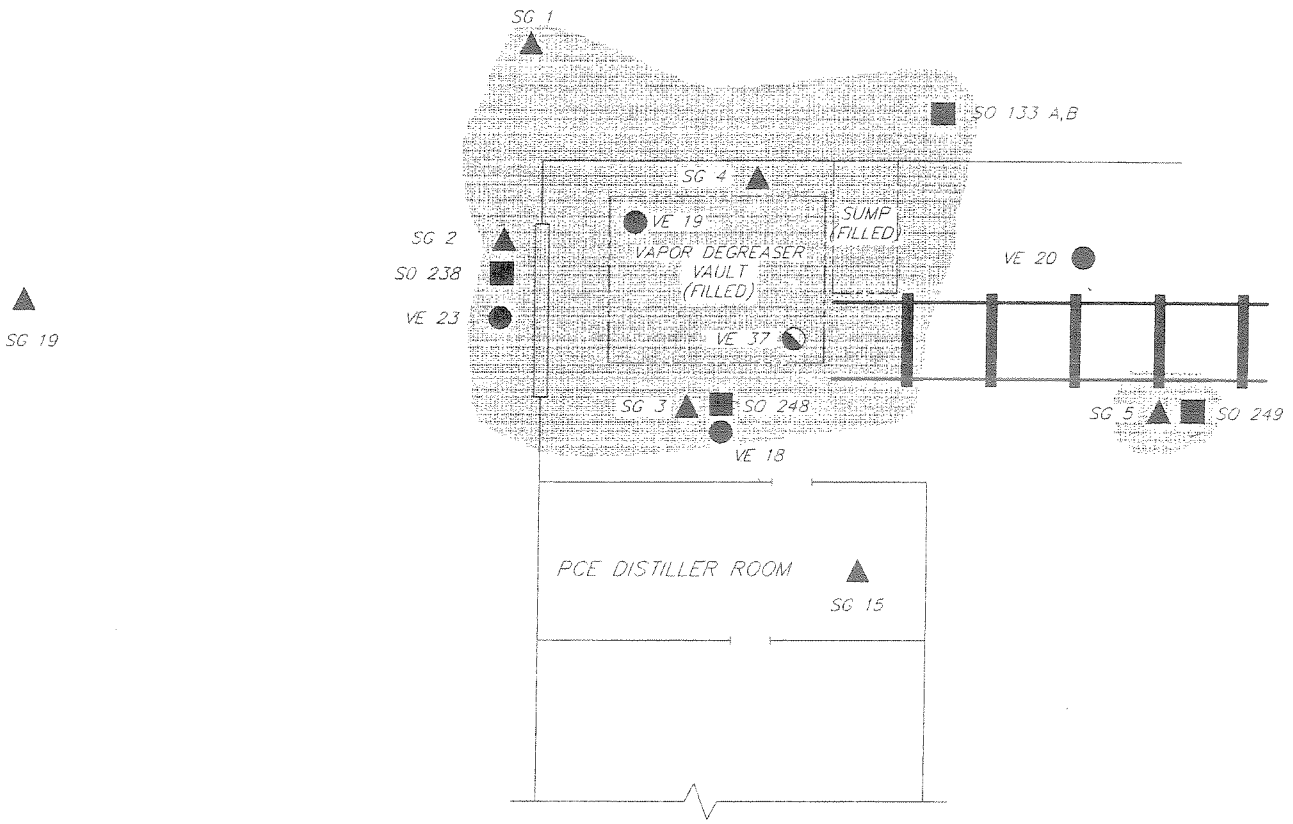
FIGURE 2-1



SYMBOL LEGEND

- EXISTING WELL
- SHOP COMPLEX DRAIN LINES
- SUMP
- MAN WAY
- SOIL GAS SAMPLE LOCATION
- APPROX AREA OF CONTAMINATION

BURLINGTON NORTHERN	SOIL SECTION LIVINGSTON RAIL YARD REMEDIAL INVESTIGATION	SOIL GAS SAMPLE LOCATIONS ALONG THE SHOP COMPLEX DRAIN LINES
ENVIROCON, INC.	AutoCAD FILE: PJ11.DWG_C	8/20/92 FIGURE 3.8



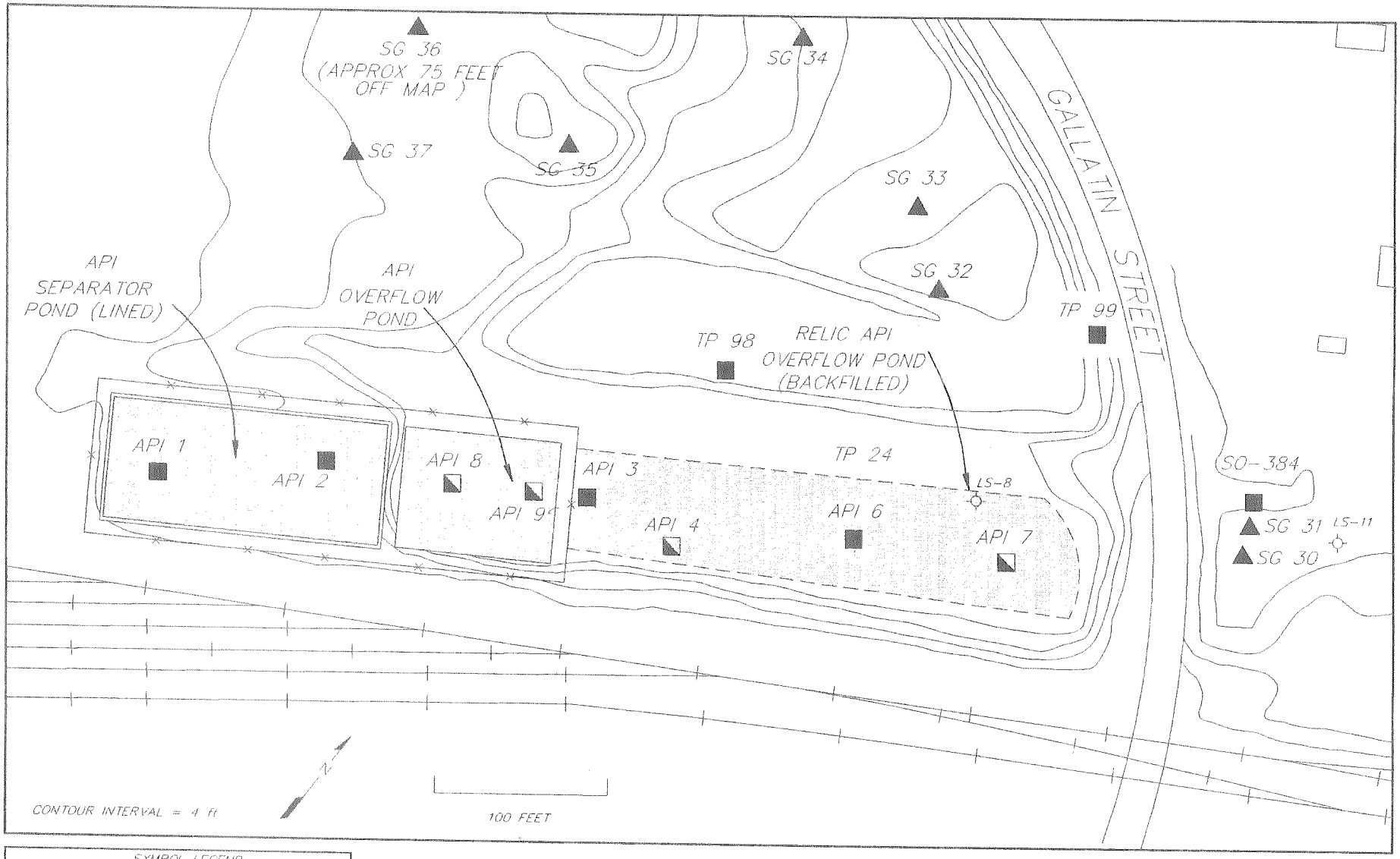
SYMBOL LEGEND

- SOIL GAS SAMPLE LOCATION
- SOIL SAMPLE LOCATION
- VAPOR EXTRACTION WELL ONLY
- VAPOR EXTRACTION WELL & SOIL SAMPLE LOCATION
- APPROX. AREA OF SOIL CONTAMINATION

SCALE IN FEET

0 10 20

BURLINGTON NORTHERN	SOIL SECTION LIVINGSTON RAIL YARD REMEDIAL INVESTIGATION	SOIL GAS & SOIL SAMPLE LOCATIONS AT THE ELECTRIC SHOP
ENVIROCON, INC.	AutoCAD FILE: PJ35.DWG_B	9/7/92 FIGURE 3.9

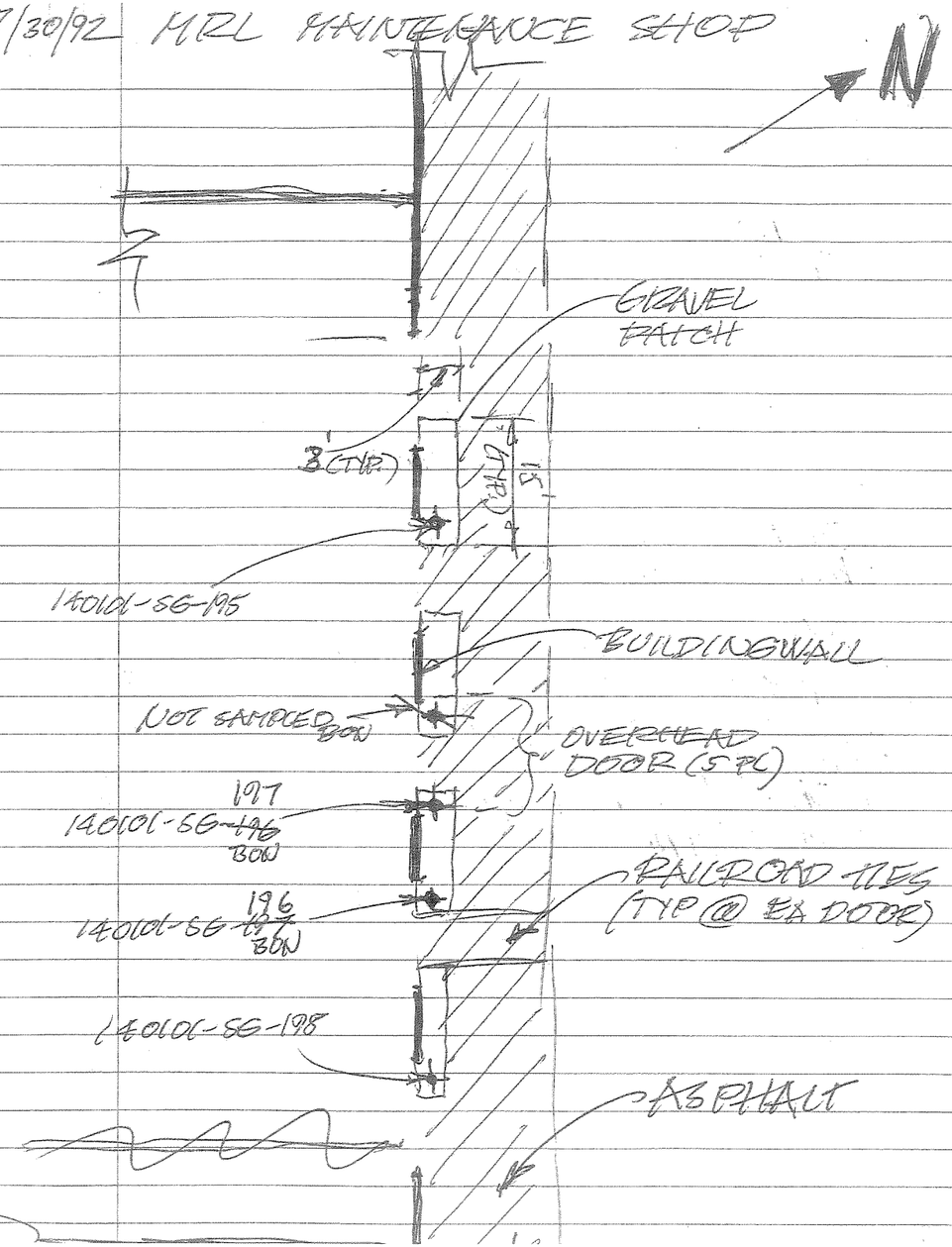


SYMBOL LEGEND

- TEST PIT & SOIL SAMPLE LOCATION
- APPROX AREA OF CONTAMINATED SOIL
- TEST PIT ONLY
- SOIL GAS SAMPLE
- EXISTING WELL
- FENCE

BURLINGTON NORTHERN	SOIL SECTION LIVINGSTON RAIL YARD REMEDIAL INVESTIGATION	TEST PIT, SOIL & SOIL GAS SAMPLE LOCATIONS AT THE API SEPARATOR & OVERFLOW PONDS
ENVIROCON, INC.	AutoCAD FILE: PJ21.DWG_D	8/20/92 FIGURE 3.15

7/30/92 MRL MAINTENANCE SHOP



7/30/92 SOIL SAMPLES (AIR) AT MRL MAINTENANCE SHOP

Sampler: Gilian Pump #1

Sample #: 140101 - SG-195

Loc'n: Outside 4th door from south; Right side of door when facing door; 6" from right side of door; ~~24"~~ 12" BOW out from door opening

Time: ~~1401~~ 1213 BOW (pump started)

Sample Time: ~~1432~~ 1243 BOW Total time: 30 min

Flow: 2.99 L/min (initial)

Obs: 4.5' sampling depth; Bentonite clay placed at rod/soil interface

~~Post Cal~~ BOW

Sample #: 140101 - SG-196

Loc'n: Outside ~~3rd~~ 2nd BOW door from south; Right BOW ~~left~~ side of door when facing door; 18" south BOW ~~north~~ of ~~left~~ Right BOW side of door; 24" BOW out from door opening

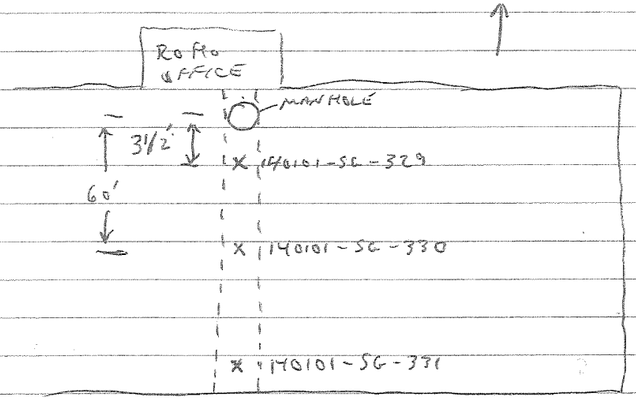
Time: 1421 (pump started)

Sample Time: 1451 Total time: 30 min

Flow: 2.99 L/min (initial)

Obs: 5' sampling depth; Bentonite clay placed at rod/soil interface

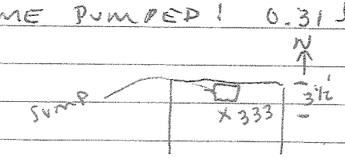
SAMPLE # 140101-SG-331
LOCATION NORTH-SOUTH TUNNEL UNDER MRL ROTO - SOUTH END
TIME 1650
METHOD GIL AIR PUMP AND CHARCOAL TUBE
OBSERVATIONS DRILL HOLE THROUGH BENTONITE DIKE IN TUNNEL FLOOR. APPROX 1" WATER ON FLOOR. DROVE IN 3' SHAFT
BEGIN PUMP: 1650
END PUMP: 1728
FLOW RATE: 0.3 l/min (PRE-CALIBRATION RATE)
VOLUME PUMPED: 28 min (.3 l/m) =



2/10/94
SOIL GAS SAMPLING INVESTIGATION
MRL SHOP DROP PIT

SAMPLE # 140101-SG-332
LOCATION MRL DROP PIT - SOUTH END
TIME 0917
METHOD GIL AIR PUMP AND CHARCOAL TUBE
OBSERVATIONS DRILL THROUGH FLOOR OF DROP PIT. DROVE IN 3' SHAFT.
BEGIN PUMP: 0917
END PUMP: 0943
FLOW RATE: 0.31 l/min
VOLUME PUMPED: 0.31 l/min (26 min) = 8.06 l

SAMPLE # 140101-SG-333
LOCATION MRL DROP PIT - NORTH END
TIME 1106
METHOD GIL AIR PUMP AND CHARCOAL TUBE
OBSERVATIONS DRILL THROUGH FLOOR OF DROP PIT. DROVE IN 3' SHAFT
BEGIN PUMP: 1106
END PUMP: 1132
FLOW RATE: 0.31 l/min
VOLUME PUMPED: 0.31 l/min (26 min) = 8.06



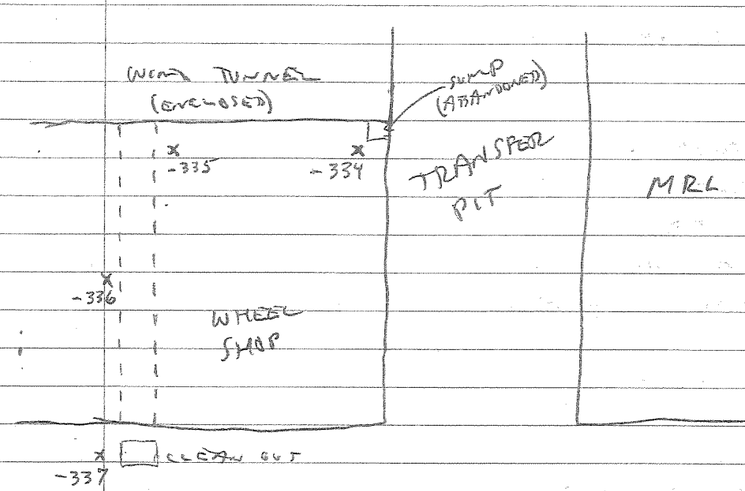
2/10/94
SOIL GAS SAMPLING INVESTIGATION
WHEEL SHOP - LRC

SAMPLE # 140101-SG-334
LOCATION SUMP IN NE CORNER OF WHEEL SHOP
TIME 1405
METHOD COMPRESSOR (1.5 CFM) AND TEDLAR BAG
OBSERVATIONS DRILL THROUGH FLOOR ADJACENT TO SUMP (ABANDONED). PURGED W/ COMPRESSOR FOR ~ 2 MIN. SAMPLE INTO TEDLAR BAG. SAMPLE DEPTH 30"

SAMPLE # 140101-SG-335
LOCATION NORTH END OF DRAIN TRENCH
TIME 1425
METHOD COMPRESSOR (1.5 CFM) AND TEDLAR BAG
OBSERVATIONS DRILL THROUGH FLOOR ON EAST SIDE OF TRENCH DROVE IN 54" OF ROD. PURGED W/ COMPRESSOR FOR 2 MIN. MOIST CINDERY SOIL AT SAMPLE DEPTH

SAMPLE # 140101-SG-336
LOCATION MIDDLE OF DRAIN TRENCH
TIME 1503
METHOD COMPRESSOR (1.5 CFM) AND TEDLAR BAG
OBSERVATIONS DRILL THROUGH FLOOR ON WEST SIDE OF TRENCH DROVE IN 54" OF ROD. PURGED W/ COMPRESSOR FOR 2 MIN.

SAMPLE # 140101-SG-337
LOCATION SOUTH END OF DRAIN - OUTSIDE WHEEL SHOP
TIME 1542
METHOD COMPRESSOR (1.5 CFM) AND TEDLAR BAG.
OBSERVATIONS DRILL ON WEST SIDE OF CLEAN OUT OUTSIDE WHEEL SHOP. CLEAN OUT 4' FROM WALL. DROVE IN 6' OF ROD. PURGE FOR 2 MIN. SEWER SMELL TO PURGE AIR.



Attachment B

Occupied Dwelling Questionnaires

OS-AS-NE-1

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/21/05

1. Name:__

   Address:

   _____

   Home Phone:

2. What is the best time to call to speak with you? anytime At: Work ☐ or Home ☐?

3. Are you the Owner ☒, Renter ☐, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 1
   Number of children? Ø Ages?_____

5. How long have you lived at this location? 8 yr.

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ☐, Condominium☐, Townhouse ☐, Other ☐_____

7. Home/Structure Description: number of floors 1
   Basement? Yes ☒ No ☐
   Crawl Space? Yes ☐ No ☐
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: built in 1920 years, Not sure/Unknown ☐

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☐, Brick ☐, Concrete ☐, Cement block ☐, Other ☒ Stucco

10. Foundation Construction (check all that apply):
    Concrete slab ☒
    Fieldstone ☐
    Concrete block ☐

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ☒ No ❑
If yes, please describe what you use the well for: irrigation – pump is broken and hasn't been used since he bought the place

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
If you do not have a basement go to question 23.

15. Is the basement finished ❑ or unfinished ☒?
16. If finished, how many rooms are in the basement? 3
How many are used for more than 2 hours/day? None
17. Is the basement floor (check all that apply) concrete ☒, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ☒, cement block ❑, stone ❑, wood ❑, brick ☒ other❑ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ☒, Sump ❑, Floor drain ❑, Other hole/opening in floor ☒ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ☒ Paint stripper/remover ☐ Paint thinner ☐
Metal degreaser/cleaner ☐ Gasoline ☐ Diesel fuel ☐ Solvents ☐ Glue ☐
Laundry spot removers ☐ Drain cleaners ☐ Pesticides ☐
laundry detergents

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ☐ No ☒
If yes, please specify what was done, where in the home, and what month:
paint outside in spring

24. Have you installed new carpeting in your home within the last year? Yes ☐ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ☐
Yes, use dry-cleaning infrequently (monthly or less) ☐
Yes, work at a dry cleaning service ☐
No ☒ uniform laundry service

26. Does anyone in your home use solvents at work?
Yes ☒ If yes, how many persons 1
No ☐ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ☐ No ☒
uniforms at work
other clothes at home

28. Where is the washer/dryer located?
Basement ☒
Upstairs utility room ☐
Kitchen ☐
Garage ☐
Use a Laundromat ☐
Other, please specify ☐_____

29. If you have a dryer, is it vented to the outdoors? Yes ☐ No ☒

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ☐, Electric ☐, Wood ☐, Coal ☐, Other_____
Heat conveyance system: Forced hot air ☒
Forced hot water ☐
Steam ☐
Radiant floor heat ☐
Wood stove ☐
Coal furnace ☐
Fireplace ☐
Other_____

31. Do you have air conditioning? Yes ☐ No ☒. If yes, please check the appropriate type(s)
Central air conditioning ☐
Window air conditioning unit(s) ☐
Other ☐, please specify one window one, not typically used.

32. Do you use any of the following? Room fans ☒, Ceiling fans ☐, Attic fan ☐
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ☐ No ☐ in summer occasionally

33. Has your home had termite or other pesticide treatment: Yes ☒ No ☐ Unknown ☐
If yes, please specify type of pest controlled, termites
and approximate date of service spring 2005, aerosol can - did himself

34. Water Heater Type: Gas ☒, Electric ☐, By furnace ☐, Other ☐ _____
Water heater location: Basement ☐, Upstairs utility room ☐, Garage ☐, Other ☒ (please describe) kitchen.

35. What type of cooking appliance do you have? Electric ☒, Gas ☐, Other ☐ _____

36. Is there a stove exhaust hood present? Yes ☐ No ☒
Does it vent to the outdoors? Yes ☐ No ☒

37. Smoking in Home:
None ☒, Rare (only guests) ☐, Moderate (residents light smokers) ☐,
Heavy (at least one heavy smoker in household) ☐

38. If yes to above, what do they smoke?
Cigarettes ☐ Cigars ☐
Pipe ☐ Other ☐

39. Do you regularly use air fresheners? Yes ☒ No ☐

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☐
Heating ☐, soldering ☐, welding ☐, model glues ☐, paint ☐, spray paint,
wood finishing ☐, Other ☐ Please specify what type of hobby: hobbies are done in garage - welding supplies.

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often	glade
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often	termite spray.
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often	

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ❑
    - Dry sweeping ❑
    - Vacuuming ❑
    - Polishing (furniture, etc) ❑
    - Washing/waxing floors ❑
    - Other ❑ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 10/21/05

Location ID: 05-AS-NE-1

Address: _____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation (Storm Windows) Energy-Efficient Windows Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Shelving in living room, plywood cabinets

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? not typically.

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? downwind from idling locomotives.

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	sm. amounts in basement
Gas-powered equipment	~~Garage~~ shed
Gasoline storage cans	shed
Cleaning solvents	shed
Air fresheners	living room
Oven cleaners	No
Carpet/upholstery cleaners	Living Room

Supplemental Occupied Dwelling Questionnaire

Potential Source	**Location of Source**
Hairspray	None
Nail polish/polish remover	None
Bathroom cleaner	Bathroom
Appliance cleaner	NA
Furniture/floor polish	NA
Moth balls	No
Fuel tank	NA
Wood stove	NA
Fireplace	NA
Perfume/colognes	NA
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	Shed.
Scented trees/wreaths, potporri	NA
Gun cleaners	Hoppe s No. 9 Solvent living room
Other	

US-AS-NE-3

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/22/05

1. Name:_

   Address:

   _____

   Home Phone:

2. What is the best time to call to speak with you?_____ At: Work ❑ or Home ❑?

3. Are you the Owner ☒, Renter ❑, Other ❑ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 1
   Number of children? _____ Ages?_____

5. How long have you lived at this location? since 1975

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ❑, Condominium❑, Townhouse ❑, Other ❑_____

7. Home/Structure Description: number of floors 2
   Basement? Yes ☒ No ❑ daylight basement
   Crawl Space? Yes ❑ No ❑
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: built in 1975 years, Not sure/Unknown ❑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ❑, Concrete ❑, Cement block ❑, Other ❑_____

10. Foundation Construction (check all that apply):
    Concrete slab ☒
    Fieldstone ❑
    Concrete block ❑

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ☒ or unfinished ❑?
16. If finished, how many rooms are in the basement? 5
How many are used for more than 2 hours/day? None
17. Is the basement floor (check all that apply) concrete ☒, tile ❑, carpeted ☒, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ☒, cement block ❑, stone ❑, wood ❑, brick ❑, other❑ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ☒, Other hole/opening in floor ❑
(describe)_____ in water heater/boiler room.

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where? 2yr ago

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____
No ☒ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ☒
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ❑
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other baseboard hot water

31. Do you have air conditioning? Yes ❑ No ❑. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s) ☒ One room only
Other ❑, please specify_____

32. Do you use any of the following? Room fans ❑, Ceiling fans ☒, Attic fan ❑ not frequently
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ☒, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ❑ No ☒
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ☒, Rare (only guests) ❑, Moderate (residents light smokers) ❑,
Heavy (at least one heavy smoker in household) ❑

38. If yes to above, what do they smoke?
Cigarettes ❑ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ☒ No ❑ infrequently

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☒
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint, wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often	
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often	
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often	Pine-sol bathroom cleaner

(Question 41, continued)

Product	Frequency of Use					
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often	glass-plus
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often	
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often	
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often	Nick Chavez.

42. Please check weekly household cleaning practices:
Dusting ☒
Dry sweeping ☒ every 2 wks
Vacuuming ☒
Polishing (furniture, etc) ☐
Washing/waxing floors ☒ ~2wks murphy kitchen care
Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 10/22/05

Location ID: 05-AS-NE-3

Address: _____

_____ _____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? cabinet

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? only as necessary not for a yr.

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? _____

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? _____

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	back porch.
Gas-powered equipment	garage
Gasoline storage cans	garage
Cleaning solvents	
Air fresheners	kitchen
Oven cleaners	NA
Carpet/upholstery cleaners	bathroom above washer/dryer

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	bathroom
Nail polish/polish remover	kitchen
Bathroom cleaner	bathroom
Appliance cleaner	
Furniture/floor polish	kitchen
Moth balls	NA
Fuel tank	NA
Wood stove	boiler-wood burning - not used
Fireplace	Not used - downstairs
Perfume/colognes	bedroom
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA
Scented trees/wreaths, potporri	candles
Gun cleaners	bedroom cabinet. hasn't been used in house for a few years or ever
Other	
	petroleum distillate, nitrobenzene.

05-AS-NE-4

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/22/05

1. Name:__

   Address:_

   _____

   Home Phone:_

2. What is the best time to call to speak with you?_____ At: Work ☐ or Home ☒?

3. Are you the Owner ☒, Renter ☐, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 1
   Number of children? Ø Ages?_____

5. How long have you lived at this location? 6 yr

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ☐, Condominium ☐, Townhouse ☐, Other ☐_____

7. Home/Structure Description: number of floors 1
   Basement? Yes ☒ No ☐ partial
   Crawl Space? Yes ☐ No ☐
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: built in 1898 years, Not sure/Unknown ☐

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☐, Brick ☐, Concrete ☐, Cement block ☐, Other ☒ stucco

10. Foundation Construction (check all that apply):
    Concrete slab ☐
    Fieldstone ☐
    Concrete block ☐

Elevated above ground/grade ❑
Other concrete basement walls

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for: _____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ❑
ponding across road during rain

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ☒?
16. If finished, how many rooms are in the basement? NA
How many are used for more than 2 hours/day? NA
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ☒, other ❑ (describe) _____?
18. Are the basement walls poured concrete ☒, cement block ❑, stone ❑, wood ❑, brick ❑, other ☒ [illegible]?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑
(describe) _____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ☒ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ☒ No ❑
If yes, please specify what was done, where in the home, and what month:
painting bedroom, remodeling living room.

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____
No ☒ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ☒ upstairs off bathroom

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☒
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ☒ not used
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ❑ No ☒ If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s) ❑
Other ❑, please specify _____

32. Do you use any of the following? Room fans ❑, Ceiling fans ❑, Attic fan ❑ None.
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ☒, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ❑ No ☒
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home: ~2/day
None ❑, Rare (only guests) ☒, Moderate (residents light smokers) ❑,
Heavy (at least one heavy smoker in household) ❑

38. If yes to above, what do they smoke?
Cigarettes ☒ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ☒ No ❑ bathroom only.

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint,
wood finishing ☒, Other ❑ Please specify what type of hobby: finishing done out in shed only.

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often	bathroom only.
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often	
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often	

Schultz insect spray for indoor house plants

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ☒
    - Dry sweeping ☒
    - Vacuuming ❑
    - Polishing (furniture, etc) ❑
    - Washing/waxing floors ❑
    - Other ❑ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 10/22/05

Location ID: 05-AS-NE-4

Address: ___

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

front window

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? fiberboard, OSB, particle board.

Are there any new upholstery, drapes or other textiles in the building? _____

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? NO

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No.

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? downwind of railyard.

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	Area off kitchen, basement
Gas-powered equipment	~~[illegible]~~ Storage unit.
Gasoline storage cans	Outside
Cleaning solvents	NA
Air fresheners	bathroom
Oven cleaners	NA
Carpet/upholstery cleaners	NA-

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	NA
Nail polish/polish remover	NA
Bathroom cleaner	kitchen, pinesol, glass cleaner.
Appliance cleaner	kitchen
Furniture/floor polish	NA.
Moth balls	NA
Fuel tank	NA
Wood stove	living room, used rarely.
Fireplace	NA
Perfume/colognes	NA
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	Storage unit.
Scented trees/wreaths, potporri	NA
Gun cleaners	Storage unit, Hobbe's No. 9
Other	

05-AS-23

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/21/05

1. Name:

   Address:

   Home Phone:

2. What is the best time to call to speak with you? afternoon At: Work ❑ or Home ☒?

3. Are you the Owner ☒, Renter ❑, Other ❑ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 2
   Number of children? _____ Ages?_____

5. How long have you lived at this location? 28 yrs

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ❑, Duplex ❑, Condominium ❑, Townhouse ❑, Other ❑_____

7. Home/Structure Description: number of floors 1
   Basement? Yes ❑ No ☒
   Crawl Space? Yes ☒ No ❑
   If Yes, under how much of the house's area? 100 % Mobile home

8. Age of Home/Structure: built in 1974 years, Not sure/Unknown ❑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ❑, Brick ❑, Concrete ❑, Cement block ❑, Other ❑_____

10. Foundation Construction (check all that apply):
    Concrete slab ❑
    Fieldstone ❑
    Concrete block ❑

Elevated above ground/grade ☒
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ☒ No ❑ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ❑?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other❑_____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ☒ If yes, how many persons 1
No ❑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ☒ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ☒ Dryer Back Porch, Washer in house.

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☒
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ❑ No ☒. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s) ❑
Other ☒, please specify Swamp cooler

32. Do you use any of the following? Room fans ❑, Ceiling fans ❑, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ❑, Upstairs utility room ❑, Garage ❑, Other ☒ (please describe) closet

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ☒ No ❑
Does it vent to the outdoors? Yes ☒ No ❑

37. Smoking in Home:
None ❑, Rare (only guests) ❑, Moderate (residents light smokers) ☒, 1 pk/day
Heavy (at least one heavy smoker in household) ❑

38. If yes to above, what do they smoke?
Cigarettes ☒ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ☒

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☒
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint, wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants Lysol	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners vinegar cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ❑
    - Dry sweeping ❑
    - Vacuuming ❑
    - Polishing (furniture, etc) ❑
    - Washing/waxing floors ❑
    - Other ❑ natural products only

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 10/21/05

Location ID: 05-AS-23

Address: _____

_____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? particleboard.

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? Natural products only

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? downwind of railyard

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	porch maybe - not used
Gas-powered equipment	outside/shed
Gasoline storage cans	NA
Cleaning solvents	porch - not used
Air fresheners	NA
Oven cleaners	NA.
Carpet/upholstery cleaners	porch - not used

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	NA
Nail polish/polish remover	living room
Bathroom cleaner	natural products.
Appliance cleaner	
Furniture/floor polish	
Moth balls	NA
Fuel tank	NA
Wood stove	Living Room
Fireplace	NA
Perfume/colognes	Bedroom
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	No time.
Scented trees/wreaths, potporri	NA
Gun cleaners	Living room /Shop Hobbts No. 9
Other	

05-AS-43

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/22/05

1. Name: _____

   Address: _____

   _____

   Home Phone: _____

2. What is the best time to call to speak with you? 8am At: Work ☒ or Home ☐?

3. Are you the Owner ☒, Renter ☐, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 2
   Number of children? Ø Ages?_____

5. How long have you lived at this location? 52 (1yr married)

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ☐, Condominium☐, Townhouse ☐, Other ☐_____

7. Home/Structure Description: number of floors 1
   Basement? Yes ☐ No ☒
   Crawl Space? Yes ☒ No ☐
   If Yes, under how much of the house's area? 1 %

8. Age of Home/Structure: built in 1942 years, Not sure/Unknown ☐

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒ Brick ☐, Concrete ☐, Cement block ☐, Other ☐_____

10. Foundation Construction (check all that apply):
    Concrete slab ☐
    Fieldstone ☐
    Concrete block ☐

Elevated above ground/grade ❑
Other Concrete walls

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ❑?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other❑_____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ☒ No ❑
If yes, please specify what was done, where in the home, and what month:
in kitchen / living room area in Jan latex paint.

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where? new hard wood floors in Jan

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑ maybe once in a while
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____
No ☒ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑ utility room - main floor.

29. If you have a dryer, is it vented to the outdoors? Yes ❑ No ☒ to crawlspace.

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ❑, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ❑
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other pellet stove

31. Do you have air conditioning? Yes ❑ No ☒ If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s)❑
Other ❑, please specify_____

32. Do you use any of the following? Room fans ❑, Ceiling fans ☒, Attic fan ❑ living room
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑_____
Water heater location: Basement ❑, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) next to washer/dryer on main floor.

35. What type of cooking appliance do you have? Electric ☒ Gas ❑, Other ❑_____

36. Is there a stove exhaust hood present? Yes ☒ No ☒ SLP
Does it vent to the outdoors? Yes ❑ No ☒ to box above stove

37. Smoking in Home:
None ☒, Rare (only guests)❑, Moderate (residents light smokers)❑,
Heavy (at least one heavy smoker in household)❑

38. If yes to above, what do they smoke?
Cigarettes ❑ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ☒ No ❑ bathroom

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint, wood finishing ❑, Other ❑ Please specify what type of hobby: will be doing watercolors/acrylic painting some, not now.

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often	air freshene bathroom
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often	
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often	Purex bleach.

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often Pump spray.

42. Please check weekly household cleaning practices:
    - Dusting ☒
    - Dry sweeping ☒
    - Vacuuming ☐
    - Polishing (furniture, etc) ☐ every 2 wk.
    - Washing/waxing floors ☐
    - Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 10/22/05

Location ID: 05-AS-43

Address: _ eot

Has the building been weatherized with any of the following? (Circle all that apply) NA

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? No

Are there any new upholstery, drapes or other textiles in the building? new sofa ~ 1yr ago.

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? No

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? NO

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? on Gallatin, - doesn't get anything from RR.

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	garage
Gas-powered equipment	garage
Gasoline storage cans	
Cleaning solvents	NA
Air fresheners	NA
Oven cleaners	NA.
Carpet/upholstery cleaners	NA

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	bathroom
Nail polish/polish remover	bathroom
Bathroom cleaner	
Appliance cleaner	Kitchen under sink. Glass cleaner detergent.
Furniture/floor polish	
Moth balls	NA
Fuel tank	NA
Wood stove	pellet stove living room
Fireplace	NA
Perfume/colognes	bathroom
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA
Scented trees/wreaths, potporri	bathroom
Gun cleaners	Hobbe's no. 9 in plastic tote on porch
Other	guns cleaned in garage.

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/22/05

1. Name:

   Address:

   _____

   Home Phone:

2. What is the best time to call to speak with you?_____ At: Work ☐ or Home ☑?

3. Are you the Owner ☐, Renter ☐, Other ☒ (please specify) Live here
   of this Home/Structure? owned by father, who lives here also

4. Total number of occupants/persons at this location? 3
   Number of children? 0 Ages?_____

5. How long have you lived at this location? 42 yrs + 5 yrs

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☑, Duplex ☐, Condominium ☐, Townhouse ☐, Other ☐_____

7. Home/Structure Description: number of floors 1
   Basement? Yes ☐ No ☑
   Crawl Space? Yes ☐ No ☑
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: _____ years, Not sure/Unknown ☒

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ☐, Concrete ☐, Cement block ☐, Other ☐_____

10. Foundation Construction (check all that apply):
    Concrete slab ☐
    Fieldstone ☒
    Concrete block ☐

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ☒ No ❑
If yes, please describe what you use the well for: Watering yard

13. Do you have a septic system? Yes ☒ No ❑ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ❑?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other❑_____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☑
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☑
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☑

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____
No ☑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ☑
Kitchen ☑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ☑ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☑, Oil ❑, Electric ❑, Wood ☑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☑
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ☑
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ❑ No ❑. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s) ☒
Other ❑, please specify Only in Summer

32. Do you use any of the following? Room fans ❑, Ceiling fans ❑, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ☒ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ❑, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) Kitchen

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ❑ No ☒
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ☒, Rare (only guests) ❑, Moderate (residents light smokers) ❑,
Heavy (at least one heavy smoker in household) ❑

38. If yes to above, what do they smoke?
Cigarettes ❑ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ☐ No ☒

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☒
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint, wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ☑
    - Dry sweeping ☒
    - Vacuuming ☒
    - Polishing (furniture, etc) ☐
    - Washing/waxing floors ☒
    - Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 10/22/05

Location ID: 05-AS-99

Address: _____

_____

Has the building been weatherized with any of the following? (Circle all that apply) NA

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? one shelf unit in living room

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? No.

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? No

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	garage, in kitchen when cold
Gas-powered equipment	garage
Gasoline storage cans	garage
Cleaning solvents	garage
Air fresheners	NA.
Oven cleaners	Not in house
Carpet/upholstery cleaners	Not in house.

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	Not App
Nail polish/polish remover	
Bathroom cleaner	Melaleuca, kitchen, bathroom, laundry.
Appliance cleaner	
Furniture/floor polish	
Moth balls	NA
Fuel tank	NA
Wood stove	NA
Fireplace	NA
Perfume/colognes	NA.
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA
Scented trees/wreaths, potporri	NA.
Gun cleaners	NA.
Other	

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/22/05

1. Name:

   Address:

   Home Phone:

2. What is the best time to call to speak with you?_____ At: Work ☐ or Home ☑?

3. Are you the Owner ☒, Renter ☐, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 2 baby expected soon
   Number of children? Ø Ages?_____

5. How long have you lived at this location? 3yr daughter, 15yr

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ☐, Condominium☐, Townhouse ☐, Other ☐_____

7. Home/Structure Description: number of floors 2
   Basement? Yes ☐ No ☒
   Crawl Space? Yes ☒ No ☐
   If Yes, under how much of the house's area? 50 %

8. Age of Home/Structure: within 1978 years, Not sure/Unknown ☐

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☐, Brick ☐, Concrete ☐, Cement block ☒, Other ☐ log upper floor

10. Foundation Construction (check all that apply):
    Concrete slab ☐
    Fieldstone ☐
    Concrete block ☒

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ☒ No ❑
If yes, please describe what you use the well for: garden only
not in operation currently.

13. Do you have a septic system? Yes ☒ No ❑ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ❑?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other❑_____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ☒ If yes, how many persons_____
No ❑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑ lower floor

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ☒, Wood ❑, Coal ❑, Other_____
Heat conveyance system:
Forced hot air ❑
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other gas stove lower floor
electric upstairs

31. Do you have air conditioning? Yes ❑ No ☒ If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s) ☒ not since last summer
Other ❑, please specify _____

32. Do you use any of the following? Room fans ❑, Ceiling fans ☒, Attic fan ❑ rarely used
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ❑, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) lower floor by dryer

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ❑ No ☒
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ☒, Rare (only guests) ❑, Moderate (residents light smokers) ❑,
Heavy (at least one heavy smoker in household) ❑

38. If yes to above, what do they smoke?
Cigarettes ❑ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ☒ No ❑ spray and plug in.

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☒
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint, wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ☐
    - Dry sweeping ☐
    - Vacuuming ☒
    - Polishing (furniture, etc) ☐
    - Washing/waxing floors ☒
    - Other ☐ _____

43. Other comments: location has abatement system in crawlspace from previous sampling event. Still in operation. Can be turned off if we wish.

Supplemental Occupied Dwelling Questionnaire

Date: 10/22/05

Location ID: 05-AS-SE-5

Address: ___

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? cabinets.

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? Infrequently use bug spray outside.

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No.

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? No

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	outside shed
Gas-powered equipment	shed outside
Gasoline storage cans	shed
Cleaning solvents	NA
Air fresheners	living room/kitchen
Oven cleaners	laundry room
Carpet/upholstery cleaners	kitchen

* not used

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	bathroom
Nail polish/polish remover	Kitchen/living area
Bathroom cleaner	) kitchen
Appliance cleaner	
Furniture/floor polish	
Moth balls	NA
Fuel tank	NA
Wood stove	NA
Fireplace	gas – living room
Perfume/colognes	NA
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA .
Scented trees/wreaths, potporri	NA .
Gun cleaners	NA
Other	

05-AS-132

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/22/05

1. Name:

   Address:

   Home Phone:

2. What is the best time to call to speak with you?_____ At: Work ☐ or Home ☒?

3. Are you the Owner ☒, Renter ☐, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 1
   Number of children? 0 Ages?_____

5. How long have you lived at this location? 2yr.

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ☐, Condominium ☐, Townhouse ☐, Other ☐_____

7. Home/Structure Description: number of floors 1
   Basement? Yes ☐ No ☒
   Crawl Space? Yes ☒ No ☐
   If Yes, under how much of the house's area? 10 %

8. Age of Home/Structure: built in 1896. years, Not sure/Unknown ☐

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ☐, Concrete ☐, Cement block ☐, Other ☒ stucco

10. Foundation Construction (check all that apply):
    Concrete slab ☐
    Fieldstone ☒
    Concrete block ☐

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ❑?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other❑ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply) NA
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
planned next spring

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ☒ If yes, how many persons 1
No ❑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ☒

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ☒
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ❑ No ❑ NA

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ❑, Oil ❑, Electric ❑, Wood ☒, Coal ❑, Other_____
Heat conveyance system:
Forced hot air ❑
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ☒
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ❑ No ❑. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s) ☒ 1 in living area
Other ❑, please specify _____

32. Do you use any of the following? Room fans ❑, Ceiling fans ☒, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ❑, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) Sm. room off living are.

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ☒ No ❑
Does it vent to the outdoors? Yes ❑ No ☒

37. Smoking in Home:
None ❑, Rare (only guests) ☒, Moderate (residents light smokers) ❑,
Heavy (at least one heavy smoker in household) ❑

38. If yes to above, what do they smoke?
Cigarettes ☒ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ❑ Incense only

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint,
wood finishing ❑, Other ❑ Please specify what type of hobby: mostly outside.
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often	
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often	
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often	Comet

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ☒
    - Dry sweeping ❑
    - Vacuuming ☒
    - Polishing (furniture, etc) ❑
    - Washing/waxing floors ❑
    - Other ❑ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 10/22/05

Location ID: 05-AS-132

Address: _____

_____

Has the building been weatherized with any of the following? (Circle all that apply) NA

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Shelves, cabinetry

Are there any new upholstery, drapes or other textiles in the building? No.

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? NO.

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? 1/2 block S. of Hwy 89

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	Storage, in house when cold.
Gas-powered equipment	Storage shed
Gasoline storage cans	storage sled
Cleaning solvents	storage shed.
Air fresheners	incense only in living area
Oven cleaners	Kitchen, not always
Carpet/upholstery cleaners	NA

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	NA
Nail polish/polish remover	NA
Bathroom cleaner	
Appliance cleaner	} kitchen
Furniture/floor polish	
Moth balls	NA
Fuel tank	NA
Wood stove	Living room
Fireplace	NA
Perfume/colognes	NA
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA
Scented trees/wreaths, potporri	incense.
Gun cleaners	NA
Other	

05AS-142

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/21/05

1. Name:

   Address:

   _____

   Home Phone:

2. What is the best time to call to speak with you?_____ At: Work ☒ or Home ☐?

3. Are you the Owner ☒, Renter ☐, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 1
   Number of children? Ø Ages?_____

5. How long have you lived at this location? _____

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☐, Duplex ☐, Condominium ☐, Townhouse ☐, Other ☐ business

7. Home/Structure Description: number of floors 3 includes basement
   Basement? Yes ☒ No ☐ like splitlevel
   Crawl Space? Yes ☐ No ☒
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: built in 1911 years, Not sure/Unknown ☐

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ☐, Concrete ☐, Cement block ☒, Other ☐ stucco

10. Foundation Construction (check all that apply):
    Concrete slab ☒
    Fieldstone ☐
    Concrete block ☐

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ☒ ~~or~~ unfinished ❑?
16. If finished, how many rooms are in the basement? 3
How many are used for more than 2 hours/day? mostly storage - 1 or 2 x per week to work on something
17. Is the basement floor (check all that apply) concrete ☒, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ☒, cement block ☒, stone ❑, wood ❑, brick ❑, other❑ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

21. Does the basement have any of the following? (check all that apply) Floor cracks ☒ sealed., Wall cracks ❑, Sump ☒, Floor drain ❑, Other hole/opening in floor ❑
(describe)_____ runoff from street sometimes

22. Are any of the following used ~~or~~ (used outside) stored in the basement (check all that apply)
Paint ☒ Stored Paint stripper/remover ☒ stored only Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ☒ yd Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____ NA
No ❑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑ NA

28. Where is the washer/dryer located? NA
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ❑ No ❑ NA

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☒ basement
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other overhead heater main floor.

31. Do you have air conditioning? Yes ❑ No ☒. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s)❑
Other ❑, please specify_____

32. Do you use any of the following? Room fans ❑, Ceiling fans ❑, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑ fan sometimes in summer.

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑_____
Water heater location: Basement ☒, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ❑, Gas ❑, Other ❑_____ NA

36. Is there a stove exhaust hood present? Yes ❑ No ❑
Does it vent to the outdoors? Yes ❑ No ❑ NA

37. Smoking in Home: 1 every other day or so.
None ❑, Rare (only guests) ☒, Moderate (residents light smokers)❑,
Heavy (at least one heavy smoker in household)❑

38. If yes to above, what do they smoke?
Cigarettes ❑ Cigars ☒
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ☒ some in bathrooms

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑
Heating ❑, soldering ☒, welding ☒, model glues ❑, paint ❑, spray paint, ✓
wood finishing ❑, Other ❑ Please specify what type of hobby: _____
try to weld and paint outside

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use					
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly	Often	NA

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often	NA
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often	
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often	

Lysol in bathrooms

(Question 41, continued)

Product	Frequency of Use					
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often	
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often	NA
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often	NA
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often	NA

42. Please check weekly household cleaning practices:
Dusting ❑
Dry sweeping ❑
Vacuuming ❑
Polishing (furniture, etc) ❑
Washing/waxing floors ❑
Other ❑ _____

43. Other comments: Dusting and vaccium very infrequently ~ 6 months

Supplemental Occupied Dwelling Questionnaire

Date: 10/21/05

Location ID: 05-AS-142

Address: _____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other Thermopane.

Does the building have an attached garage? NO

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? NO

Are there any new upholstery, drapes or other textiles in the building? _____

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? NO.

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? 1/2 block off Hwy 89.

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	basement.
Gas-powered equipment	Chainsaw-basement
Gasoline storage cans	1 gal basement.
Cleaning solvents	NA
Air fresheners	~~NA~~ bathroom in basement and main floor
Oven cleaners	NA
Carpet/upholstery cleaners	NA

Supplemental Occupied Dwelling Questionnaire

Potential Source	**Location of Source**
Hairspray	NA
Nail polish/polish remover	NA
Bathroom cleaner	main floor - toilet bowl cleaner-lysol
Appliance cleaner	NA
Furniture/floor polish	NA
Moth balls	None.
Fuel tank	NA
Wood stove	NA
Fireplace	NA
Perfume/colognes	NA
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	basement
Scented trees/wreaths, potporri	NA
Gun cleaners	NA.
Other	

05-AS157

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 10/22/05

1. Name:

   Address:

   Home Phone:

2. What is the best time to call to speak with you?_____ At: Work ☒ or Home ☐?

3. Are you the Owner ☐, Renter ☒, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 4
   Number of children? 3 Ages? 17, 18, 19

5. How long have you lived at this location? 5+ yr.

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒ Duplex ☐, Condominium☐, Townhouse ☐, Other ☐_____

7. Home/Structure Description: number of floors 2
   Basement? Yes ☒ No ☐
   Crawl Space? Yes ☐ No ☐
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: _____ years, Not sure/Unknown ☒ 1936?

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ☐, Concrete ☐, Cement block ☐, Other ☐_____

10. Foundation Construction (check all that apply):
    Concrete slab ☐
    Fieldstone ☐
    Concrete block ☐

Elevated above ground/grade ❑
Other Concrete

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ☒?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ☒, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ☒, cement block ❑, stone ❑, wood ❑, brick ❑, other❑ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ☒
Yes, rarely (less than 1 time/yr) ❑
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ☒, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ☒ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ☒ No ❑
If yes, please specify what was done, where in the home, and what month:
painted one bedroom

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒ uses dryel

26. Does anyone in your home use solvents at work?
Yes ☒ If yes, how many persons 1 cleaning solvents
No ❑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ☒ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑ main floor utility room

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☒
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ❑ No ☒ If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s)❑
Other ❑, please specify_____

32. Do you use any of the following? Room fans ☒, Ceiling fans ☒, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑_____
Water heater location: Basement ☒, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ❑, Gas ☒, Other ❑_____

36. Is there a stove exhaust hood present? Yes ☒ No ❑
Does it vent to the outdoors? Yes ☒ No ❑

37. Smoking in Home:
None ❑, Rare (only guests)❑, Moderate (residents light smokers)☒,
Heavy (at least one heavy smoker in household)❑

38. If yes to above, what do they smoke?
Cigarettes ☒ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ☒ No ❑ Sprays, plug-ins, candles.

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☒
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint, wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often	air freshener
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often	
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often	Lysol pine-sol.

(Question 41, continued)

Product	Frequency of Use					
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often	windex
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often	bissell
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often	
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often	

42. Please check weekly household cleaning practices:
    - Dusting ☒
    - Dry sweeping ☒
    - Vacuuming ☒
    - Polishing (furniture, etc) ☐ every couple weeks
    - Washing/waxing floors ☒ pine-sol once a month
    - Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 10/22/05

Location ID: 05-AS-157

Address: _____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

some

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? minimal.

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? No

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? Tri-valley petroleum half block away - east

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? located on Hwy 89.

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	front porch / basement
Gas-powered equipment	outside
Gasoline storage cans	outside
Cleaning solvents	NA
Air fresheners	Living room / kitchen
Oven cleaners	kitchen
Carpet/upholstery cleaners	~~living area~~ upstairs

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	bathroom
Nail polish/polish remover	bathroom
Bathroom cleaner	kitchen / upstairs bathroom
Appliance cleaner	
Furniture/floor polish	
Moth balls	NA
Fuel tank	NA
Wood stove	NA
Fireplace	gas space heater, not used much
Perfume/colognes	bathroom upstairs
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA
Scented trees/wreaths, potporri	NA
Gun cleaners	NA
Other	

05-AS-BG-29

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: Oct 19 05

1. Name:

   Addres

   Li

   Home Phon

2. What is the best time to call to speak with you? 9 AM At: Work ❑ or Home ☒?

3. Are you the Owner ☒, Renter ❑, Other ❑ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 2
   Number of children? _____ Ages?_____

5. How long have you lived at this location? 35

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ❑, Condominium❑, Townhouse ❑, Other ❑_____

7. Home/Structure Description: number of floors 2
   Basement? Yes ❑ No ❑
   Crawl Space? Yes ☒ No ❑
   If Yes, under how much of the house's area? 1/8 %

8. Age of Home/Structure: 87 years, Not sure/Unknown ❑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ❑, Concrete ❑, Cement block ❑, Other ❑_____

10. Foundation Construction (check all that apply):
    Concrete slab ❑
    Fieldstone ☒
    Concrete block ❑

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ☒ No ❑ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ☒?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ☒, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ☒, wood ❑, brick ❑, other❑ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ☒
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ☒ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ☒
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____
No ☒ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ☒
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ☒, Coal ❑, Other_____
Heat conveyance system:
Forced hot air ☒
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ☒
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ❑ No ☒. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s)❑
Other ❑, please specify_____

32. Do you use any of the following? Room fans ☒, Ceiling fans ☒, Attic fan ☒
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ☒ No ❑

33. Has your home had temite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ☒, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ❑ No ☒
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ☒, Rare (only guests)❑, Moderate (residents light smokers)❑,
Heavy (at least one heavy smoker in household)❑

38. If yes to above, what do they smoke?
Cigarettes ❑ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ☒ No ❑

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑
Heating ❑, soldering ☒, welding ❑, model glues ❑, paint ❑, spray paint,
wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly ☒	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ☒
    - Dry sweeping ☐
    - Vacuuming ☒
    - Polishing (furniture, etc) ☒
    - Washing/waxing floors ☐
    - Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 10/22/05

Location ID: 05-AS-BG29

Address: _____

Has the building been weatherized with any of the following? (Circle all that apply) NA

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? ~~[illegible]~~

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? bug spray some use in garden.

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? NO

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	upstairs
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Air fresheners	livingroom, back porch
Oven cleaners	back porch
Carpet/upholstery cleaners	back porch

Supplemental Occupied Dwelling Questionnaire

Potential Source	**Location of Source**
Hairspray	bathroom
Nail polish/polish remover	bathroom
Bathroom cleaner	back porch
Appliance cleaner	back porch
Furniture/floor polish	back porch
Moth balls	NA
Fuel tank	NA
Wood stove	living room
Fireplace	NA
Perfume/colognes	bedroom, living room
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	
Scented trees/wreaths, potporri	living room
Gun cleaners	pantry
Other	

05-AS-167

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 12/12/05

1. Name:_

   Address:

   _____ _____

   Home Phone:_____ _ Work Phone

2. What is the best time to call to speak with you? after 4 At: Work ☐ or Home ☒?

3. Are you the Owner ☒, Renter ☐, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 2
   Number of children? Ø Ages?_____

5. How long have you lived at this location? 3 yr

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ☐, Condominium☐, Townhouse ☐, Other ☐_____

7. Home/Structure Description: number of floors _____
   Basement? Yes ☒ No ☐
   Crawl Space? Yes ☐ No ☒
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: _____ years, Not sure/Unknown ☒ early 1900s.

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ☐, Concrete ☒, Cement block ☐, Other ☐_____

10. Foundation Construction (check all that apply):
    Concrete slab ☒
    Fieldstone ☐
    Concrete block ☐

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ☒?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ☒, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ☒, cement block ❑, stone ❑, wood ❑, brick ❑, other❑_____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ☒
No ❑

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ☒, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑
(describe)_____

22. Are any of the following used or stored in the basement (check all that apply) None
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____
No ☒ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ☒
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☒
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ❑ No ☒ If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s)❑
Other ❑, please specify_____

32. Do you use any of the following? Room fans ❑, Ceiling fans ☒, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ☒, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ❑ No ☒
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ❑, Rare (only guests)❑, Moderate (residents light smokers)☒, to heavy. one resident.
Heavy (at least one heavy smoker in household)❑

38. If yes to above, what do they smoke?
Cigarettes ☒ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ☒ candles only.

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑
Heating ❑, soldering ❑, welding ❑, model glues ☒, paint ☒, spray paint, ☒
wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	(Regularly) one resident.	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ☒
    - Dry sweeping ☐
    - Vacuuming ☒
    - Polishing (furniture, etc) ☐
    - Washing/waxing floors ☒
    - Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 12/12/05

Location ID: 05-AS-167

Address: _____

_____ _____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows (old) Energy-Efficient Windows Other _____

Does the building have an attached garage? No.

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? cabinet, plywood panelling.

Are there any new upholstery, drapes or other textiles in the building? No.

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? No.

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? No

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	front porch
Gas-powered equipment	Shed.
Gasoline storage cans	Shed.
Cleaning solvents	NA.
Air fresheners	candles. kitchen, living room
Oven cleaners	NA.
Carpet/upholstery cleaners	NA.

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	NA.
Nail polish/polish remover	NA.
Bathroom cleaner	Dubbles, comet — under bathroom sink.
Appliance cleaner	NA.
Furniture/floor polish	Kitchen sink
Moth balls	NA
Fuel tank	NA.
Wood stove	NA
Fireplace	NA
Perfume/colognes	bedroom / bathroom.
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	front porch
Scented trees/wreaths, potporri	NA.
Gun cleaners	bedroom.
Other	weed killer (shed).

05-AS-BG-11

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 12/14/05

1. Name:_

   Address:

   _____

   Home Phone:_ _ Work Phone:

2. What is the best time to call to speak with you? early aft . At: Work ❑ or Home ☒?

3. Are you the Owner ☒, Renter ❑, Other ❑ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 5
   Number of children? 3 Ages? 4½, 2½, 6 months

5. How long have you lived at this location? 5 yrs.

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ❑, Condominium ❑, Townhouse ❑, Other ❑_____

7. Home/Structure Description: number of floors _____
   Basement? Yes ☒ No ❑
   Crawl Space? Yes ❑ No ❑
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: built 1904 years, Not sure/Unknown ❑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ❑, Concrete ❑, Cement block ❑, Other ❑_____

10. Foundation Construction (check all that apply):
    Concrete slab ☒
    Fieldstone ☒
    Concrete block ❑

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ☒?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ☒, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ☒, cement block ❑, stone ❑, wood ❑, brick ❑, other❑ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ☒, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ☒ Paint stripper/remover ☒ Paint thinner ☒
Metal degreaser/cleaner ☐ Gasoline ☐ Diesel fuel ☐ Solvents ☐ Glue ☐
Laundry spot removers ☐ Drain cleaners ☐ Pesticides ☒ raid.

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ☐ No ☒
If yes, please specify what was done, where in the home, and what month:

_____

_____

24. Have you installed new carpeting in your home within the last year? Yes ☒ No ☐
If yes, when and where? Area rug in living room ~ 1yr.

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ☐
Yes, use dry-cleaning infrequently (monthly or less) ☐
Yes, work at a dry cleaning service ☐
No ☒

26. Does anyone in your home use solvents at work?
Yes ☒ If yes, how many persons 1 - rarely CRC contact cleaner chemical cleaner.
No ☐ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ☒ No ☐

28. Where is the washer/dryer located?
Basement ☐
Upstairs utility room ☒
Kitchen ☐
Garage ☐
Use a Laundromat ☐
Other, please specify ☐ _____

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ☐

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ☐, Electric ☐, Wood ☐, Coal ☐, Other _____
Heat conveyance system:
Forced hot air ☐
Forced hot water ☒
Steam ☐
Radiant floor heat ☐
Wood stove ☐
Coal furnace ☐
Fireplace ☐
Other _____

Nat. gas fired boiler.

31. Do you have air conditioning? Yes ❑ No ❑. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s) ☒ seasonally.
Other ❑, please specify _____

32. Do you use any of the following? Room fans ☒, Ceiling fans ☒, Attic fan ❑ summer only.
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ☒

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ☒, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ❑ No ☒
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ☒, Rare (only guests) ❑, Moderate (residents light smokers) ❑,
Heavy (at least one heavy smoker in household) ❑

38. If yes to above, what do they smoke?
Cigarettes ❑ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ☒

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑
Heating ❑, soldering ☒, welding ☒, model glues ❑, paint ❑, spray paint,
wood finishing ❑, Other ❑ Please specify what type of hobby: _____
in garage typically

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides raid infrequently	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants bleach, 409.	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
   - Dusting ❑
   - Dry sweeping ☒
   - Vacuuming ☒
   - Polishing (furniture, etc) ❑
   - Washing/waxing floors ☒ water/vinegar.
   - Other ❑ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 12/14/05

Location ID: 05-AS-BG11

Address: _____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows (Will be adding) Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? —

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Couple shelves.

Are there any new upholstery, drapes or other textiles in the building? _____

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? mosquito spray once a couple of years ago. ChemLawn ~1/month. Spring Summer weed killer.

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? No

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	basement cabinet
Gas-powered equipment	garage/shed.
Gasoline storage cans	garage/shed
Cleaning solvents	garage
Air fresheners	—
Oven cleaners	—
Carpet/upholstery cleaners	—

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	bathroom
Nail polish/polish remover	bathroom
Bathroom cleaner	bathroom
Appliance cleaner 409	bathroom/under kitchen sink.
Furniture/floor polish pledge	kitchen sink.
Moth balls	—
Fuel tank	—
Wood stove	—
Fireplace	—
Perfume/colognes never used.	bathroom
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	garage
Scented trees/wreaths, potporri	—
Gun cleaners	Break free CLP
Other	

05-AS-ES

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 11/7/05

1. Name:___

   Address:__

   _____

   Home Phone:__ Work Phone:_

2. What is the best time to call to speak with you? Day At: Work ☑ or Home ❑?

3. Are you the Owner ❑, Renter ❑, Other ☒ (please specify) QA Manager of this Home/Structure?

4. Total number of occupants/persons at this location? 64
   Number of children? NA Ages?_____

5. How long have you lived at this location? 5 yrs

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ❑, Duplex ❑, Condominium ❑, Townhouse ❑, Other ☒ Business

7. Home/Structure Description: number of floors _____
   Basement? Yes ❑ No ☒
   Crawl Space? Yes ❑ No ☒
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: 100+ years, Not sure/Unknown ❑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☑, Brick ☑, Concrete ☑, Cement block ❑, Other ❑_____

10. Foundation Construction (check all that apply):
    Concrete slab ☑
    Fieldstone ❑
    Concrete block ❑

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☑
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☑
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☑ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☑

Basement Description, please check appropriate boxes. NA
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ❑?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other❑ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☑
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ❑ NA
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)? NA
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ❑

26. Does anyone in your home use solvents at work?
Yes ☑ If yes, how many persons 49
No ❑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑ NA

28. Where is the washer/dryer located? NA
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ❑ No ❑ NA

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☑, Oil ☑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☑
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other Used oil burners

31. Do you have air conditioning? Yes ❑ No ☑. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s)❑
Other ❑, please specify_____

32. Do you use any of the following? Room fans ❑, Ceiling fans ❑, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☑ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ❑, Electric ❑, By furnace ❑, Other ❑_____ NA
Water heater location: Basement ❑, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ❑, Gas ❑, Other ❑_____ NA

36. Is there a stove exhaust hood present? Yes ❑ No ❑ NA
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ☑, Rare (only guests)❑, Moderate (residents light smokers)❑,
Heavy (at least one heavy smoker in household)❑

38. If yes to above, what do they smoke?
Cigarettes ❑ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ☑

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑ NA
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint,
wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use					
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly	Often	NA

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often NA
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ❑
    - Dry sweeping ❑
    - Vacuuming ❑
    - Polishing (furniture, etc) ❑
    - Washing/waxing floors ❑
    - Other ❑ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 11/7/05

Location ID: 05-AS-ES

Address: _____

_____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? NA

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? None

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? NO

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? No

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	None
Gas-powered equipment	Mule, Golf Cart forklifts
Gasoline storage cans	None
Cleaning solvents	Parts Washers
Air fresheners	None
Oven cleaners	NA
Carpet/upholstery cleaners	NA

Supplemental Occupied Dwelling Questionnaire

Potential Source	**Location of Source**
Hairspray	NA
Nail polish/polish remover	NA
Bathroom cleaner	None
Appliance cleaner	NA
Furniture/floor polish	NA
Moth balls	None
Fuel tank	None
Wood stove	NA
Fireplace	NA
Perfume/colognes	NA
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA
Scented trees/wreaths, potporri	NA
Gun cleaners	None
Other	

05-AS-LS

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 11/7/05

1. Name:

   Address:

   Home Phone: Work Phone:

2. What is the best time to call to speak with you? Day At: Work ☒ or Home ☐?

3. Are you the Owner ☐, Renter ☐, Other ☒ (please specify) QA Manager of this Home/Structure?

4. Total number of occupants/persons at this location? 64
   Number of children? NA Ages?

5. How long have you lived at this location? 5yrs

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☐, Duplex ☐, Condominium ☐, Townhouse ☐, Other ☒ Business

7. Home/Structure Description: number of floors
   Basement? Yes ☐ No ☒
   Crawl Space? Yes ☐ No ☒
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: 100+ years, Not sure/Unknown ☐

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☑, Brick ☑, Concrete ☑, Cement block ☐, Other ☐

10. Foundation Construction (check all that apply):
    Concrete slab ☑
    Fieldstone ☐
    Concrete block ☐

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☑
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☑
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☑ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☑

Basement Description, please check appropriate boxes. NA
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ❑?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other❑_____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☑
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ❑ NA
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)? NA
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ❑

26. Does anyone in your home use solvents at work?
Yes ☑ If yes, how many persons 49
No ❑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑ NA

28. Where is the washer/dryer located? NA
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ❑ No ❑ NA

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☑, Oil ☑, Electric ☑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☑
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other Freestanding radiant, used oil burners

31. Do you have air conditioning? Yes ❑ No ☑. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s)❑
Other ❑, please specify_____

32. Do you use any of the following? Room fans ❑, Ceiling fans ❑, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ❑ Unknown ☑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ❑, Electric ❑, By furnace ❑, Other ❑ _____ N/A
Water heater location: Basement ❑, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____ NA

35. What type of cooking appliance do you have? Electric ❑, Gas ❑, Other ❑ _____ NA

36. Is there a stove exhaust hood present? Yes ❑ No ❑ NA
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ❑, Rare (only guests)❑, Moderate (residents light smokers)❑,
Heavy (at least one heavy smoker in household)☑

38. If yes to above, what do they smoke?
Cigarettes ☑ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ☑

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑ NA
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint,
wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly	Often NA

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often NA
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ❑
    - Dry sweeping ❑
    - Vacuuming ❑
    - Polishing (furniture, etc) ❑
    - Washing/waxing floors ❑
    - Other ❑ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 11/7/05

Location ID: 05-AS-LS

Address: _

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? NA

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? No

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? No

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? No

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	None
Gas-powered equipment	Goats, Mules, Golf carts, ATV - shop floor forklifts
Gasoline storage cans	None
Cleaning solvents	Parts washers on shop floor. aerosol brake cleaner
Air fresheners	None
Oven cleaners	NA
Carpet/upholstery cleaners	NA

Supplemental Occupied Dwelling Questionnaire

Potential Source	**Location of Source**
Hairspray	NA
Nail polish/polish remover	NA
Bathroom cleaner	None
Appliance cleaner	NA
Furniture/floor polish	NA
Moth balls	None
Fuel tank	None
Wood stove	NA
Fireplace	NA
Perfume/colognes	NA
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA
Scented trees/wreaths, potporri	NA
Gun cleaners	None
Other	

05-AS-NE-5

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 12-13-05

1. Name:__

   Address:

   _____ _____

   Home Phone: Work Phone:

2. What is the best time to call to speak with you? Any Time At: Work ☐ or Home ☑?

3. Are you the Owner ☐, Renter ☑, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 5
   Number of children? 3 Ages? 16, 4, 2

5. How long have you lived at this location? Oct. 03 - present

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☑, Duplex ☐, Condominium☐, Townhouse ☐, Other ☐_____

7. Home/Structure Description: number of floors _____
   Basement? Yes ☑ No ☐
   Crawl Space? Yes ☑ No ☐
   If Yes, under how much of the house's area? 10%

8. Age of Home/Structure: _____ years, Not sure/Unknown ☑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☑, Brick ☐, Concrete ☑, Cement block ☐, Other ☐_____

10. Foundation Construction (check all that apply):
    Concrete slab ☑
    Fieldstone ☐
    Concrete block ☐

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☑
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☑
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☑ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☑

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ☑?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____0_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ☑, other❑(describe)_____?
18. Are the basement walls poured concrete ☑, cement block ☑, stone ❑, wood ❑, brick ❑, other❑_____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☑

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ☐ Paint stripper/remover ☐ Paint thinner ☐
Metal degreaser/cleaner ☐ Gasoline ☐ Diesel fuel ☐ Solvents ☐ Glue ☐
Laundry spot removers ☐ Drain cleaners ☐ Pesticides ☐

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ☐ No ☐
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ☐ No ☐
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ☐
Yes, use dry-cleaning infrequently (monthly or less) ☐
Yes, work at a dry cleaning service ☐
No ☐

26. Does anyone in your home use solvents at work?
Yes ☐ If yes, how many persons_____
No ☐ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ☐ No ☐

28. Where is the washer/dryer located?
Basement ☐
Upstairs utility room ☐
Kitchen ☐
Garage ☐
Use a Laundromat ☐
Other, please specify ☐_____

29. If you have a dryer, is it vented to the outdoors? Yes ☐ No ☐

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☐, Oil ☐, Electric ☐, Wood ☐, Coal ☐, Other_____
Heat conveyance system: Forced hot air ☐
Forced hot water ☐
Steam ☐
Radiant floor heat ☐
Wood stove ☐
Coal furnace ☐
Fireplace ☐
Other_____

31. Do you have air conditioning? Yes ☑ No ☐. If yes, please check the appropriate type(s)
Central air conditioning ☐
Window air conditioning unit(s) ☑
Other ☐, please specify _____

32. Do you use any of the following? Room fans ☑, Ceiling fans ☑, Attic fan ☐
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ☐ No ☑

33. Has your home had termite or other pesticide treatment: Yes ☐ No ☑ Unknown ☐
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☑, Electric ☐, By furnace ☐, Other ☐ _____
Water heater location: Basement ☑, Upstairs utility room ☐, Garage ☐, Other ☐ (please describe) _____

35. What type of cooking appliance do you have? Electric ☑, Gas ☐, Other ☐ _____

36. Is there a stove exhaust hood present? Yes ☑ No ☑
Does it vent to the outdoors? Yes ☐ No ☑ into the basement

37. Smoking in Home:
None ☑, Rare (only guests) ☐, Moderate (residents light smokers) ☐,
Heavy (at least one heavy smoker in household) ☐

38. If yes to above, what do they smoke?
Cigarettes ☐ Cigars ☐
Pipe ☐ Other ☐

39. Do you regularly use air fresheners? Yes ☑ No ☐

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☑
Heating ☐, soldering ☐, welding ☐, model glues ☐, paint ☐, spray paint,
wood finishing ☐, Other ☐ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ☑
    - Dry sweeping ☑
    - Vacuuming ☑
    - Polishing (furniture, etc) ☑
    - Washing/waxing floors ☑
    - Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 12-13-05

Location ID: 05-AS-NE-5

Address: _____

_____ _____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? no

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? yes

Are there any new upholstery, drapes or other textiles in the building? no

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? no

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? _____

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	crawl space
Gas-powered equipment	NA
Gasoline storage cans	NA
Cleaning solvents	under Kitchen sink + in Laundry room
Air fresheners	under sink
Oven cleaners	NA
Carpet/upholstery cleaners	NA

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	Bathroom
Nail polish/polish remover	Bathroom
Bathroom cleaner	Bathroom
Appliance cleaner	under Kitchen sink
Furniture/floor polish	under Kitchen sink
Moth balls	NA
Fuel tank	NA
Wood stove	living room
Fireplace	NA
Perfume/colognes	bathroom
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA
Scented trees/wreaths, potporri	NA
Gun cleaners	NA
Other	

05-AS-108

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 11/29/05

1. Name:__

   Address:

   _____ _____

   Home Phone:_____ Work Phone:

2. What is the best time to call to speak with you? 7:30-6:00 At: Work ☒ or Home ❑?

3. Are you the Owner ☒, Renter ❑, Other ❑ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 7 employees
   Number of children? NA Ages?_____

5. How long have you lived at this location? 20yrs worked

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ❑, Duplex ❑, Condominium ❑, Townhouse ❑, Other ☒ Business

7. Home/Structure Description: number of floors 1 1/2 1/2 Storage
   Basement? Yes ❑ No ☒
   Crawl Space? Yes ❑ No ❑
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: 20yrs years, Not sure/Unknown ❑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ❑, Brick ❑, Concrete ❑, Cement block ❑, Other ☒ Steel

10. Foundation Construction (check all that apply):
    Concrete slab ☒
    Fieldstone ❑
    Concrete block ❑

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ☒
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ❑?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other❑_____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ❑

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ☒ If yes, how many persons Brake fluid
No if no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑ NA

28. Where is the washer/dryer located? NA
Basement ❑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ❑ No ❑ NA

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ❑, Oil ❑, Electric ☒, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☒
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ☒ No ❑. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s) ❑
Other ☒, please specify Swamp Cooler

32. Do you use any of the following? Room fans ❑, Ceiling fans ❑, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ☒

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ❑, Electric ☒, By furnace ❑, Other ❑ _____
Water heater location: Basement ❑, Upstairs utility room ❑, Garage ❑, Other ☒ (please describe) Shop

35. What type of cooking appliance do you have? Electric ❑, Gas ❑, Other NA ❑ _____

36. Is there a stove exhaust hood present? Yes ❑ No ❑ NA
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ☒, Rare (only guests) ❑, Moderate (residents light smokers
Heavy (at least one heavy smoker in household) ❑

38. If yes to above, what do they smoke?
Cigarettes Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ☒

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☒
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint, wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use					
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly	Often	NA

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often NA
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often NA
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often NA

42. Please check weekly household cleaning practices:
    - Dusting ☒
    - Dry sweeping ☒
    - Vacuuming ☒
    - Polishing (furniture, etc) ☒
    - Washing/waxing floors ☒
    - Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 11/29/05

Location ID: 05-AS-108

Address: _____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? —

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? yes

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? NA

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? Main Street (Park St.)

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	Paint/Shop Storage
Gas-powered equipment	NO
Gasoline storage cans	NO
Cleaning solvents	Brake fluid-Shop Storage
Air fresheners	NO
Oven cleaners	NA
Carpet/upholstery cleaners	NO

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	NA
Nail polish/polish remover	NA
Bathroom cleaner	Shop storage
Appliance cleaner	No
Furniture/floor polish	Lobby undersink
Moth balls	NO
Fuel tank	No
Wood stove	NA
Fireplace	NA
Perfume/colognes	NO
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NO
Scented trees/wreaths, potporri	No
Gun cleaners	NO
Other	

05-AS-78

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 11/9/05

1. Name:__

   Address:

   _____

   Home Phone:_ Work Phone:_

2. What is the best time to call to speak with you?_____ At: Work ☒ or Home ☐?

3. Are you the Owner ☐, Renter ☐, Other ☒ (please specify) Plant Operator of this Home/Structure?

4. Total number of occupants/persons at this location? 4
   Number of children? NA Ages?_____

5. How long have you lived at this location? worked 15-20 years

General ~~Home~~ Building Description

6. Type of Home/Structure (check only one): Single Family Home ☐, Duplex ☐, Condominium ☐, Townhouse ☐, Other ☐ Block structure, Basement

7. Home/Structure Description: number of floors _____
   Basement? Yes ☒ No ☐
   Crawl Space? Yes ☒ No ☐
   If Yes, under how much of the house's area? 25 %

8. Age of Home/Structure: 45 years, Not sure/Unknown ☐

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☐, Brick ☒, Concrete ☒, Cement block ☐, Other ☐_____

10. Foundation Construction (check all that apply):
    Concrete slab ☒
    Fieldstone ☐
    Concrete block ☐

Elevated above ground/grade ☒
Other _____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ☐
Bottled water ☒
Other, please specify we use to drink from well 18yrs ago

12. Do you have a private well for purposes other than drinking?
Yes ☒ No ☐
If yes, please describe what you use the well for: process water for equipment and irrigation.

13. Do you have a septic system? Yes ☐ No ☒ Not used ☐ Unknown ☐

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ☒ No ☐
emergency bypass pond.

Basement Description, please check appropriate boxes.
If you do not have a basement go to question 23.

15. Is the basement finished ☒ or unfinished ☒? 2 crawl spaces dirt floor
16. If finished, how many rooms are in the basement? 2 Rooms
How many are used for more than 2 hours/day? None
17. Is the basement floor (check all that apply) concrete ☒, tile ☐, carpeted ☐, dirt ☒, other ☐ (describe) _____?
18. Are the basement walls poured concrete ☒, cement block ☐, stone ☐, wood ☐, brick ☐, other ☐ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ☐
Yes, occasionally (1-2 times/yr) ☒
Yes, rarely (less than 1 time/yr) ☐
No ☐

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ☐
Yes, occasionally (1-2 times/yr) ☒
Yes, rarely (less than 1 time/yr) ☐
No ☐

21. Does the basement have any of the following? (check all that apply) Floor cracks ☒
Wall cracks ☒, Sump ☒, Floor drain ☒, Other hole/opening in floor ☐
(describe) _____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ☐ Paint stripper/remover ☐ Paint thinner ☐
Metal degreaser/cleaner ☐ Gasoline ☐ Diesel fuel ☐ Solvents ☐ Glue ☐
Laundry spot removers ☐ Drain cleaners ☒ Pesticides ☐

23. Have you recently (within the last six months) done any painting or remodeling in your ~~home~~ office? Yes ☐ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your ~~home~~ office within the last year? Yes ☐ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ☐
Yes, use dry-cleaning infrequently (monthly or less) ☐
Yes, work at a dry cleaning service ☐
No ☒

26. Does anyone in your ~~home~~ work use solvents at work?
Yes ☐ If yes, how many persons_____
No ☒ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ☐ No ☐ NA

28. Where is the washer/dryer located? NA
Basement ☐
Upstairs utility room ☐
Kitchen ☐
Garage ☒ washer
Use a Laundromat ☐
Other, please specify ☐_____

29. If you have a dryer, is it vented to the outdoors? Yes ☐ No ☐

30. What type(s) of ~~home~~ work heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ☐, Electric ☐, Wood ☐, Coal ☐, Other_____
Heat conveyance system:
Forced hot air ☒
Forced hot water ☒
Steam ☐
Radiant floor heat ☐
Wood stove ☐
Coal furnace ☐
Fireplace ☐
Other_____

31. Do you have air conditioning? Yes ☒ No ☐. If yes, please check the appropriate type(s)
Central air conditioning ☒
Window air conditioning unit(s) ☐
Other ☐, please specify _____

32. Do you use any of the following? Room fans ☐, Ceiling fans ☐, Attic fan ☒ Roof Ventilators + motorized vents
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ☐ No ☒

33. Has your home had termite or other pesticide treatment: Yes ☐ No ☐ Unknown ☒
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ☒, By furnace ☐, Other ☐ _____
Water heater location: Basement ☐, Upstairs utility room ☒, Garage ☒, Other ☐ (please describe) _____

35. What type of cooking appliance do you have? Electric ☐, Gas ☐, Other ☐ _____ NA

36. Is there a stove exhaust hood present? Yes ☐ No ☐ NA
Does it vent to the outdoors? Yes ☐ No ☐

37. Smoking in ~~Home~~ work:
None ☐, Rare (only guests) ☒ Moderate (residents light smokers) ☐,
Heavy (at least one heavy smoker in household) ☐

38. If yes to above, what do they smoke?
Cigarettes ☒ Cigars ☐
Pipe ☐ Other ☐

39. Do you regularly use air fresheners? Yes ☐ No ☒

40. Does anyone in the ~~home~~ work have indoor home hobbies of crafts involving: None ☐
Heating ☐, soldering ☐, welding ☐, model glues ☐, paint ☒, spray paint, ☒
wood finishing ☐, Other ☐ Please specify whattype of hobby: _____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use					
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly	Often	NA

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often NA
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often NA
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often NA

42. Please check weekly household cleaning practices:
- Dusting ☒
- Dry sweeping ☒
- Vacuuming ☒
- Polishing (furniture, etc) ☐
- Washing/waxing floors ☒
- Other ☐ _____

43. Other comments: Hose floors & Bldgs. wipe down areas with cleaners vacuum up dirt.

Supplemental Occupied Dwelling Questionnaire

Date: 11-9-05

Location ID: 05-AS-78

Address: ____

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other ____

Does the building have an attached garage? ~~No~~ Yes

If so, is a car usually parked in the garage? yes sometimes

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? some

Are there any new upholstery, drapes or other textiles in the building? NO

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? weed Killer & ground Sterilant. 2 x / year

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? methane gas, Boiler in other room. vents in main Bldg.

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? NO

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	garage
Gas-powered equipment	garage
Gasoline storage cans	outside in own Bldg.
Cleaning solvents	garage
Air fresheners	
Oven cleaners	NA
Carpet/upholstery cleaners	

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	NA
Nail polish/polish remover	NA
Bathroom cleaner	Storage Room
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	NA
Fireplace	NA
Perfume/colognes	
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	NA
Scented trees/wreaths, potporri	
Gun cleaners	NA
Other	all spray cans in Storage Room
	and garage

US-AS-80-5

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 12-13-05

1. Name:_

   Address:

   _____

   Home Phone:_ _ Work Phone:

2. What is the best time to call to speak with you? 8-4 At: Work ☐ or Home ☒?

3. Are you the Owner ☒, Renter ☐, Other ☐ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 2
   Number of children? NA Ages? NA

5. How long have you lived at this location? 9 yrs

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☐, Duplex ☐, Condominium ☐, Townhouse ☐, Other ☒ mobile

7. Home/Structure Description: number of floors 1
   Basement? Yes ☐ No ☒
   Crawl Space? Yes ☒ No ☐
   If Yes, under how much of the house's area? 100 %

8. Age of Home/Structure: 30 years, Not sure/Unknown ☐

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ☐, Concrete ☐, Cement block ☐, Other ☐_____

10. Foundation Construction (check all that apply):
    Concrete slab ☐
    Fieldstone ☒
    Concrete block ☐

Elevated above ground/grade ☒
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ☐
Bottled water ☒
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ☒ No ☐
If yes, please describe what you use the well for: irrigation

13. Do you have a septic system? Yes ☐ No ☐ Not used ☒ Unknown ☐

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ☐ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ☐ or unfinished ☐?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ☐, tile ☐, carpeted ☐, dirt ☐, other☐(describe)_____?
18. Are the basement walls poured concrete ☐, cement block ☐, stone ☐, wood ☐, brick ☐, other☐ _____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ☐
Yes, occasionally (1-2 times/yr) ☐
Yes, rarely (less than 1 time/yr) ☐
No ☐

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ☐
Yes, occasionally (1-2 times/yr) ☐
Yes, rarely (less than 1 time/yr) ☐
No ☐

21. Does the basement have any of the following? (check all that apply) Floor cracks ☐, Wall cracks ☐, Sump ☐, Floor drain ☐, Other hole/opening in floor ☐ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ☒ No ❑
If yes, please specify what was done, where in the home, and what month:
New Insulation & Paneling on East Wall in November 2005

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____
No ☒ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ☒
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☒
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ☐ No ☒ If yes, please check the appropriate type(s)
Central air conditioning ☐
Window air conditioning unit(s) ☐
Other ☐, please specify _____

32. Do you use any of the following? Room fans ☐, Ceiling fans ☒, Attic fan ☐
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ☒ No ☐

33. Has your home had termite or other pesticide treatment: Yes ☐ No ☒ Unknown ☐
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☐, Electric ☐, By furnace ☐, Other
☒ in line tankless
Water heater location: Basement ☐, Upstairs utility room ☐, Garage ☐, Other ☒ (please describe) back bedroom Closet

35. What type of cooking appliance do you have? Electric ☒, Gas ☒, Other
☐ _____

36. Is there a stove exhaust hood present? Yes ☒ No ☐
Does it vent to the outdoors? Yes ☒ No ☐

37. Smoking in Home:
None ☒, Rare (only guests) ☐, Moderate (residents light smokers) ☐,
Heavy (at least one heavy smoker in household) ☐

38. If yes to above, what do they smoke?
Cigarettes ☐ Cigars ☐
Pipe ☐ Other ☐

39. Do you regularly use air fresheners? Yes ☐ No ☒

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☒
Heating ☐, soldering ☐, welding ☐, model glues ☐, paint ☐, spray paint,
wood finishing ☐, Other ☐ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
    - Dusting ☒
    - Dry sweeping ☐
    - Vacuuming ☒
    - Polishing (furniture, etc) ☐
    - Washing/waxing floors ☒
    - Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 12-13-05

Location ID: 405-AS-80-5

Address: _

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? no

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? Paneling - particle board

Are there any new upholstery, drapes or other textiles in the building? no

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? no

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? _____

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	storage Shed
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	shelving in hallway

Supplemental Occupied Dwelling Questionnaire

Potential Source	Location of Source
Hairspray	Bathroom
Nail polish/polish remover	Bath room
Bathroom cleaner	Bathroom
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	Bedroom
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	Closet shelving
Scented trees/wreaths, potporri	Livingroom - bedrooms
Gun cleaners	Storage shed
Other	

06-AS-SE-2

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 3-4-06

1. Name:__

   Address:

   Liv

   Home Pl

2. What is the best time to call to speak with you? 6 PM At: Work ❑ or Home ☒?

3. Are you the Owner ☒, Renter ❑, Other ❑ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? 2
   Number of children? _____ Ages?_____

5. How long have you lived at this location? Family owned for 70 years
   3 days a week now, will live here full time in ~2wks

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☒, Duplex ❑, Condominium ❑, Townhouse ❑, Other ❑_____

7. Home/Structure Description: number of floors 1
   Basement? Yes ☒ No ❑ Partial basement
   Crawl Space? Yes ☒ No ❑
   If Yes, under how much of the house's area? 1/4 %

8. Age of Home/Structure: 100 years, Not sure/Unknown ❑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ❑, Concrete ❑, Cement block ❑, Other ❑_____

10. Foundation Construction (check all that apply):
    Concrete slab ❑
    Fieldstone ☒
    Concrete block ❑

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ☒?
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ☒, tile ❑, carpeted ❑, dirt ❑, other ❑ (describe)_____?
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other ☒ SOME CEMENT SOME STONE ?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ❑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____
No ☒ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ☒
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system: Forced hot air ☒
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ❑ No ☒. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s)❑
Other ❑, please specify_____

32. Do you use any of the following? Room fans ❑, Ceiling fans ❑, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ☒

33. Has your home had termite or other pesticide treatment: Yes ❑ No ☒ Unknown ❑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☒, Electric ❑, By furnace ❑, Other ❑_____
Water heater location: Basement ☒, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ☒, Gas ❑, Other ❑_____

36. Is there a stove exhaust hood present? Yes ☒ No ❑
Does it vent to the outdoors? Yes ☒ No ❑

37. Smoking in Home:
None ☒, Rare (only guests)❑, Moderate (residents light smokers)❑,
Heavy (at least one heavy smoker in household)❑

38. If yes to above, what do they smoke?
Cigarettes ❑ Cigars ❑
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ☒

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint, wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

Albertson's carpet cleaner

42. Please check weekly household cleaning practices:
    - Dusting ☒
    - Dry sweeping ☐
    - Vacuuming ☒
    - Polishing (furniture, etc) ☐
    - Washing/waxing floors ☐
    - Other ☐ _____

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 3-4-06

Location ID: 06-MS-SE-2

Address: 823 EAST Callendon - LIVINGSTON, MT, 59047

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? NO

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? NO

Are there any new upholstery, drapes or other textiles in the building? NO

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? NO

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? NO

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? _____

Which of these items are present in the building?

Potential Source	**Location of Source**
Paints or paint thinners	
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	KITCHEN

Supplemental Occupied Dwelling Questionnaire

Potential Source	**Location of Source**
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	Bathroom
Appliance cleaner	kitchen
Furniture/floor polish	kitchen
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	
Scented trees/wreaths, potporri	
Gun cleaners	
Other	

06-AS-SE-1

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 4-7-06

1. Name:

   Addre

   Lic

   Home

2. What is the best time to call to speak with you?_____ At: Work ❑ or Home ☒?

3. Are you the Owner ☒, Renter ❑, Other ❑ (please specify)_____
   of this Home/Structure?

4. Total number of occupants/persons at this location? 3
   Number of children? 1 Ages? 6

5. How long have you lived at this location? over 20 years

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ❑, Duplex ❑, Condominium ❑, Townhouse ❑, Other ❑ 2 Bed Room Stucco House

7. Home/Structure Description: number of floors 1
   Basement? Yes ☒ No ❑
   Crawl Space? Yes ❑ No ❑
   If Yes, under how much of the house's area? 25 %

8. Age of Home/Structure: _____ years, Not sure/Unknown ❑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☒, Brick ☒ Stucco, Concrete ❑, Cement block ❑, Other ❑_____

10. Foundation Construction (check all that apply):
    Concrete slab ❑
    Fieldstone ❑
    Concrete block ❑

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ☒
Private well ❑
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ☒
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ☒ Not used ❑ Unknown ❑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☒

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ☒?
16. If finished, how many rooms are in the basement? 1
How many are used for more than 2 hours/day? none
17. Is the basement floor (check all that apply) concrete ❑, tile ❑, carpeted ❑, dirt ❑, other❑(describe) part Concrete part dirt
18. Are the basement walls poured concrete ❑, cement block ❑, stone ❑, wood ❑, brick ❑, other❑ part concrete part dirt ?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑
Yes, rarely (less than 1 time/yr) ❑
No ☒
only when Hot water heater broke

21. Does the basement have any of the following? (check all that apply) Floor cracks ❑, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑
(describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ☒ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ❑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ❑
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ☒
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☒
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑
Yes, work at a dry cleaning service ❑
No ☒

26. Does anyone in your home use solvents at work?
Yes ☒ If yes, how many persons 1 Tom - carpet cleaner
No ❑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ☒ No ❑

28. Where is the washer/dryer located?
Basement ❑
Upstairs utility room ☒
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ☒ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ☒, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system:
Forced hot air ❑
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other Floor Furnace

31. Do you have air conditioning? Yes ☒ No ☐. If yes, please check the appropriate type(s)
Central air conditioning ☐
Window air conditioning unit(s) ☒
Other ☐, please specify _____

32. Do you use any of the following? Room fans ☒, Ceiling fans ☐, Attic fan ☐
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ☐ No ☒

33. Has your home had termite or other pesticide treatment: Yes ☐ No ☐ Unknown ☒
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ☐, Electric ☒, By furnace ☐, Other ☐ _____
Water heater location: Basement ☒, Upstairs utility room ☐, Garage ☐, Other ☐ (please describe) _____

35. What type of cooking appliance do you have? Electric ☒, Gas ☐, Other ☐ _____

36. Is there a stove exhaust hood present? Yes ☐ No ☒
Does it vent to the outdoors? Yes ☐ No ☐

37. Smoking in Home:
None ☐, Rare (only guests) ☐, Moderate (residents light smokers) ☒,
Heavy (at least one heavy smoker in household) ☐

38. If yes to above, what do they smoke?
Cigarettes ☒ Cigars ☐
Pipe ☐ Other ☐

39. Do you regularly use air fresheners? Yes ☒ No ☐

40. Does anyone in the home have indoor home hobbies of crafts involving: None ☐
Heating ☐, soldering ☐, welding ☐, model glues ☐, paint ☒, spray paint,
wood finishing ☐, Other ☐ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	(Never)	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

Bleach

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
Dusting ☑
Dry sweeping ☑
Vacuuming ☑
Polishing (furniture, etc) ☑
Washing/waxing floors ☐
Other ☐ Cleaning mirrors

43. Other comments: _____

Supplemental Occupied Dwelling Questionnaire

Date: 4-7-06

Location ID: 06-AS-SE-1

Address: 108 North L. St.
Livingston Mt.

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation X Storm Windows Energy-Efficient Windows X Other _____

Does the building have an attached garage? No

If so, is a car usually parked in the garage? _____

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? NO

Are there any new upholstery, drapes or other textiles in the building? No

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? Weed Killer Summer 1-2 times

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? NO

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? NO

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	Utility Room
Gas-powered equipment	
Gasoline storage cans	
Cleaning solvents	Utility Room Kitchen
Air fresheners	Bathroom + Kitchen
Oven cleaners	Utility Room
Carpet/upholstery cleaners	Utility Room

Supplemental Occupied Dwelling Questionnaire

Potential Source	**Location of Source**
Hairspray	Bathroom
Nail polish/polish remover	—
Bathroom cleaner	Bathroom
Appliance cleaner	Kitchen utility Room
Furniture/floor polish	" "
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	Bathroom
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	utility room acrilic paint paint thinner
Scented trees/wreaths, potporri	
Gun cleaners	Bedroom
Other	

05-AS-NE-C

OCCUPIED DWELLING QUESTIONNAIRE

Indoor Air Assessment Survey

Date: 4/6/06

1. Name:

   Addres

   _____

   Home

2. What is the best time to call to speak with you?_____ At: Work ❑ or Home ❑?

3. Are you the Owner ❑, Renter ❑, Other ❑ (please specify)_____ of this Home/Structure?

4. Total number of occupants/persons at this location? Ø
   Number of children? _____ Ages?_____

5. How long have you lived at this location? _____

General Home Description

6. Type of Home/Structure (check only one): Single Family Home ☑, Duplex ❑, Condominium❑, Townhouse ❑, Other ❑_____

7. Home/Structure Description: number of floors _____
   Basement? Yes ☑ No ❑
   Crawl Space? Yes ❑ No ☑
   If Yes, under how much of the house's area? ____%

8. Age of Home/Structure: _____ years, Not sure/Unknown ☑

9. General Above-Ground Home/Structure construction (check all that apply):
   Wood ☑, Brick ❑, Concrete ❑, Cement block ❑, Other ❑_____

10. Foundation Construction (check all that apply):
    Concrete slab ❑
    Fieldstone ❑
    Concrete block ☒

Elevated above ground/grade ❑
Other_____

11. What is the source of your drinking water (check all that apply)?
Public water supply ❑
Private well ❑ ? Assume public.
Bottled water ❑
Other, please specify _____

12. Do you have a private well for purposes other than drinking?
Yes ❑ No ❑
If yes, please describe what you use the well for:_____
_____

13. Do you have a septic system? Yes ❑ No ❑ Not used ❑ Unknown ☑

14. Do you have standing water outside your home (pond, ditch, swale)? Yes ❑ No ☑

Basement Description, please check appropriate boxes.
<u>If you do not have a basement</u> go to question 23.

15. Is the basement finished ❑ or unfinished ❑? partially finished
16. If finished, how many rooms are in the basement?_____
How many are used for more than 2 hours/day?_____
17. Is the basement floor (check all that apply) concrete ☒, tile ❑, carpeted ❑, dirt ❑, other❑(describe)_____?
18. Are the basement walls poured concrete ❑, cement block ☒, stone ❑, wood ❑, brick ❑, other❑_____?
19. Does the basement have a moisture problem (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑ some dampness
Yes, rarely (less than 1 time/yr) ❑
No ❑

20. Does the basement ever flood (check one only)?
Yes, frequently (3 or more times/yr) ❑
Yes, occasionally (1-2 times/yr) ❑ Unknown
Yes, rarely (less than 1 time/yr) ❑
No ❑

21. Does the basement have any of the following? (check all that apply) Floor cracks ☒, Wall cracks ❑, Sump ❑, Floor drain ❑, Other hole/opening in floor ❑ (describe)_____

22. Are any of the following used or stored in the basement (check all that apply)
Paint ☑ Paint stripper/remover ❑ Paint thinner ❑
Metal degreaser/cleaner ☑ Gasoline ❑ Diesel fuel ❑ Solvents ❑ Glue ☑ moved to garage.
Laundry spot removers ❑ Drain cleaners ❑ Pesticides ❑

23. Have you recently (within the last six months) done any painting or remodeling in your home? Yes ❑ No ❑
If yes, please specify what was done, where in the home, and what month:
_____
_____

24. Have you installed new carpeting in your home within the last year? Yes ❑ No ☑ Assume No
If yes, when and where?_____

25. Do you regularly use or work in a dry cleaning service (check only one box)?
Yes, use dry-cleaning regularly (at least weekly) ❑
Yes, use dry-cleaning infrequently (monthly or less) ❑ unknown.
Yes, work at a dry cleaning service ❑
No ❑

26. Does anyone in your home use solvents at work?
Yes ❑ If yes, how many persons_____ unknown.
No ❑ If no, go to question 28

27. If yes for question 26 above, are the work clothes washed at home? Yes ❑ No ❑

28. Where is the washer/dryer located?
Basement ☑
Upstairs utility room ❑
Kitchen ❑
Garage ❑
Use a Laundromat ❑
Other, please specify ❑_____

29. If you have a dryer, is it vented to the outdoors? Yes ☑ No ❑

30. What type(s) of home heating do you have (check all that apply)
Fuel type: Gas ❑, Oil ❑, Electric ❑, Wood ❑, Coal ❑, Other_____
Heat conveyance system:
Forced hot air ❑
Forced hot water ❑
Steam ❑
Radiant floor heat ❑
Wood stove ❑
Coal furnace ❑
Fireplace ❑
Other_____

31. Do you have air conditioning? Yes ❑ No ❑. If yes, please check the appropriate type(s)
Central air conditioning ❑
Window air conditioning unit(s)❑
Other ❑, please specify _____

32. Do you use any of the following? Room fans ❑, Ceiling fans ❑, Attic fan ❑
Do you ventilate using the fan-only mode of your central air conditioning or forced air heating system? Yes ❑ No ❑

33. Has your home had termite or other pesticide treatment: Yes ❑ No ❑ Unknown ☑
If yes, please specify type of pest controlled, _____
and approximate date of service _____

34. Water Heater Type: Gas ❑, Electric ❑, By furnace ❑, Other ❑ _____
Water heater location: Basement ❑, Upstairs utility room ❑, Garage ❑, Other ❑ (please describe) _____

35. What type of cooking appliance do you have? Electric ☑, Gas ❑, Other ❑ _____

36. Is there a stove exhaust hood present? Yes ❑ No ❑
Does it vent to the outdoors? Yes ❑ No ❑

37. Smoking in Home:
None ❑, Rare (only guests)❑, Moderate (residents light smokers)❑, unknown, assume some
Heavy (at least one heavy smoker in household)❑

38. If yes to above, what do they smoke?
Cigarettes ☒ Cigars ❑ ash tray in garage.
Pipe ❑ Other ❑

39. Do you regularly use air fresheners? Yes ❑ No ❑

40. Does anyone in the home have indoor home hobbies of crafts involving: None ❑
Heating ❑, soldering ❑, welding ❑, model glues ❑, paint ❑, spray paint, wood finishing ❑, Other ❑ Please specify what type of hobby: _____
_____

41. General family/home use of consumer products (please circle appropriate): Assume that **Never** = never used, **Hardly ever** = less than once/month, **Occasionally** = about once/month, **Regularly** = about once/week, and **Often** = more than once/week.

Product	Frequency of Use				
Spray-on deodorant	Never	Hardly ever	Occasionally	Regularly	Often

Aerosol deodorizers	Never	Hardly ever	Occasionally	Regularly	Often
Insecticides	Never	Hardly ever	Occasionally	Regularly	Often
Disinfectants	Never	Hardly ever	Occasionally	Regularly	Often

(Question 41, continued)

Product	Frequency of Use				
Window cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Spray-on oven cleaners	Never	Hardly ever	Occasionally	Regularly	Often
Nail polish remover	Never	Hardly ever	Occasionally	Regularly	Often
Hair sprays	Never	Hardly ever	Occasionally	Regularly	Often

42. Please check weekly household cleaning practices:
Dusting ❑
Dry sweeping ❑
Vacuuming ❑
Polishing (furniture, etc) ❑
Washing/waxing floors ❑
Other ❑ _____

43. Other comments: paints, degreaser, bleach, aerosol spray air freshener, wood water repellant, windex cigarette - ash tray, lamp oil, gas oil
DAP construction adhesive - 4000 sub floor
Rubr Mastic M300 All weather rubber mastic
Gunk Home and Auto Parts cleaner
3M Plastic and Emblem Adhesive, loctite, pipe thread compound
Behr Fir, Pine & spruce waterproofing
Stain and wood preservative
Best carpet extraction cleaner
assorted adhesives, cleaners, Dately cleaner
columbia professional coating.
DAP contact cement

→ put all stuff in garage area

Ace floor stripper
Ace Urethane - Fortified floor finish
Stainless Steel Magic

Supplemental Occupied Dwelling Questionnaire

Date: 4/6/06

Location ID: 06-AS-NE-2

Address: 405 N. L Street
Livingston

* unoccupied - computed based on visual observation

Has the building been weatherized with any of the following? (Circle all that apply)

Insulation Storm Windows Energy-Efficient Windows Other _____

Does the building have an attached garage? yes

If so, is a car usually parked in the garage? Did not appear so.

Are there any pressed wood products in the building (e.g. hardwood plywood wall paneling, particleboard, fiberboard)? cabinetry

Are there any new upholstery, drapes or other textiles in the building? Does not appear so

Do any of the occupants apply pesticides/herbicides in the yard or garden? If so, what chemicals are used and how often are they applied? unknown

Outdoor Sources

Is there any stationary emission source in the vicinity of the building? No

Are there any mobile emission sources (e.g. highway; bus stop; high-traffic area) in the vicinity of the building? No

Which of these items are present in the building?

Potential Source	Location of Source
Paints or paint thinners	
Gas-powered equipment	unknown
Gasoline storage cans	
Cleaning solvents	
Air fresheners	
Oven cleaners	
Carpet/upholstery cleaners	

* chemicals were in kitchen, basement and garage. Moved many of these to garage before starting indoor air sampling. Garage open to rest of house.

Supplemental Occupied Dwelling Questionnaire

Potential Source	**Location of Source**
Hairspray	
Nail polish/polish remover	
Bathroom cleaner	
Appliance cleaner	
Furniture/floor polish	
Moth balls	
Fuel tank	
Wood stove	
Fireplace	
Perfume/colognes	
Hobby supplies (e.g. solvents, paints, lacquers, glues, photographic darkroom chemicals)	
Scented trees/wreaths, potporri	
Gun cleaners	
Other	

Attachment C

Building Diagrams (April 2006 Sampling Event)

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/6/06

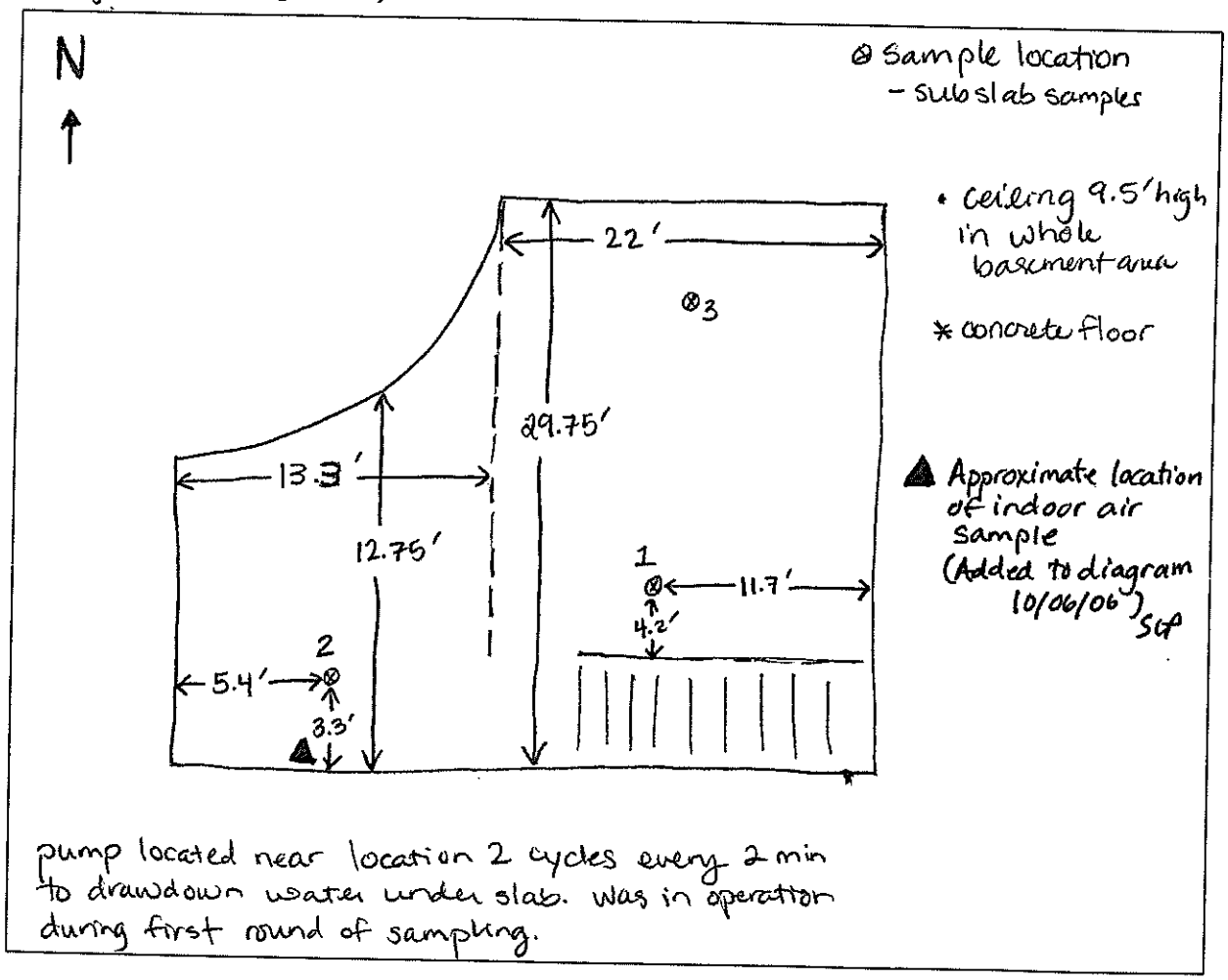
Sampling Location ID: 06-SG-78

Sampling Personnel: Maury Orr (KJ), Dave Balkenbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Raining, mid-40's, light wind NW

Room Dimensions (or sketch)/Sample Location: "Crawlspaces" were confined spaces, so subslab samples were collected in basement - locations approved by J. Keck (DEQ)



Comments (Odors/chemicals present, smoking, windows/doors open during sampling, etc.):

3rd location not sampled because slab was thicker than drill bit. Attempted twice. At location 2, hit rebar first attempt - moved over and was able to penetrate slab. Radon collected at location 1. Duplicate sample collected at location 2.

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/5/06

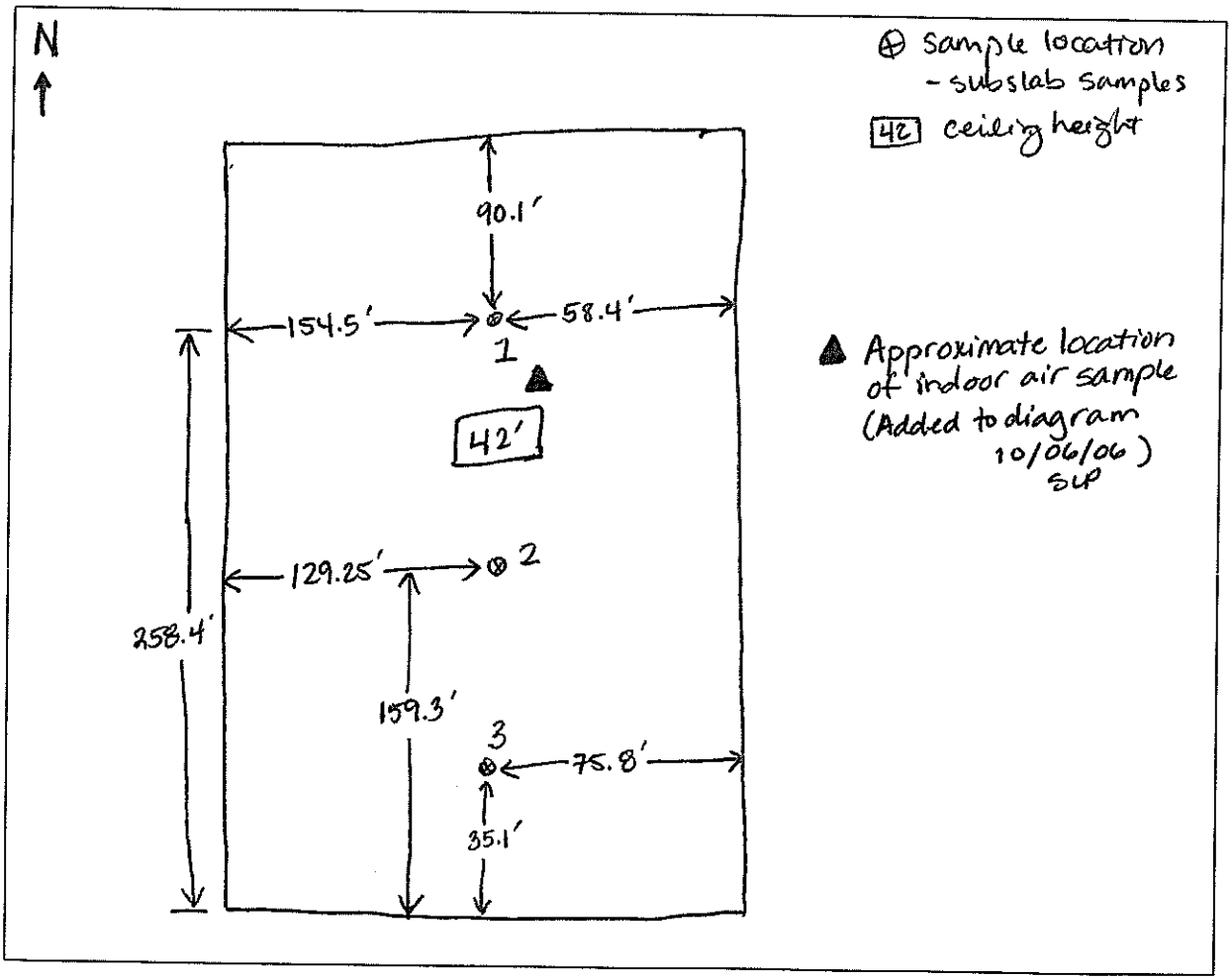
Sampling Location ID: 06-SG-LS

Sampling Personnel: Maury Orr (KJ), Dave Balkenbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Dry, cloudy, mid 90's, SSW 15mph wind.

Room Dimensions (or sketch)/Sample Location: 3 locations chosen for sample collection - approved by J. Keck (DEQ).



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/6/06

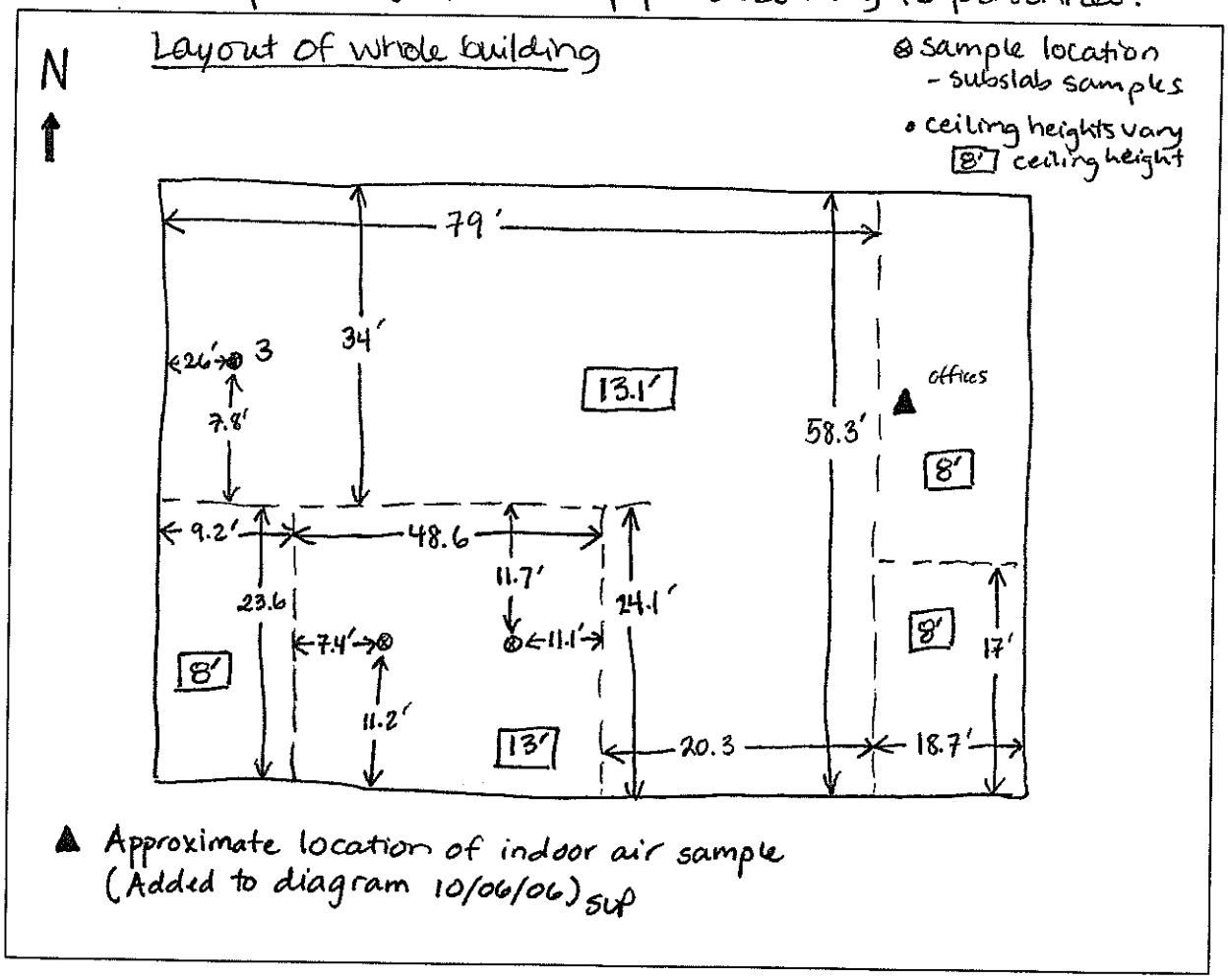
Sampling Location ID: 06-SG-108

Sampling Personnel: Maury Orr (KJ), Dave Balkenbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Raining, low 40's, light wind.

Room Dimensions (or sketch)/Sample Location: Main building area - heat pipe in slab - Okay to drill in back room - 3 locations approved by J. Keck (DEQ) - one taken in pit area - no heat pipe according to personnel.



Comments (Odors/chemicals present, smoking, windows/doors open during sampling, etc.):

Dirt trench area through back room along north wall - no room for flux chamber - pipes in trench.

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/5/06

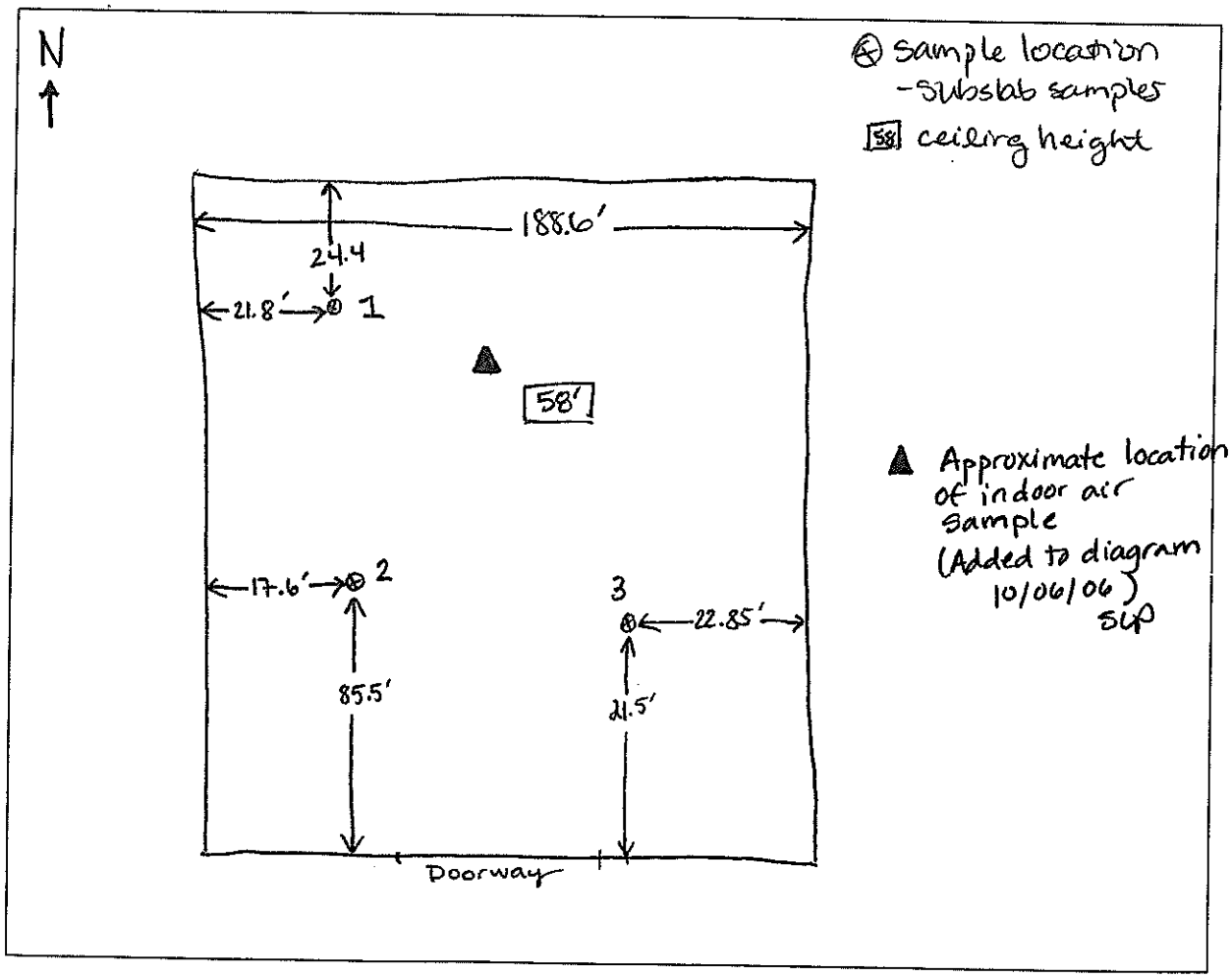
Sampling Location ID: 06-SG-ES

Sampling Personnel: Marny Orr (KJ), Dave Ballarbush (H&P), Sherri P. (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Dry, cloudy, SSW 15mph wind, mid 40's.

Room Dimensions (or sketch)/Sample Location:



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

Duplicate sample collected at location 2

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/7/06

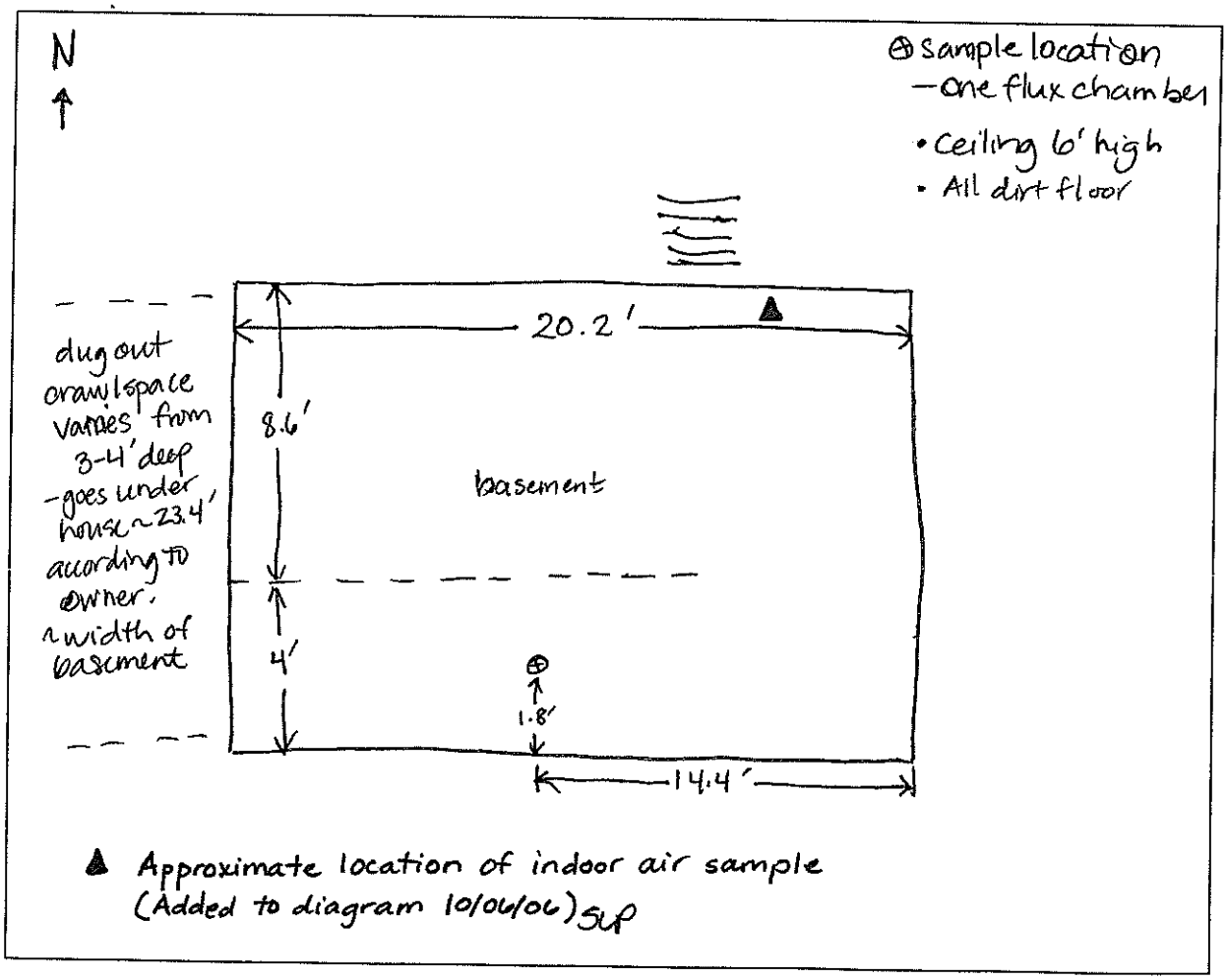
Sampling Location ID: 06-GF-NE-4

Sampling Personnel: M. Orr (KJ), D. Balkenbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

mid-upper 40's, dry, cloudy, wind 10-15mph

Room Dimensions (or sketch)/Sample Location: Sample collected in basement - dirt floor throughout - location approved by J. Keck (DEQ).



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/5/06

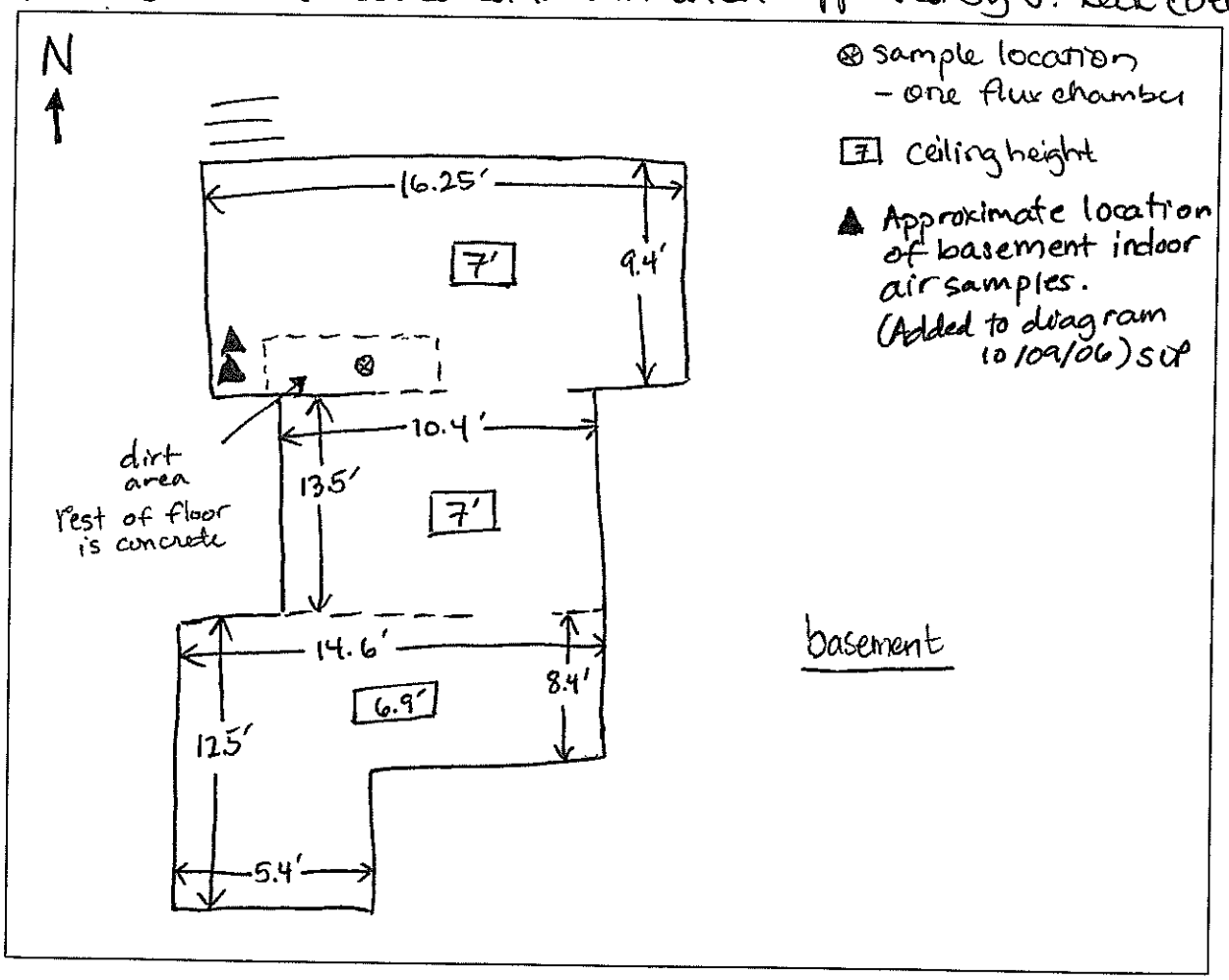
Sampling Location ID: 06-GF-NE-1

Sampling Personnel: Maury Orr (KJ), Dave Balkenbush (H&P), Sherri P. (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Dry, cloudy, SSW 15 mph wind, mid 40's

Room Dimensions (or sketch)/Sample Location: Basement has concrete floor with some holes/cracks, and one dirt area few sf in area. One flux chamber collected in dirt area - approved by J. Keck (DEQ).



Comments (Odors/chemicals present, smoking, windows/doors open during sampling, etc.):

Urine-like odor when dirt was disturbed to set flux chamber in.

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/5/06

Sampling Location ID: 06-SG-142

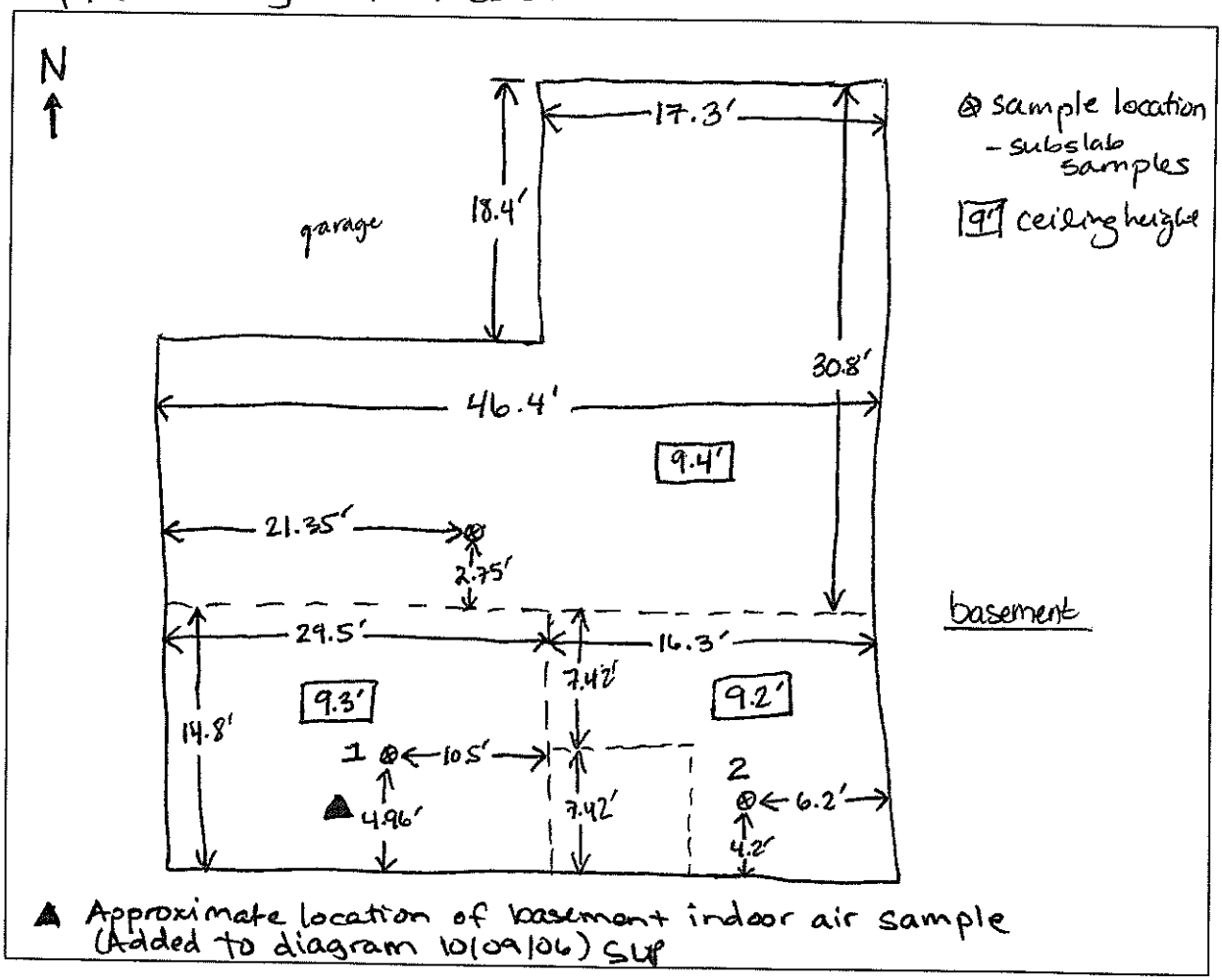
Sampling Personnel: Maury Orr (KJ), Dave Balkenbush (H&P), Sheri P. (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Sunny, mid 40's, light breeze

Room Dimensions (or sketch)/Sample Location: See sketch - lower floor

Concrete floor - 3 substab samples collected - locations approved by J. Keck (DEQ).



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/5/06

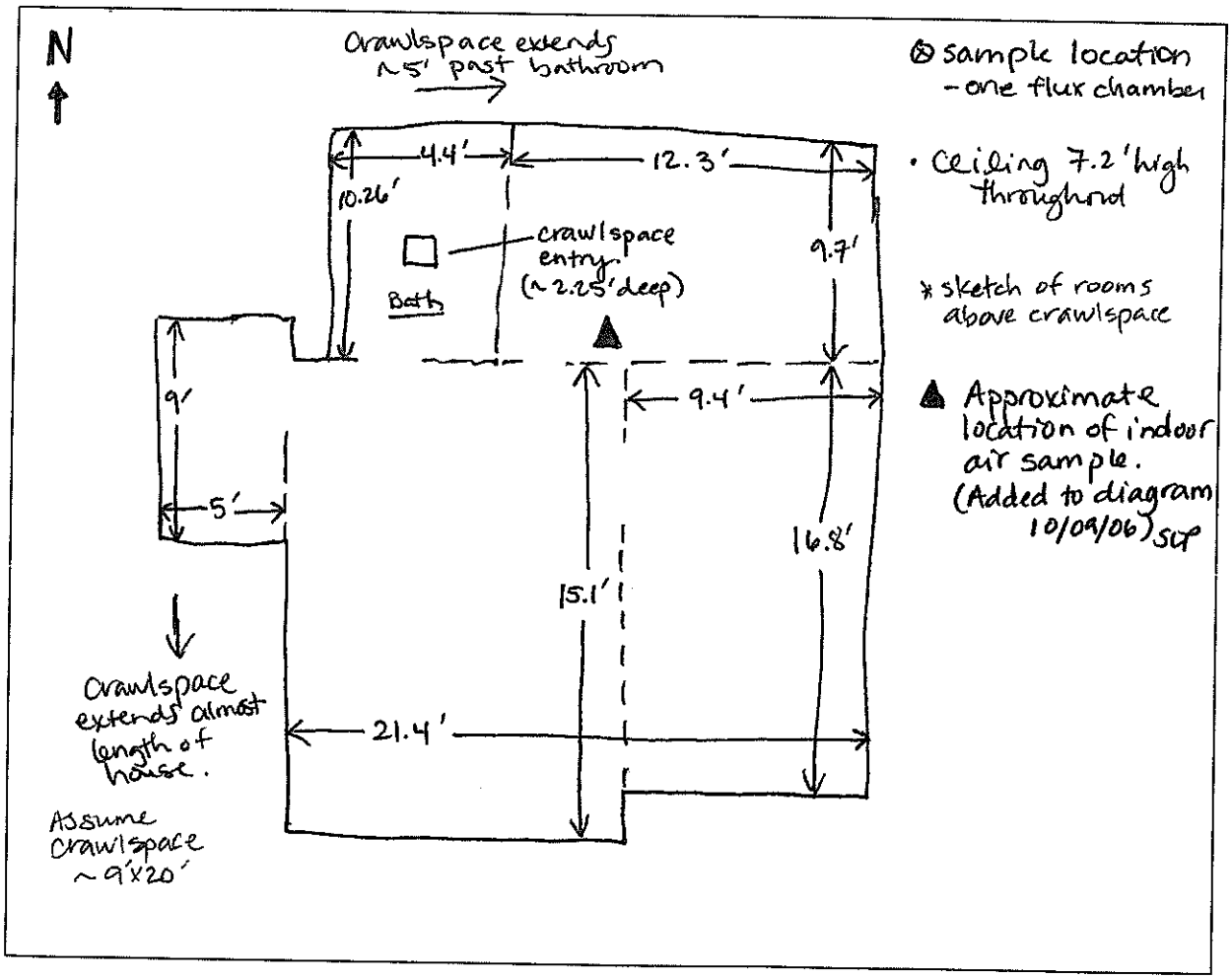
Sampling Location ID: 06-GF-SE-5

Sampling Personnel: Maury Orr (KJ), Dave Bakenbush (H&P), Sherri P. (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

dry, cool - low 40's, light breeze

Room Dimensions (or sketch)/Sample Location: Sample collected right below crawlspace entry - location approved by Jarret Keck (DEQ).



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

mitigation system turned off right before sampling.

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/6/06

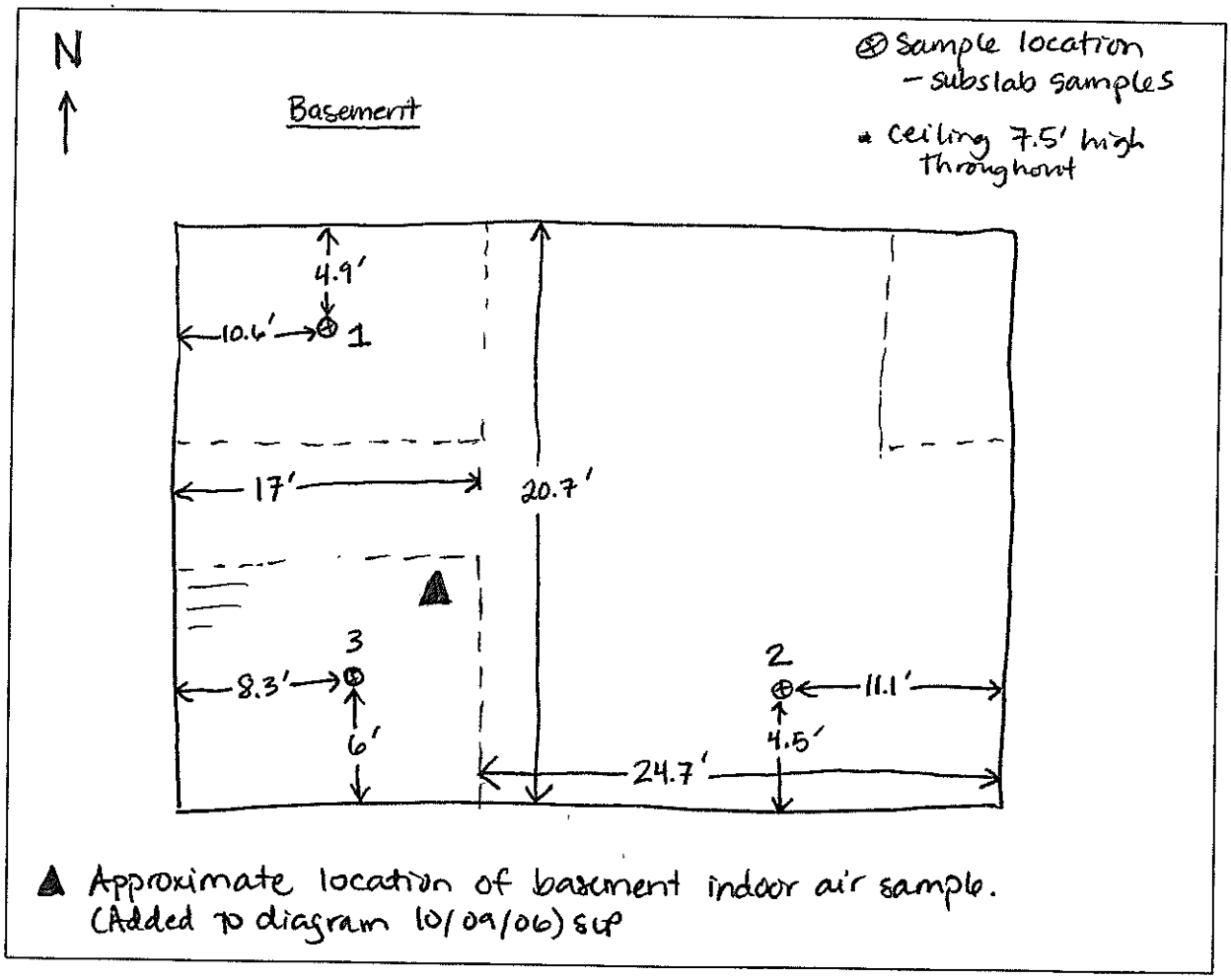
Sampling Location ID: 06-AS-NE-2

Sampling Personnel: Maury Orr (KJ), Dave Balkenbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Raining, low 40's, light breeze

Room Dimensions (or sketch)/Sample Location: Substab samples collected - locations approved by J. Keck (DEQ)



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

Radon and duplicate Radon collected at location 2.

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/7/06

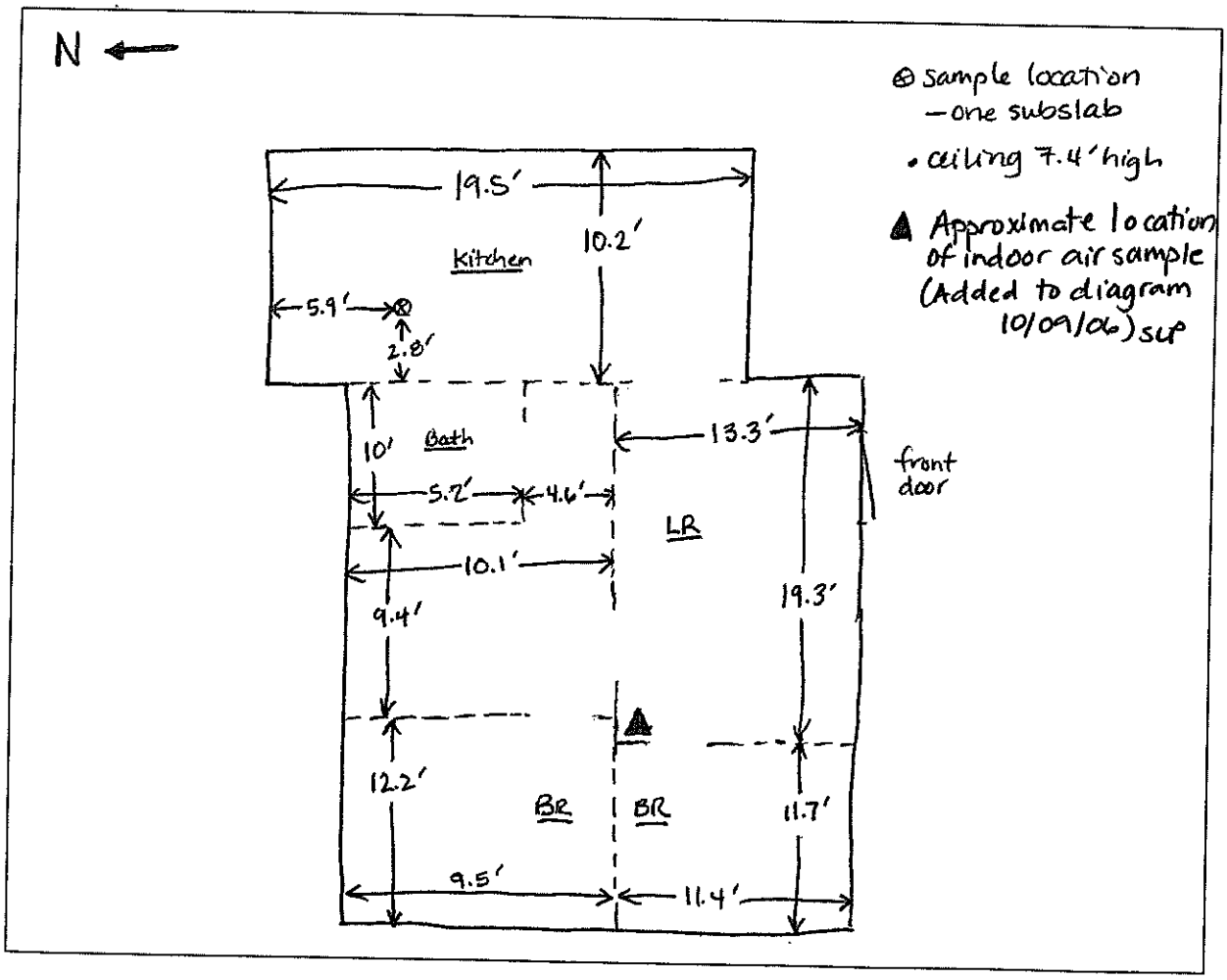
Sampling Location ID: 06-SG-99

Sampling Personnel: M. Orr (KJ), D. Ballanbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Mid 40's, dry, cloudy, wind 10-15 mph

Room Dimensions (or sketch)/Sample Location: One subslab collected in kitchen in front of woodbox. Location approved by owner and J. Keck (DEQ).



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/6/06

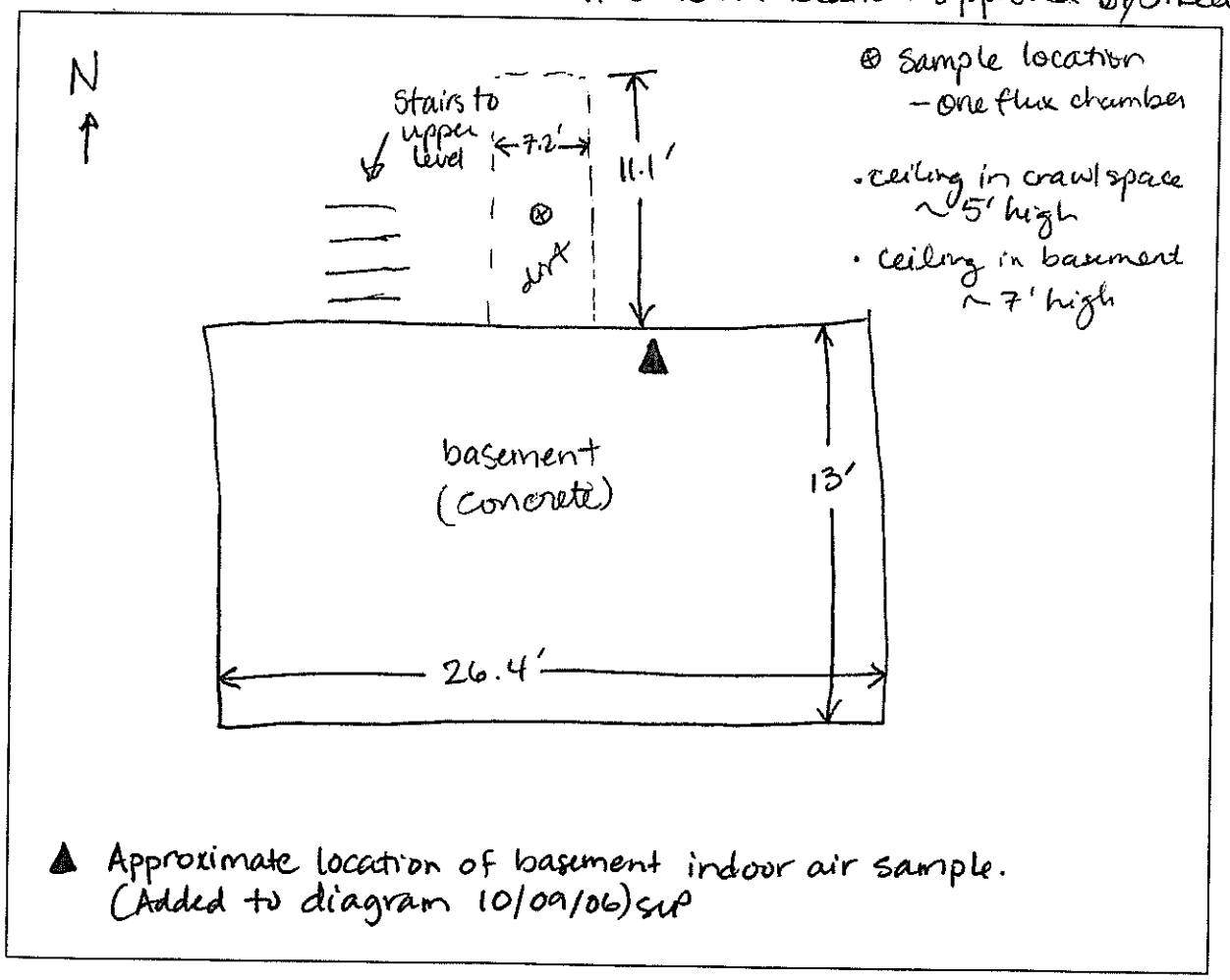
Sampling Location ID: 06-GF-167

Sampling Personnel: Maury Orr (KJ), Dave Balkenbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Stopped raining, little windy, cold - low 40's

Room Dimensions (or sketch)/Sample Location: Sample collected in small crawlspace under bathroom. Owner did not want holes drilled in basement area. location approved by J. Keck (DEQ)



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/7/06

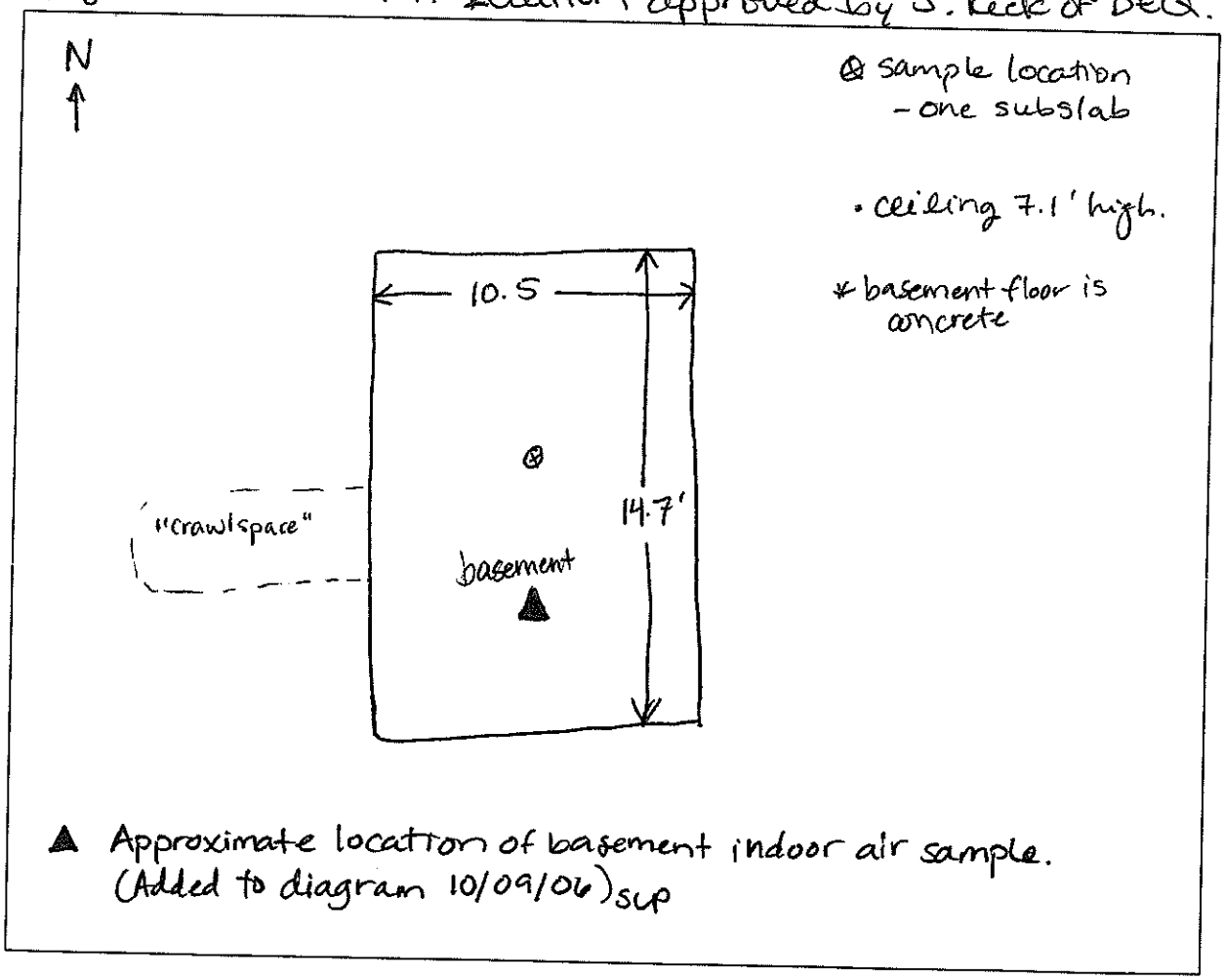
Sampling Location ID: 06-AS-SE-2

Sampling Personnel: M. Orr (KJ), D. Balkenbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Dry, low 40's, light wind.

Room Dimensions (or sketch)/Sample Location: Sub-slab collected ~ middle of floor area. "Crawlspace" was small dirt area under ducting too tight to work in. Location approved by J. Keck of DEQ.



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/7/06

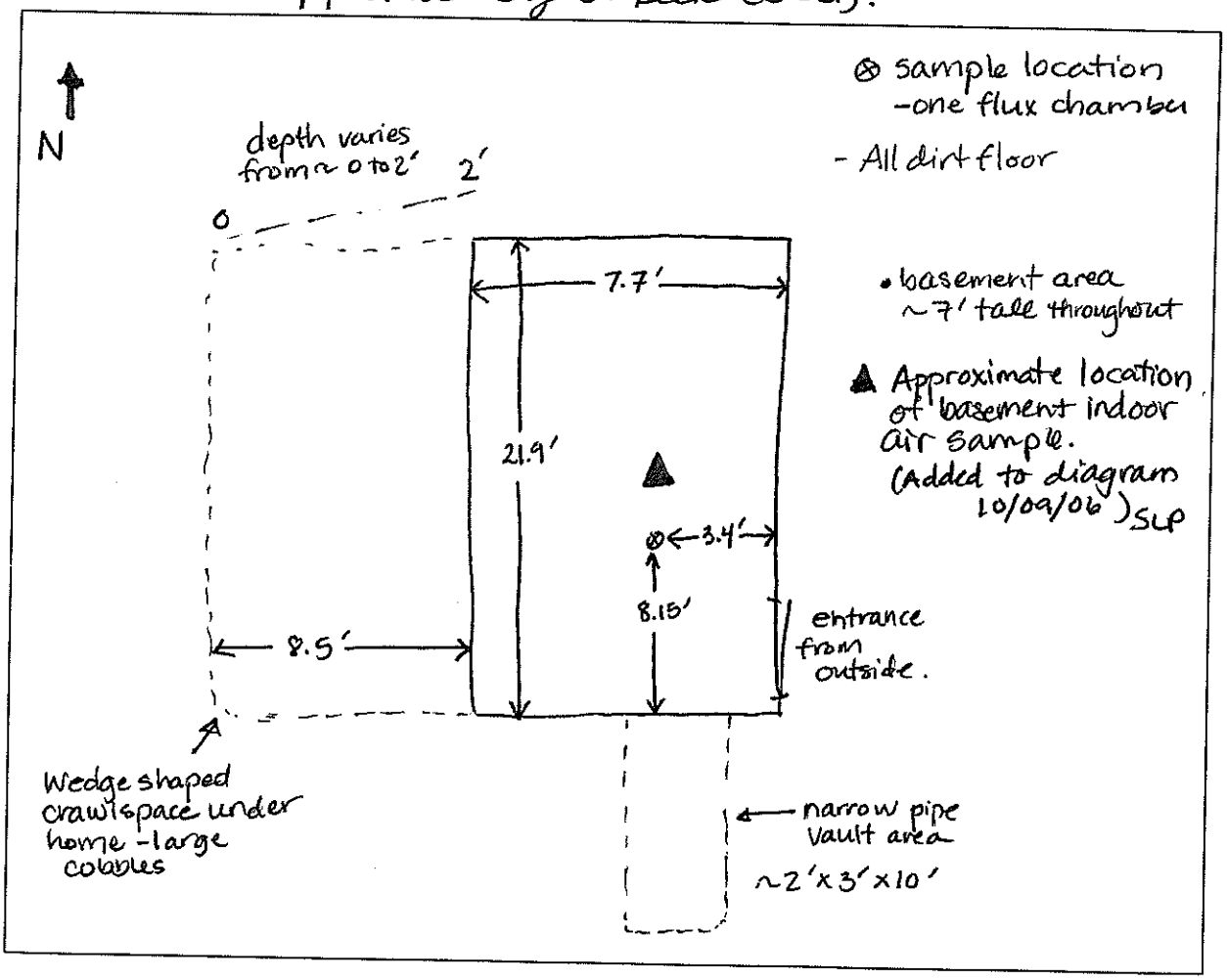
Sampling Location ID: 06-GF-NE-5

Sampling Personnel: M. Orr (KJ), D. Balkenbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Forecast 57/36, W wind shifting to SSE 10-15mph, cloudy, dry.

Room Dimensions (or sketch)/Sample Location: Small partial basement with crawlspace under part of house - sample collected in basement - location approved by J. Keck (CDEQ).



Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

FIELD INDOOR SOIL GAS SAMPLING LOG

Project No.: 0696021.16

Date: 4/7/06

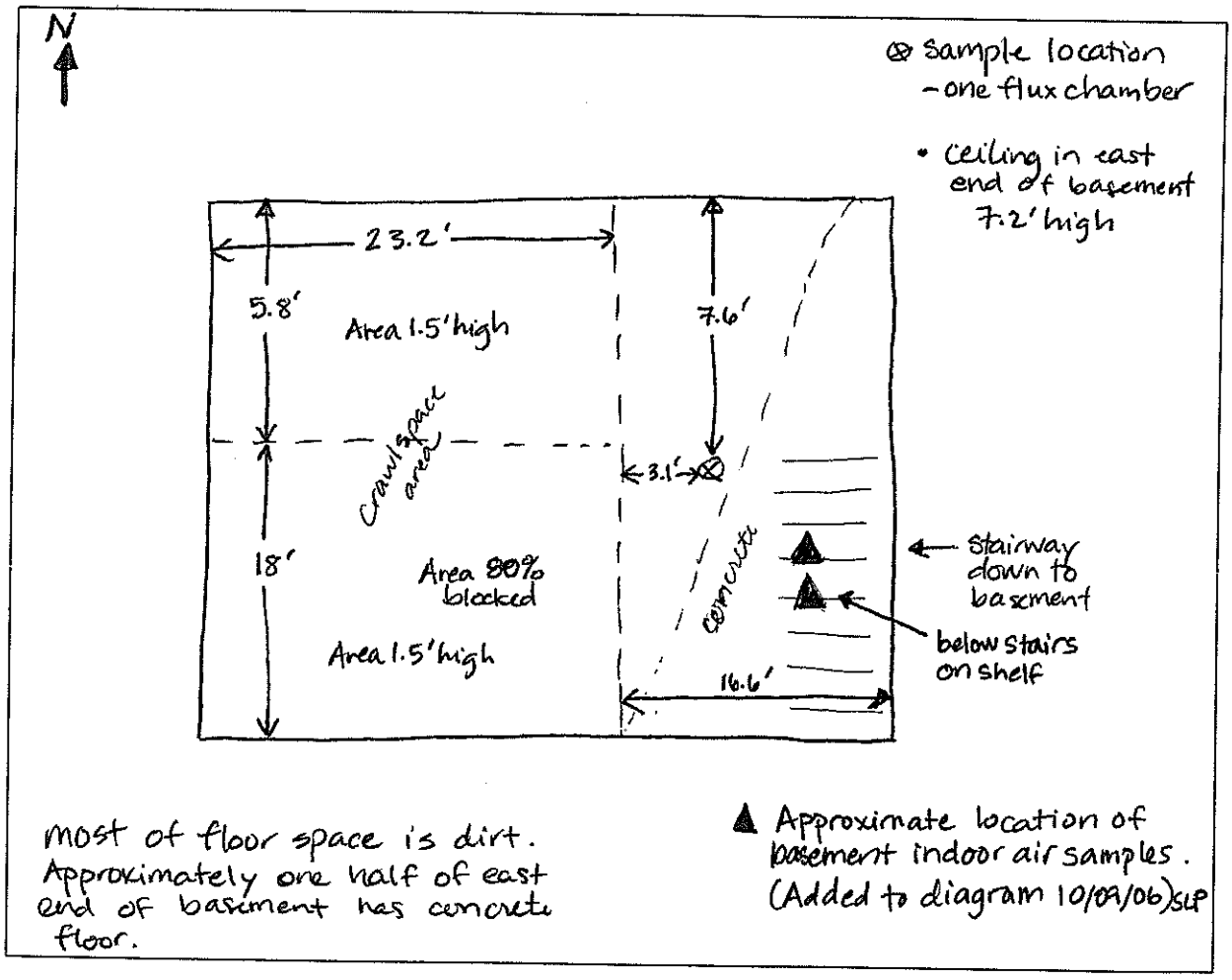
Sampling Location ID: 06-GF-SE-1

Sampling Personnel: M. Orr (KJ), D. Balkenbush (H&P), S. Peterson (KJ)

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

mid-upper 40's, dry, cloudy, wind 10-15 mph

Room Dimensions (or sketch)/Sample Location: One flux chamber located in basement, location approved by J. Keck (DEQ).



Comments (Odors/chemicals present, smoking, windows/doors open during sampling, etc.):

Attachment D

Laboratory Analytical Reports, Chain-of-Custody Documentation, and Field Forms December 2005 Sampling Event

Laboratory Analytical Reports and Chain-of-Custody Documentation

AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

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Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020
Hours 8:00 A.M to 6:00 P.M. Pacific

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0512317

Work Order Summary

CLIENT:	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104	**BILL TO:**	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104
PHONE:	206-652-4905	**P.O. #**	
FAX:		**PROJECT #**	0596021*16 BN Livingston
DATE RECEIVED:	12/14/2005	**CONTACT:**	Nicole Danbacher
DATE COMPLETED:	12/27/2005		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	05-AS-BG29L	Modified TO-15 SIM	9.0 "Hg
02A	05-AS-BG29B	Modified TO-15 SIM	6.5 "Hg
03A	05-AS-99L	Modified TO-15 SIM	8.0 "Hg
04A	05-AS-AMB-3-12-12-05	Modified TO-15 SIM	7.5 "Hg
05A	05-AS-80-5L	Modified TO-15 SIM	9.0 "Hg
06A	05-AS-AMB-2-12-12-05	Modified TO-15 SIM	5.5 "Hg
07A	05-AS-AMB-1-12-12-05	Modified TO-15 SIM	7.0 "Hg
08A	05-AS-NE-1L	Modified TO-15 SIM	8.5 "Hg
09A	05-AS-NE-1B	Modified TO-15 SIM	8.5 "Hg
10A	D1-AS-12-12-05	Modified TO-15 SIM	7.0 "Hg
11A	05-AS-132L	Modified TO-15 SIM	9.0 "Hg
12A	05-AS-142L	Modified TO-15 SIM	8.5 "Hg
13A	Lab Blank	Modified TO-15 SIM	NA
13B	Lab Blank	Modified TO-15 SIM	NA
14A	CCV	Modified TO-15 SIM	NA
14B	CCV	Modified TO-15 SIM	NA
15A	LCS	Modified TO-15 SIM	NA

Continued on next page

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0512317

Work Order Summary

CLIENT:	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104	**BILL TO:**	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104
PHONE:	206-652-4905	**P.O. #**	
FAX:		**PROJECT #**	0596021*16 BN Livingston
DATE RECEIVED:	12/14/2005	**CONTACT:**	Nicole Danbacher
DATE COMPLETED:	12/27/2005		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
15B	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda L. Freeman DATE: 12/28/05

Laboratory Director

Certfication numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 SIM
Kennedy/Jenks Consultants
Workorder# 0512317

Twelve 6 Liter Summa Canister (SIM Certified) samples were received on December 14, 2005. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) information for samples 05-AS-AMB-3-12-12-05, 05-AS-80-5L, 05-AS-AMB-2-12-12-05 and 05-AS-AMB-1-12-12-05 did not match the entries on the sample tags with regard to sample identification. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the COC was used to process and report the samples.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: 05-AS-BG29L

Lab ID#: 0512317-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0057	1.1	0.031	6.1

Client Sample ID: 05-AS-BG29B

Lab ID#: 0512317-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0051	0.021	0.028	0.11

Client Sample ID: 05-AS-99L

Lab ID#: 0512317-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0055	0.016	0.030	0.084
Tetrachloroethene	0.037	0.25	0.25	1.7

Client Sample ID: 05-AS-AMB-3-12-12-05

Lab ID#: 0512317-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0054	0.0071	0.029	0.038

Client Sample ID: 05-AS-80-5L

Lab ID#: 0512317-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0057	0.014	0.031	0.075

Client Sample ID: 05-AS-AMB-2-12-12-05

Lab ID#: 0512317-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0049	0.0068	0.026	0.036

Client Sample ID: 05-AS-AMB-1-12-12-05

Lab ID#: 0512317-07A

Client Sample ID: 05-AS-AMB-1-12-12-05

Lab ID#: 0512317-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0052	0.0076	0.028	0.041

Client Sample ID: 05-AS-NE-1L

Lab ID#: 0512317-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0056	0.033	0.030	0.18
Tetrachloroethene	0.037	0.76	0.25	5.2

Client Sample ID: 05-AS-NE-1B

Lab ID#: 0512317-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0056	0.045	0.030	0.24
Tetrachloroethene	0.037	0.89	0.25	6.0

Client Sample ID: D1-AS-12-12-05

Lab ID#: 0512317-10A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0052	0.045	0.028	0.24
Tetrachloroethene	0.035	0.94	0.24	6.4

Client Sample ID: 05-AS-132L

Lab ID#: 0512317-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0057	0.0060	0.031	0.032
Tetrachloroethene	0.038	0.095	0.26	0.64

Client Sample ID: 05-AS-142L

Lab ID#: 0512317-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	0.080	0.048	0.20
Trichloroethene	0.0056	0.061	0.030	0.33
Tetrachloroethene	0.037	0.10	0.25	0.68

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Client Sample ID: 05-AS-BG29L

Lab ID#: 0512317-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122122sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.91**	**Date of Analysis:**	**12/21/05 06:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
Trichloroethene	0.0057	1.1	0.031	6.1
Tetrachloroethene	0.038	Not Detected	0.26	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	90	70-130

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Client Sample ID: 05-AS-BG29B

Lab ID#: 0512317-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122123sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.71**	**Date of Analysis:**	**12/21/05 07:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.017	Not Detected	0.044	Not Detected
Trichloroethene	0.0051	0.021	0.028	0.11
Tetrachloroethene	0.034	Not Detected	0.23	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
cis-1,2-Dichloroethene	0.034	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	80	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-99L

Lab ID#: 0512317-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122124sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.83**	**Date of Analysis:**	**12/21/05 07:48 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Trichloroethene	0.0055	0.016	0.030	0.084
Tetrachloroethene	0.037	0.25	0.25	1.7
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	94	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-AMB-3-12-12-05

Lab ID#: 0512317-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122125sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.79**	**Date of Analysis:**	**12/21/05 08:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
Trichloroethene	0.0054	0.0071	0.029	0.038
Tetrachloroethene	0.036	Not Detected	0.24	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	80	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-80-5L

Lab ID#: 0512317-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122126sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.91**	**Date of Analysis:**	**12/21/05 08:50 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
Trichloroethene	0.0057	0.014	0.031	0.075
Tetrachloroethene	0.038	Not Detected	0.26	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-AMB-2-12-12-05

Lab ID#: 0512317-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122127sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.64**	**Date of Analysis:**	**12/21/05 09:21 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
Trichloroethene	0.0049	0.0068	0.026	0.036
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	93	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-AMB-1-12-12-05

Lab ID#: 0512317-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122128sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.75**	**Date of Analysis:**	**12/21/05 09:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Trichloroethene	0.0052	0.0076	0.028	0.041
Tetrachloroethene	0.035	Not Detected	0.24	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	95	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-NE-1L

Lab ID#: 0512317-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122207sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.87**	**Date of Analysis:**	**12/22/05 10:22 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
Trichloroethene	0.0056	0.033	0.030	0.18
Tetrachloroethene	0.037	0.76	0.25	5.2
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	88	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-NE-1B

Lab ID#: 0512317-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122208sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.87**	**Date of Analysis:**	**12/22/05 11:03 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
Trichloroethene	0.0056	0.045	0.030	0.24
Tetrachloroethene	0.037	0.89	0.25	6.0
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130

AIR TOXICS LTD.

Client Sample ID: D1-AS-12-12-05

Lab ID#: 0512317-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122210sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.75**	**Date of Analysis:**	**12/22/05 12:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Trichloroethene	0.0052	0.045	0.028	0.24
Tetrachloroethene	0.035	0.94	0.24	6.4
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-132L

Lab ID#: 0512317-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122209sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.91**	**Date of Analysis:**	**12/22/05 11:41 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
Trichloroethene	0.0057	0.0060	0.031	0.032
Tetrachloroethene	0.038	0.095	0.26	0.64
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	94	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-142L

Lab ID#: 0512317-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122211sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.87**	**Date of Analysis:**	**12/22/05 12:41 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	0.080	0.048	0.20
Trichloroethene	0.0056	0.061	0.030	0.33
Tetrachloroethene	0.037	0.10	0.25	0.68
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	104	70-130

AIR TOXICS LTD.

Client Sample ID: Lab Blank

Lab ID#: 0512317-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122106sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/21/05 10:02 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	75	70-130

AIR TOXICS LTD.

Client Sample ID: Lab Blank

Lab ID#: 0512317-13B

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122206sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/22/05 09:29 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	84	70-130

AIR TOXICS LTD.

Client Sample ID: CCV

Lab ID#: 0512317-14A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/21/05 07:40 AM**	

Compound	%Recovery
Vinyl Chloride	106
Trichloroethene	94
Tetrachloroethene	92
trans-1,2-Dichloroethene	112
cis-1,2-Dichloroethene	90

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	113	70-130
4-Bromofluorobenzene	96	70-130

AIR TOXICS LTD.

Client Sample ID: CCV

Lab ID#: 0512317-14B

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122202sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/22/05 07:41 AM**	

Compound	%Recovery
Vinyl Chloride	102
Trichloroethene	92
Tetrachloroethene	94
trans-1,2-Dichloroethene	114
cis-1,2-Dichloroethene	88

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	112	70-130
4-Bromofluorobenzene	94	70-130

AIR TOXICS LTD.

Client Sample ID: LCS

Lab ID#: 0512317-15A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/21/05 08:05 AM**	

Compound	%Recovery
Vinyl Chloride	84
Trichloroethene	79
Tetrachloroethene	81
trans-1,2-Dichloroethene	96
cis-1,2-Dichloroethene	74

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	115	70-130
4-Bromofluorobenzene	95	70-130

AIR TOXICS LTD.

Client Sample ID: LCS

Lab ID#: 0512317-15B

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122203sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/22/05 08:06 AM**	

Compound	%Recovery
Vinyl Chloride	85
Trichloroethene	80
Tetrachloroethene	86
trans-1,2-Dichloroethene	97
cis-1,2-Dichloroethene	74

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	97	70-130

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Page ____ of ____

CHAIN-OF-CUSTODY RECORD

Contact Person: Sherri Peterson
Company: Kennedy/Jenks Consultants Email: sherripeterson@kennedyjenks.com
Address: 711 3rd Ave. #790 City: Seattle State: WA Zip: 98104
Phone: 206-447-8246 Fax: 206-652-4927
Collected by: (Signature)

Project Info:
P.O. #
Project #: 0596021*16
Project Name: BN Livingston

Turn Around Time:
☒ Normal
☐ Rush
Specify

Lab Use Only
Pressurized by: 158
Date: 12/19/05
Pressurization Gas: (N) He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final psig
01A	05-AS-BG29L		12-12-05	9:07	TO-15 SIM Livingston list	25	6.5	9.0"Hg	5.0PS
02A	05-AS-BG29B			9:10	" "	25	5	6.5"Hg	
03A	05-AS-99L			10:10	" "	27	5	9.0"Hg	
04A	05-AS-AMB-3-12-12-05			10:35	" "	26	5.5	7.5"Hg	
05A	05-AS-80-5L			11:18	" "	25.5	6	9.0"Hg	
06A	05-AS-AMB-2-12-12-05			1142	" "	25.5	4	5.5"Hg	
07A	05-AS-AMB-1-12-12-05			1155	" "	26	5.5	7.0"Hg	
08A	05-AS-NE-1L			12:27	" "	26	6	8.5"Hg	
09A	05-AS-NE-1B			12:30	" "	25.5	6.5	8.5"Hg	
10A	DA-AS-12-12-05			12:30	" "	25.5	5	7.0"Hg	

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Sherri L Peterson 12/13/05 3:30p	M Walker ATL 12/14/05 1040
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes: 24-hr sample taken at altitude ~4500 ft.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	UPS		—	good	Yes No None	0512317

J177 739 617 8

Form 1293 rev.10

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CHAIN-OF-CUSTODY RECORD

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Page ____ of ____

Contact Person: SHERRI PETERSON
Company: KENNEDY JENKS Consultants Email: Sherripeterson@kennedyjenks.com
Address: 711 3rd Ave. #790 City: SEATTLE State: WA Zip: 98104
Phone: 206-447-8246 Fax: 206-652-4927
Collected by: (Signature)

Project Info:
P.O. #
Project #: 0596021*16
Project Name: BN LIVINGSTON

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by: BB
Date: 12/19/05
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
11A	05-AS-132L		12-12-05	1:00pm	TO-15 SIM Livingston List	25.5	6	9.0 Hg	5.0 psi
12A	05-AS-142L		↓	2:10pm	" "	26	6.5	8.5 Hg	5.0 psi
	~~05-AS-142B~~ SUP		~~↓~~	~~2:15pm~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Sherri R. Peterson	12/13/05 3:20p	[signature] ATL	12/14/05 1040

Notes: 24 hr Sample Taken at Altitude - 4500 ft.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	UPS		—	good	Yes No (None)	0512317

Form 1293 rev.10

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Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

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- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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WORK ORDER #: 0512353

Work Order Summary

CLIENT:	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104	**BILL TO:**	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104
PHONE:	206-652-4905	**P.O. #**	
FAX:		**PROJECT #**	0596021.16 BN Livingston
DATE RECEIVED:	12/15/2005	**CONTACT:**	Nicole Danbacher
DATE COMPLETED:	12/28/2005		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	05-AS-142B	Modified TO-15 SIM	10.0 "Hg
02A	05-AS-167L	Modified TO-15 SIM	4.5 "Hg
03A	05-AS-167B	Modified TO-15 SIM	10.5 "Hg
03AA	05-AS-167B Duplicate	Modified TO-15 SIM	10.5 "Hg
04A	Lab Blank	Modified TO-15 SIM	NA
05A	CCV	Modified TO-15 SIM	NA
06A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda L. Freeman DATE: 12/29/05

Laboratory Director

Certfication numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 SIM
Kennedy/Jenks Consultants
Workorder# 0512353

Three 6 Liter Summa Canister (SIM Certified) samples were received on December 15, 2005. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: 05-AS-142B

Lab ID#: 0512353-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.020	0.045	0.051	0.11
Trichloroethene	0.0060	0.073	0.032	0.39
Tetrachloroethene	0.040	0.078	0.27	0.53

Client Sample ID: 05-AS-167L

Lab ID#: 0512353-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0047	0.023	0.025	0.12
Tetrachloroethene	0.032	0.28	0.21	1.9

Client Sample ID: 05-AS-167B

Lab ID#: 0512353-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0062	0.016	0.033	0.086
Tetrachloroethene	0.041	0.072	0.28	0.49

Client Sample ID: 05-AS-167B Duplicate

Lab ID#: 0512353-03AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0062	0.018	0.033	0.095
Tetrachloroethene	0.041	0.075	0.28	0.51

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Client Sample ID: 05-AS-142B

Lab ID#: 0512353-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122118sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**2.01**	**Date of Analysis:**	**12/21/05 04:30 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.020	0.045	0.051	0.11
Trichloroethene	0.0060	0.073	0.032	0.39
Tetrachloroethene	0.040	0.078	0.27	0.53
trans-1,2-Dichloroethene	0.20	Not Detected	0.80	Not Detected
cis-1,2-Dichloroethene	0.040	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-167L

Lab ID#: 0512353-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122119sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**1.58**	**Date of Analysis:**	**12/21/05 05:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
Trichloroethene	0.0047	0.023	0.025	0.12
Tetrachloroethene	0.032	0.28	0.21	1.9
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.12	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	93	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-167B

Lab ID#: 0512353-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122120sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**2.06**	**Date of Analysis:**	**12/21/05 05:33 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.021	Not Detected	0.053	Not Detected
Trichloroethene	0.0062	0.016	0.033	0.086
Tetrachloroethene	0.041	0.072	0.28	0.49
trans-1,2-Dichloroethene	0.21	Not Detected	0.82	Not Detected
cis-1,2-Dichloroethene	0.041	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	86	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-167B Duplicate

Lab ID#: 0512353-03AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122121sim**	**Date of Collection:**	**12/12/05**
Dil. Factor:	**2.06**	**Date of Analysis:**	**12/21/05 06:05 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.021	Not Detected	0.053	Not Detected
Trichloroethene	0.0062	0.018	0.033	0.095
Tetrachloroethene	0.041	0.075	0.28	0.51
trans-1,2-Dichloroethene	0.21	Not Detected	0.82	Not Detected
cis-1,2-Dichloroethene	0.041	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	88	70-130

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Client Sample ID: Lab Blank

Lab ID#: 0512353-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122106sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/21/05 10:02 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	75	70-130

AIR TOXICS LTD.

Client Sample ID: CCV

Lab ID#: 0512353-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122102sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/21/05 07:40 AM**	

Compound	%Recovery
Vinyl Chloride	106
Trichloroethene	94
Tetrachloroethene	92
trans-1,2-Dichloroethene	112
cis-1,2-Dichloroethene	90

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	113	70-130
4-Bromofluorobenzene	96	70-130

AIR TOXICS LTD.

Client Sample ID: LCS

Lab ID#: 0512353-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122103sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/21/05 08:05 AM**	

Compound	**%Recovery**
Vinyl Chloride	84
Trichloroethene	79
Tetrachloroethene	81
trans-1,2-Dichloroethene	96
cis-1,2-Dichloroethene	74

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	115	70-130
4-Bromofluorobenzene	95	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

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Page 1 of ____

Contact Person: Sherri Peterson
Company: Kennedy/Jenks Consultants Email: ____
Address: 711 3rd Ave. #790 City: Seattle State: WA Zip: 98104
Phone: 206-447-8246 Fax: 206-652-4927
Collected by: (Signature) ____

Project Info:
P.O. # ____
Project # 0596021.16
Project Name: BN Livingston

Turn Around Time:
☒ Normal
☐ Rush
____ specify

Lab Use Only
Pressurized by: BS
Date: 12/9/05
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	05-AS-142B		12-12-05	1415	TO-15 SIM LIVINGSTON LIST	26	7.5	10.0%	5.0 psi
02A	05-AS-167L		12-12-05	1655		26	2	9.5%	✓
03	05-AS-167B		12-12-05	1700		26	7.5	10.5%	✓

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	12-14-05 1240	Judy See [signature]	12/15/05 1420
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: 24 HR SAMPLE TAKEN @ ALTITUDE 4500 FT

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	UPS	1Z77 739 627 6	—	good	Yes / No / None	0512353

Form 1223 rev.10

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Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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Hours 8:00 A.M to 6:00 P.M. Pacific

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0512371R1

Work Order Summary

CLIENT:	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104	**BILL TO:**	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104
PHONE:	206-652-4905	**P.O. #**	
FAX:		**PROJECT #**	0596021 #16 BN Livingston
DATE RECEIVED:	12/16/2005	**CONTACT:**	Nicole Danbacher
DATE COMPLETED:	12/30/2005		
DATE REISSUED:	1/4/06		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	05-AS-NE-3L	Modified TO-15 SIM	8.0 "Hg
02A	05-AS-NE-3B	Modified TO-15 SIM	7.0 "Hg
03A	05-AS-108L	Modified TO-15 SIM	8.0 "Hg
04A	05-AS-78L	Modified TO-15 SIM	8.5 "Hg
05A	05-AS-78B	Modified TO-15 SIM	9.0 "Hg
06A	05-AS-SE-5L	Modified TO-15 SIM	8.0 "Hg
07A	05-AS-43L	Modified TO-15 SIM	10.5 "Hg
08A	05-AS-BG11L	Modified TO-15 SIM	7.5 "Hg
08AA	05-AS-BG11L Duplicate	Modified TO-15 SIM	7.5 "Hg
09A	05-AS-BG11B	Modified TO-15 SIM	8.0 "Hg
10A	05-AS-AMB-2-12-14-05	Modified TO-15 SIM	5.5 "Hg
11A	05-AS-AMB-1-12-14-05	Modified TO-15 SIM	1.5 "Hg
12A	05-AS-AMB-3-12-14-05	Modified TO-15 SIM	5.0 "Hg
13A	05-AS-EB1	Modified TO-15 SIM	29.0 "Hg
14A	05-AS-EB2	Modified TO-15 SIM	29.0 "Hg
15A	05-AS-157L	Modified TO-15 SIM	8.0 "Hg
16A	05-AS-157B	Modified TO-15 SIM	8.5 "Hg

Continued on next page

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0512371R1

Work Order Summary

CLIENT:	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104	**BILL TO:**	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104
PHONE:	206-652-4905	**P.O. #**	
FAX:		**PROJECT #**	0596021 #16 BN Livingston
DATE RECEIVED:	12/16/2005	**CONTACT:**	Nicole Danbacher
DATE COMPLETED:	12/30/2005		
DATE REISSUED:	1/4/06		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
17A	05-AS-23L	Modified TO-15 SIM	12.0 "Hg
18A	D1-AS-12-14-05	Modified TO-15 SIM	7.5 "Hg
19A	05-AS-LS	Modified TO-15 SIM	9.0 "Hg
20A	05-AS-ES	Modified TO-15 SIM	7.0 "Hg
20AA	05-AS-ES Duplicate	Modified TO-15 SIM	7.0 "Hg
21A	Lab Blank	Modified TO-15 SIM	NA
22A	CCV	Modified TO-15 SIM	NA
23A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda L. Freeman

Laboratory Director

DATE: 01/05/06

Certfication numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 SIM
Kennedy/Jenks Consultants
Workorder# 0512371R1

Twenty 6 Liter Summa Canister (SIM Certified) samples were received on December 16, 2005. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

The Chain of Custody (COC) information for sample 05-AS-BG17L did not match the entry on the sample tag with regard to sample identification. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the COC was used to process and report the sample.

Analytical Notes

There were no analytical discrepancies.

THE WORK ORDER WAS REISSUED ON 1/5/06 TO CORRECT IDENTIFICATION OF THE FOLLOWING SAMPLE 05-AS-SE-5L.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: 05-AS-NE-3L

Lab ID#: 0512371R1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0055	0.015	0.030	0.082
Tetrachloroethene	0.037	0.085	0.25	0.58

Client Sample ID: 05-AS-NE-3B

Lab ID#: 0512371R1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0052	0.016	0.028	0.086
Tetrachloroethene	0.035	0.084	0.24	0.57

Client Sample ID: 05-AS-108L

Lab ID#: 0512371R1-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0055	22	0.030	120
Tetrachloroethene	0.037	0.061	0.25	0.41

Client Sample ID: 05-AS-78L

Lab ID#: 0512371R1-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.037	0.29	0.25	2.0

Client Sample ID: 05-AS-78B

Lab ID#: 0512371R1-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.038	0.17	0.26	1.1

Client Sample ID: 05-AS-SE-5L

Lab ID#: 0512371R1-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0055	0.050	0.030	0.27
Tetrachloroethene	0.037	0.062	0.25	0.42

Client Sample ID: 05-AS-43L

Lab ID#: 0512371R1-07A

No Detections Were Found.

Client Sample ID: 05-AS-BG11L

Lab ID#: 0512371R1-08A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.036	0.13	0.24	0.91

Client Sample ID: 05-AS-BG11L Duplicate

Lab ID#: 0512371R1-08AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Tetrachloroethene	0.036	0.14	0.24	0.92

Client Sample ID: 05-AS-BG11B

Lab ID#: 0512371R1-09A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0055	0.0069	0.030	0.037

Client Sample ID: 05-AS-AMB-2-12-14-05

Lab ID#: 0512371R1-10A

No Detections Were Found.

Client Sample ID: 05-AS-AMB-1-12-14-05

Lab ID#: 0512371R1-11A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0042	0.0048	0.023	0.026

Client Sample ID: 05-AS-AMB-3-12-14-05

Lab ID#: 0512371R1-12A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0048	0.0050	0.026	0.027

Client Sample ID: 05-AS-EB1

Lab ID#: 0512371R1-13A

No Detections Were Found.

Client Sample ID: 05-AS-EB2

Lab ID#: 0512371R1-14A

Client Sample ID: 05-AS-EB2

Lab ID#: 0512371R1-14A

No Detections Were Found.

Client Sample ID: 05-AS-157L

Lab ID#: 0512371R1-15A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0055	0.0083	0.030	0.045

Client Sample ID: 05-AS-157B

Lab ID#: 0512371R1-16A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0056	0.011	0.030	0.060

Client Sample ID: 05-AS-23L

Lab ID#: 0512371R1-17A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0067	0.013	0.036	0.072
Tetrachloroethene	0.045	0.066	0.30	0.45

Client Sample ID: D1-AS-12-14-05

Lab ID#: 0512371R1-18A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0054	0.014	0.029	0.077
Tetrachloroethene	0.036	0.045	0.24	0.30

Client Sample ID: 05-AS-LS

Lab ID#: 0512371R1-19A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	0.17	0.049	0.44
Trichloroethene	0.0057	9.3	0.031	50
Tetrachloroethene	0.038	0.52	0.26	3.5
cis-1,2-Dichloroethene	0.038	0.73	0.15	2.9

Client Sample ID: 05-AS-ES

Lab ID#: 0512371R1-20A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.029	0.090	0.075	0.23
Trichloroethene	0.0088	38	0.047	200

Client Sample ID: 05-AS-ES

Lab ID#: 0512371R1-20A

Tetrachloroethene	0.058	0.53	0.40	3.6
cis-1,2-Dichloroethene	0.058	0.50	0.23	2.0

Client Sample ID: 05-AS-ES Duplicate

Lab ID#: 0512371R1-20AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	0.080	0.045	0.20
Trichloroethene	0.0052	37 E	0.028	200 E
Tetrachloroethene	0.035	0.51	0.24	3.4
cis-1,2-Dichloroethene	0.035	0.57	0.14	2.3

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Client Sample ID: 05-AS-NE-3L

Lab ID#: 0512371R1-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122227sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.83**	**Date of Analysis:**	**12/22/05 10:12 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Trichloroethene	0.0055	0.015	0.030	0.082
Tetrachloroethene	0.037	0.085	0.25	0.58
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	88	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-NE-3B

Lab ID#: 0512371R1-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122228sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.75**	**Date of Analysis:**	**12/22/05 10:45 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Trichloroethene	0.0052	0.016	0.028	0.086
Tetrachloroethene	0.035	0.084	0.24	0.57
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	90	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-108L

Lab ID#: 0512371R1-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122229sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.83**	**Date of Analysis:**	**12/22/05 11:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Trichloroethene	0.0055	22	0.030	120
Tetrachloroethene	0.037	0.061	0.25	0.41
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	87	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-78L

Lab ID#: 0512371R1-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122230sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.87**	**Date of Analysis:**	**12/23/05 12:48 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
Trichloroethene	0.0056	Not Detected	0.030	Not Detected
Tetrachloroethene	0.037	0.29	0.25	2.0
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	86	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-78B

Lab ID#: 0512371R1-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122231sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.91**	**Date of Analysis:**	**12/23/05 01:36 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
Trichloroethene	0.0057	Not Detected	0.031	Not Detected
Tetrachloroethene	0.038	0.17	0.26	1.1
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	117	70-130
4-Bromofluorobenzene	81	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-SE-5L

Lab ID#: 0512371R1-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122232sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.83**	**Date of Analysis:**	**12/23/05 02:32 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Trichloroethene	0.0055	0.050	0.030	0.27
Tetrachloroethene	0.037	0.062	0.25	0.42
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	111	70-130
4-Bromofluorobenzene	74	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-43L

Lab ID#: 0512371R1-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122233sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**2.06**	**Date of Analysis:**	**12/23/05 03:07 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.021	Not Detected	0.053	Not Detected
Trichloroethene	0.0062	Not Detected	0.033	Not Detected
Tetrachloroethene	0.041	Not Detected	0.28	Not Detected
trans-1,2-Dichloroethene	0.21	Not Detected	0.82	Not Detected
cis-1,2-Dichloroethene	0.041	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	113	70-130
4-Bromofluorobenzene	78	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-BG11L

Lab ID#: 0512371R1-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122234sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.79**	**Date of Analysis:**	**12/23/05 03:59 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
Trichloroethene	0.0054	Not Detected	0.029	Not Detected
Tetrachloroethene	0.036	0.13	0.24	0.91
trans-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	127	70-130
4-Bromofluorobenzene	91	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-BG11L Duplicate

Lab ID#: 0512371R1-08AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122235sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.79**	**Date of Analysis:**	**12/23/05 04:51 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
Trichloroethene	0.0054	Not Detected	0.029	Not Detected
Tetrachloroethene	0.036	0.14	0.24	0.92
trans-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	125	70-130
4-Bromofluorobenzene	92	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-BG11B

Lab ID#: 0512371R1-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122236sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.83**	**Date of Analysis:**	**12/23/05 05:30 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Trichloroethene	0.0055	0.0069	0.030	0.037
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	91	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-AMB-2-12-14-05

Lab ID#: 0512371R1-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122237sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.64**	**Date of Analysis:**	**12/23/05 06:01 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.042	Not Detected
Trichloroethene	0.0049	Not Detected	0.026	Not Detected
Tetrachloroethene	0.033	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
cis-1,2-Dichloroethene	0.033	Not Detected	0.13	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	89	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-AMB-1-12-14-05

Lab ID#: 0512371R1-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122238sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.41**	**Date of Analysis:**	**12/23/05 09:31 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
Trichloroethene	0.0042	0.0048	0.023	0.026
Tetrachloroethene	0.028	Not Detected	0.19	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-AMB-3-12-14-05

Lab ID#: 0512371R1-12A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122239sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.61**	**Date of Analysis:**	**12/23/05 10:00 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
Trichloroethene	0.0048	0.0050	0.026	0.027
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	78	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-EB1

Lab ID#: 0512371R1-13A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122240sim**	**Date of Collection:**	**12/15/05**
Dil. Factor:	**1.00**	**Date of Analysis:**	**12/23/05 10:31 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	79	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-EB2

Lab ID#: 0512371R1-14A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122241sim**	**Date of Collection:**	**12/15/05**
Dil. Factor:	**1.00**	**Date of Analysis:**	**12/23/05 11:01 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	80	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-157L

Lab ID#: 0512371R1-15A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122242sim**	**Date of Collection:**	**12/15/05**
Dil. Factor:	**1.83**	**Date of Analysis:**	**12/23/05 11:32 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Trichloroethene	0.0055	0.0083	0.030	0.045
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	84	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-157B

Lab ID#: 0512371R1-16A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122243sim**	**Date of Collection:**	**12/15/05**
Dil. Factor:	**1.87**	**Date of Analysis:**	**12/23/05 12:02 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
Trichloroethene	0.0056	0.011	0.030	0.060
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	81	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-23L

Lab ID#: 0512371R1-17A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122244sim**	**Date of Collection:**	**12/15/05**
Dil. Factor:	**2.23**	**Date of Analysis:**	**12/23/05 12:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.022	Not Detected	0.057	Not Detected
Trichloroethene	0.0067	0.013	0.036	0.072
Tetrachloroethene	0.045	0.066	0.30	0.45
trans-1,2-Dichloroethene	0.22	Not Detected	0.88	Not Detected
cis-1,2-Dichloroethene	0.045	Not Detected	0.18	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130

AIR TOXICS LTD.

Client Sample ID: D1-AS-12-14-05

Lab ID#: 0512371R1-18A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122245sim**	**Date of Collection:**	**12/15/05**
Dil. Factor:	**1.79**	**Date of Analysis:**	**12/23/05 01:19 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
Trichloroethene	0.0054	0.014	0.029	0.077
Tetrachloroethene	0.036	0.045	0.24	0.30
trans-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-LS

Lab ID#: 0512371R1-19A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122246sim**	**Date of Collection:**	**12/15/05**
Dil. Factor:	**1.91**	**Date of Analysis:**	**12/23/05 01:47 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	0.17	0.049	0.44
Trichloroethene	0.0057	9.3	0.031	50
Tetrachloroethene	0.038	0.52	0.26	3.5
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.038	0.73	0.15	2.9

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	101	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-ES

Lab ID#: 0512371R1-20A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122250sim**	**Date of Collection:**	**12/15/05**
Dil. Factor:	**2.92**	**Date of Analysis:**	**12/23/05 04:54 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.029	0.090	0.075	0.23
Trichloroethene	0.0088	38	0.047	200
Tetrachloroethene	0.058	0.53	0.40	3.6
trans-1,2-Dichloroethene	0.29	Not Detected	1.2	Not Detected
cis-1,2-Dichloroethene	0.058	0.50	0.23	2.0

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	87	70-130

AIR TOXICS LTD.

Client Sample ID: 05-AS-ES Duplicate

Lab ID#: 0512371R1-20AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122247sim**	**Date of Collection:**	**12/15/05**
Dil. Factor:	**1.75**	**Date of Analysis:**	**12/23/05 02:18 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	0.080	0.045	0.20
Trichloroethene	0.0052	37 E	0.028	200 E
Tetrachloroethene	0.035	0.51	0.24	3.4
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.035	0.57	0.14	2.3

E = Exceeds instrument calibration range.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	87	70-130

AIR TOXICS LTD.

Client Sample ID: Lab Blank

Lab ID#: 0512371R1-21A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122225sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/22/05 08:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	83	70-130

AIR TOXICS LTD.

Client Sample ID: CCV

Lab ID#: 0512371R1-22A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122221sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/22/05 06:32 PM**	

Compound	%Recovery
Vinyl Chloride	102
Trichloroethene	94
Tetrachloroethene	97
trans-1,2-Dichloroethene	113
cis-1,2-Dichloroethene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	113	70-130
4-Bromofluorobenzene	98	70-130

AIR TOXICS LTD.

Client Sample ID: LCS

Lab ID#: 0512371R1-23A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122222sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/22/05 06:59 PM**	

Compound	%Recovery
Vinyl Chloride	86
Trichloroethene	80
Tetrachloroethene	88
trans-1,2-Dichloroethene	106
cis-1,2-Dichloroethene	78

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	97	70-130

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(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Contact Person: SHERRI PETERSON
Company: KJ Email:
Address: 711 3rd Ave #790 City: Seattle State: WA Zip: 98104
Phone: 206-447-8246 Fax: 206-652-4927
Collected by: (Signature) [signature]

Project Info:
P.O. #:
Project #: 0596021 #16
Project Name: BN LIVINGSTON

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by: BS
Date: 12/19/05
Pressurization Gas: (N) He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	05-AS-NE-3L		12-14-05	7:47A	TO-SIM LIVINGSTON LIST	26	5.5	8.0"Hg	5.0 psi
02A	05-AS-NE-3B		12-14-05	7:45A		26	5	7.0"Hg	
03A	05-AS-108L		12-14-05	8:12A		26	5	8.0"Hg	
04A	05-AS-78L		12-14-05	8:38A		26.5	6	8.5"Hg	
05A	05-AS-78B		12-14-05	8:33A		26	6	9.0"Hg	
06A	05-AS-BG17L		12-14-05	11:15		25	4.5	8.0"Hg	
07A	05-AS-43L		12-14-05	1305		25.5	8	10.5"Hg	
08A	05-AS-BG11L		12-14-05	1325		26	5.5	7.5"Hg	
09A	05-AS-BG11B		12-14-05	1325		25.5	6	8.0"Hg	
10A	05-AS-AMB-2-12-14-05		12-14-05	855		26.5	4	5.5"Hg	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	15 DEC 05 1540	Judy Sec	ATL 12/16/05 1010

Notes: 24 HR Sample taken @ altitude of 4500 FT

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	UPS	1177 739 630 3	—	good	Yes No (None)	0512371

Form 1203 rev.10

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Contact Person: SHERRI PETERSON
Company: KJ Email:
Address: 711 3rd Ave #790 City: SEATTLE State: WA Zip: 98104
Phone: 206-447-8246 Fax:
Collected by: (Signature) MG / MO

Project Info:
P.O. #:
Project #: 0596021 #16
Project Name: BN LIVINGSTON

Turn Around Time:
☒ Normal
☐ Rush
specify

Pressurized by: [illegible]
Date: 12/19/05
Pressurization Gas: N / He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final
11A	05-AS-AMB-1-12-14-05		12-14-05	905	TO-15 SIM LIVINGSTON LIST	25	0	[illegible]	[illegible]
12A	05-AS-AMB-3-12-14-05		12-14-05	920		24.5	3	5.0	
13A	05-AS-EB1		12-15-05	1353		25		[illegible]	
14A	05-AS-EB2		12-15-05	1355		25		[illegible]	
15A	05-AS-157 L		12-15-05	300p		25.5	5.5	[illegible]	
16A	05-AS-157 B		12-15-05	305p		25.5	7	[illegible]	
17A	05-AS-23 L		12-15-05	1410		26	8	[illegible]	
18A	~~05-AS-23 B~~ D1-AS 12-14-05		12-15-05	1410		26	4.5	[illegible]	
19A	05-AS-LS		12-15-05	1513		26	5	[illegible]	
20A	05-AS-ES		12-15-05	1518		26	4	[illegible]	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	12-15-05 / 1540	Judy See ATL	12/16/05 1010

Notes: 24 HR sample collected @ altitude of 4500 FT

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	UPS	5177 739 630 1	—	good	Yes No None	0512371

Form 1293 rev.10

BN Livingston Shop Complex Task I Air Sampling
Chain-of-Custody Sample Log

Sample ID	Canister Serial Number	Flow Controller Serial Number
DS·AS·Amb2·12·14·05	34323	103-39
DS·AS·AMB·1·12·14·05	11026	03·67
DS·AS·AMB·3·12·14·05	34394	1020·51
DS·AS·108 L	21075	103-05
DS·AS·78 L	70-1570	53·45
DS·AS·78B	131068	103-33
DS·AS·BG17 L	14008	97-21X
DS·AS·432	33990	96-05
DS·AS·BG 11 L	918	03-81
DS·AS·BG 11 B	343163	103·16
DS·AS·EB1	1	103-88
DS AS·EB2	335164	03-75
DS AS·157 L	33894	2X
DS AS·157 B	239916	5887
DS·AS·23 L	929	103·94
~~DS·AS·23 B~~ 12·14·05	~~21016~~	~~98-04~~ Mes
DS·AS·NE 3 L	34357	103·52
DS AS-NE3 L	10850	03-18
DS·AS·LS	70-1623	100-16
DS·AS·ES	10790	04-08
D1·AS·12·14·05	21016	98-01

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This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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WORK ORDER #: 0512422

Work Order Summary

CLIENT:	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104	**BILL TO:**	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104
PHONE:	206-652-4905	**P.O. #**	
FAX:		**PROJECT #**	0596021.16 BN Livingston
DATE RECEIVED:	12/19/2005	**CONTACT:**	Nicole Danbacher
DATE COMPLETED:	01/03/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	05-AS-NE-5L	Modified TO-15 SIM	7.5 "Hg
02A	05-AS-NE-5B	Modified TO-15 SIM	9.0 "Hg
03A	05-AS-NE-4L	Modified TO-15 SIM	8.0 "Hg
04A	05-AS-NE-4B	Modified TO-15 SIM	8.5 "Hg
05A	Lab Blank	Modified TO-15 SIM	NA
06A	CCV	Modified TO-15 SIM	NA
07A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda L. Freeman DATE: 01/03/06

Laboratory Director

Certfication numbers: AR DEQ - 03-084-0, CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 SIM
Kennedy/Jenks Consultants
Workorder# 0512422

Four 6 Liter Summa Canister (SIM Certified) samples were received on December 19, 2005. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates

as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: 05-AS-NE-5L

Lab ID#: 0512422-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0054	0.025	0.029	0.13
Tetrachloroethene	0.036	0.053	0.24	0.36

Client Sample ID: 05-AS-NE-5B

Lab ID#: 0512422-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0057	0.016	0.031	0.088
Tetrachloroethene	0.038	0.11	0.26	0.74

Client Sample ID: 05-AS-NE-4L

Lab ID#: 0512422-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0055	0.098	0.030	0.53
Tetrachloroethene	0.037	0.10	0.25	0.69

Client Sample ID: 05-AS-NE-4B

Lab ID#: 0512422-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0056	0.18	0.030	0.96
Tetrachloroethene	0.037	0.19	0.25	1.3

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Client Sample ID: 05-AS-NE-5L

Lab ID#: 0512422-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122909sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.79**	**Date of Analysis:**	**12/29/05 03:07 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
Trichloroethene	0.0054	0.025	0.029	0.13
Tetrachloroethene	0.036	0.053	0.24	0.36
trans-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	91	70-130

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Client Sample ID: 05-AS-NE-5B

Lab ID#: 0512422-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122910sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.91**	**Date of Analysis:**	**12/29/05 03:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
Trichloroethene	0.0057	0.016	0.031	0.088
Tetrachloroethene	0.038	0.11	0.26	0.74
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	87	70-130

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Client Sample ID: 05-AS-NE-4L

Lab ID#: 0512422-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122911sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.83**	**Date of Analysis:**	**12/29/05 04:24 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.047	Not Detected
Trichloroethene	0.0055	0.098	0.030	0.53
Tetrachloroethene	0.037	0.10	0.25	0.69
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	85	70-130

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Client Sample ID: 05-AS-NE-4B

Lab ID#: 0512422-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122912sim**	**Date of Collection:**	**12/14/05**
Dil. Factor:	**1.87**	**Date of Analysis:**	**12/29/05 04:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
Trichloroethene	0.0056	0.18	0.030	0.96
Tetrachloroethene	0.037	0.19	0.25	1.3
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	85	70-130

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Client Sample ID: Lab Blank

Lab ID#: 0512422-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122908sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/29/05 02:22 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	87	70-130

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Client Sample ID: CCV

Lab ID#: 0512422-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122904sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/29/05 11:04 AM**	

Compound	**%Recovery**
Vinyl Chloride	105
Trichloroethene	89
Tetrachloroethene	90
trans-1,2-Dichloroethene	113
cis-1,2-Dichloroethene	92

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	96	70-130

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Client Sample ID: LCS

Lab ID#: 0512422-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**g122905sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/29/05 11:37 AM**	

Compound	**%Recovery**
Vinyl Chloride	89
Trichloroethene	78
Tetrachloroethene	85
trans-1,2-Dichloroethene	105
cis-1,2-Dichloroethene	80

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	98	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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Page ____ of ____

Contact Person: SHERRI PETERSON
Company: KJ Email:
Address: 711 3rd Ave #790 City: Seattle State: WA Zip: 98104
Phone: 206-447-8246 Fax:
Collected by: (Signature) MG/MO

Project Info:
P.O. #:
Project #: 0596021.16
Project Name: BN LIVINGSTON

Turn Around Time:
☒ Normal
☐ Rush
specify

Pressurized by: [illegible]
Date: 12/27/05
Pressurization Gas: N He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	05-AS-NE-5L		14 DEC 05	1555	TO-15 SIM LIVINGSTON LIST	25.5	4	7.5 Hg	5.0 psi
02A	05 AS-NE-5-B		14 DEC 05	1600		25.5	4.5	9.0 Hg	
03A	05-AS-NE-4L		14 DEC 05	1620		25.5	4	8.0 Hg	
04A	05 AS-NE-4B		14 DEC 05	1630		26	4.5	8.5 Hg	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	15 DEC 05 1638	Judy See	12/19/05 1105

Notes: 24 Hr sample taken @ altitude of 4500 ft

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	UPS		NA	Good	Yes No None	0518422

1177 739 636 5

Form 1293 rev.10

Kennedy/Jenks Consultants Field Forms

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE 1 OF 1

Project No.: 0596021*16

Date: 9/8/05

Site Name: Livingston

Prepared By: Sherri Peterson
(Print Name)

Field Activities: Air Sampling Access Agreements

Weather Conditions: Sunny, warm ~ 86°

RD/RA Task: Task I

Subcontractors *(list all performing field activities in work area)*

N/A

Visitors *(list all visitors, including name, phone number, and organization)*

NA

WORK PERFORMED

Time	Description of Work Performed
	Contacted occupants of proposed sampling locations either by phone or stopping by the house to try to obtain access agreements. Provided DEQ brochure and explained how sampling would proceed. Detailed info provided in call log.

Time Arrive Onsite:

Time Leave Site:

Signature: Sherri L Peterson

Task Manager Review *(initial)*: SVP

Date: 9/8/05

Copy to Project File *(yes/no)*: yes

DAILY FIELD LOG

Kennedy/Jenks Consultants

Project No.: 0596021*16

Date: 9/9/05

Site Name: Livingston

Prepared By: Sherri Peterson (Print Name)

Field Activities: Air Sampling Access Agreements

Weather Conditions: Sunny, windy and warm. low 80s.

RD/RA Task: TASK I

Subcontractors *(list all performing field activities in work area)*

N/A

Visitors *(list all visitors, including name, phone number, and organization)*

NA

WORK PERFORMED

Time	Description of Work Performed
	Contacted occupants of proposed sampling locations throughout the day. Called where phone numbers available, or stopped by homes if no phone number available.

Time Arrive Onsite:

Time Leave Site:

Signature: Sherri L Peterson

Task Manager Review *(initial)*: SLP

Date: 9/9/05

Copy to Project File *(yes/no)*: yes

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE 1 OF 1

Project No.: 0596021*16

Date: 10/21/05

Site Name: Livingston

Prepared By: Sherri Peterson
(Print Name)

Field Activities: Air Sampling Access Agreements and questionnaires

Weather Conditions: Mid-upper 50's little breezy, partly sunny.

RD/RA Task:

Subcontractors *(list all performing field activities in work area)*
N/A

Visitors *(list all visitors, including name, phone number, and organization)*
NA

WORK PERFORMED

Time	Description of Work Performed
	Met with occupants of proposed sampling locations to go over questionnaire and identify appropriate sampling location within the building. Stopped by City Hall to alert City Manager's office that we would be placing samplers in area and likely in public property. City Manager is also Police chief. Tried to contact remaining occupants of proposed sampling locations by phone or stopping by residence. Drove around to try to identify appropriate locations to place ambient samplers.
	KJ Personnel Involved: Maury Orr, Sherri Peterson

Time Arrive Onsite:

Time Leave Site:

Signature: Sherri L Peterson

Task Manager Review *(initial)*: SLP

Date: 10/21/05

Copy to Project File (yes/no):

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE 1 OF 1

Project No.: 0596021*16

Date: 10/22/05

Site Name: Livingston

Prepared By: Sherri Peterson
(Print Name)

Field Activities: Air Sampling Access Agreements and questionnaires

Weather Conditions: Upper 50's clear and sunny, some wind in am. Cool in am ~ 38°.

RD/RA Task:

Subcontractors *(list all performing field activities in work area)*

N/A

Visitors *(list all visitors, including name, phone number, and organization)*

NA

WORK PERFORMED

Time	Description of Work Performed
	Met with occupants of proposed sampling locations to go over questionnaire and identify appropriate sampling location within building. Tried to contact remaining occupants of proposed sampling locations to obtain access agreements.
	K/J Personnel Present: Maury Orr, Sherri Peterson

Time Arrive Onsite:

Time Leave Site:

Signature: Sheri L Peterson

Task Manager Review *(initial)*: SJP

Date: 10/22/05

Copy to Project File *(yes/no)*: yes

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE 1 OF 1

Project No.: 0596021*16

Date: 12/12/05

Site Name: BN Livingston Shop Complex/City of Livingston

Prepared By: Sherri Peterson
(Print Name)

Field Activities: Collecting air samples in Summa Canisters

Weather Conditions: Clear, sunny, cold. Forecast 41/22 Wind WNW 25, Gusts 35

RD/RA Task: TASK I - INDOOR AIR

Subcontractors *(list all performing field activities in work area)*
KJ - Mike Godinho
- Maury Orr
- Sherri Peterson

Visitors *(list all visitors, including name, phone number, and organization)*
DEQ - Jarrett Keck.

WORK PERFORMED

Time	Description of Work Performed
	Set up ambient samples at three locations. Set up canisters to begin sampling at seven locations. One person where we were supposed to set up was not at home. Called her and we agreed to set up canister tomorrow instead. DEQ rep. accompanied us to most locations. DEQ contacted renter at location 05-AS-NE-5 and told her that MT law allowed her to grant us access to the home for sampling. DEQ asked us to add her to the schedule if possible. We added her to our 12/14/05 schedule. DEQ also contacted 05-AS-NE-2 and was told they were okay with us sampling. DEQ asked us to call them or stop by today. We called and there was no answer. We also stopped by the house ~45 min after DEQ was there but no one answered the door. We notified DEQ that we had been unsuccessful in contacting them.

K/J Field Personnel: Mike Godinho
Maury Orr

Signature: Sherri L Peterson

Task Manager Review *(initial)*: SLP

Date: 12/12/05

Copy to Project File (yes/no): yes

Revision No. 2

Job Safety Briefing Record **Kennedy/Jenks Consultants**

By: S. Peterson Date: 12/12/05 Project: **Task I – Indoor Air** Job No. **0596021*16**

Time: 8:30 am Location: BN Livingston Shop Complex/City of Livingston Sheet 1 of 1

Weather Conditions: windy, clear, cold.

Temperature 40 °F Max 22 °F Min

Briefing Conducted By: S Peterson of Kennedy/Jenks

Persons Attending:

NAME	AFFILIATION	BNSF CONTRACTOR SAFETY TRAINING DATE	REQUIRED PPE (Y or N)
Michael Godinho	KJ		
Maury Orr	KJ		
Jarrett Keck	DEQ		

(Use additional forms if needed to include all attendees.)

Scope of work covered: cold exposure, slips and falls

Actions/Comments/Notes:

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE 1 OF 1

Project No.: 0596021*16

Date: 12/13/05

Site Name: BN Livingston Shop Complex/City of Livingston

Prepared By: Sherri Peterson
(Print Name)

Field Activities: Collecting air samples in Summa Canisters

Weather Conditions: Forecast 31/19
Wind: W @ 20 mph
mostly cloudy, some light snow showers

RD/RA Task: TASK I - INDOOR AIR

Subcontractors *(list all performing field activities in work area)*

Visitors *(list all visitors, including name, phone number, and organization)*
Jarrett Keck - DEQ

WORK PERFORMED

Time	Description of Work Performed
	We picked up the canisters from the seven locations we set up yesterday. We also set up canisters at one location that were not available yesterday.
	12 canisters were sent overnight to lab for analysis. One partially full box was kept to ship tomorrow. DEQ accompanied ~~us~~ us until right after lunch and was not with us during the last 2 pickups and the one setup.

K/J Field Personnel: Maury Orr
Mike Godinho
Sherri Peterson

Signature: Sherri L Peterson

Task Manager Review *(initial)*: SLP

Date: 12/13/05

Copy to Project File (yes/no): yes

Job Safety Briefing Record **Kennedy/Jenks Consultants**

By: S. Peterson Date: 12/13/05 Project: **Task I – Indoor Air** Job No. **0596021*16**

Time: 9 am Location: BN Livingston Shop Complex/City of Livingston Sheet 1 of 1

Weather Conditions: mostly cloudy, light snow showers, wind W @ 20 mph.

Temperature 31 °F Max 19 °F Min

Briefing Conducted By: S. Peterson of Kennedy/Jenks

Persons Attending:

NAME	AFFILIATION	BNSF CONTRACTOR SAFETY TRAINING DATE	REQUIRED PPE (Y or N)
Mavry Orr	Kennedy/Jenks		
Michael Godinho	Kennedy/Jenks		
Jarrett Keck	DEQ.		

(Use additional forms if needed to include all attendees.)

Scope of work covered:
air sampling - slip, trip and fall, dogs, cold weather protection, entering residences.

Actions/Comments/Notes:

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE 1 OF 1

Project No.: 0596021*16

Date: 12/14/05

Site Name: BN Livingston Shop Complex/City of Livingston

Prepared By: Sherri Peterson
(Print Name)

Field Activities: Collecting air samples in Summa Canisters

Weather Conditions: 27/12
wind: W @ 16, gusts to 23
mostly cloudy

RD/RA Task: TASK I - INDOOR AIR

Subcontractors *(list all performing field activities in work area)*
NA

Visitors *(list all visitors, including name, phone number, and organization)*
Janet Keck - DEQ

WORK PERFORMED

Time	Description of Work Performed
	Set up air canisters at 10 locations. Picked up canisters from one location. DEQ accompanied us to 6 of the setup locations.

K/J Field Personnel: Maury Orr
Mike Godinho
Sherri Peterson

Signature: Sherri L Peterson

Task Manager Review *(initial)*: SLP

Date: 12/14/05

Copy to Project File (yes/no): yes

Revision No. 2

Job Safety Briefing Record **Kennedy/Jenks Consultants**

By: S. Peterson Date: 12/14/05 Project: **Task I – Indoor Air** Job No. **0596021*16**

Time: 7:30 am Location: BN Livingston Shop Complex/City of Livingston Sheet 1 of 1

Weather Conditions: Mostly cloudy, wind W @ 16 gusts to 23

Temperature 27 °F Max 12 °F Min

Briefing Conducted By: S. Peterson of Kennedy / Jenks

Persons Attending:

NAME	AFFILIATION	BNSF CONTRACTOR SAFETY TRAINING DATE	REQUIRED PPE (Y or N)
Maury Orr	KJ		
Mike Godinho	KJ		

(Use additional forms if needed to include all attendees.)

Scope of work covered:
Setup of air canisters - caution for slips, trips, falls, dogs, protection for cold weather

Actions/Comments/Notes:

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE OF

Project No.: 0596021*16

Date: 12-15-05

Site Name: BN Livingston Shop Complex/City of Livingston

Prepared By: Maury Orr (Print Name)

Field Activities: Collecting air samples in Summa Canisters

Weather Conditions:

RD/RA Task: TASK I - INDOOR AIR

Subcontractors *(list all performing field activities in work area)*

N/A

Visitors *(list all visitors, including name, phone number, and organization)*

Jarrett Keck - DEQ

WORK PERFORMED

Time Description of Work Performed

We picked up the canisters that were set up at locations yesterday.

Twenty (20) canisters were shipped/sent overnight to the lab for analysis. Five (5) canisters were sent out later in the day & will arrive at the lab on Monday. The single canister that was shipped/sent contains a vacuum (Hg) of 22 inHg. and was not used during this sampling period.

Jarrett Keck (DEQ) accompanied us to the first six locations and left @ approx 0930.

K/J Field Personnel: Maury Orr
Mike Godinho

Signature: Maury R. Orr

Task Manager Review *(initial)*: MO SLP
Date: 12-15-05 12/28/05

Copy to Project File (yes/no): yes

Revision No. 2

Job Safety Briefing Record **Kennedy/Jenks Consultants**

By: M. ORR Date: 12-15-05 Project: **Task I – Indoor Air** Job No. **0596021*16**

Time: 0715 Location: BN Livingston Shop Complex/City of Livingston Sheet 1 of 1

Weather Conditions: MOSTLY CLOUDY, WIND @ 23 MPH

Temperature 17 °F Max 11 °F Min

Briefing Conducted By: MAURY ORR of KJ

Persons Attending:

NAME	AFFILIATION	BNSF CONTRACTOR SAFETY TRAINING DATE	REQUIRED PPE (Y or N)
MAURY ORR	KJ		N
MIKE GODINHO	KJ		N
JARRETT BECK	DEQ		N

(Use additional forms if needed to include all attendees.)

Scope of work covered:
Pick up air canisters - caution for slips, trips, falls, dogs and protection from weather conditions

Actions/Comments/Notes:

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-12-05

Sampling Location ID: 05-AS-BG29

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind WNW 25mph-35mph, 41°-22°F, Clear, Sunny

Number of canisters placed in building: 2

Location of canister(s) within building: Living Room, Basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-BG29L	35171	03-13	70°	N/A	25	9:20am	9:07	6.5"
05-AS-BG29B	30838	55-47	62°	N/A	25	9:25am	9:10	5"

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on COCs.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-12-05

Sampling Location ID: 05-AS-99

Sampling Personnel: M. Godinho, M. ORR

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind WNWC 25mph-35mph 41°-22°F, Sunny, Clear

Number of canisters placed in building: 1

Location of canister(s) within building: Living Room

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-99L	34389	54-06	74°F	N/A	27	10:10	10:15	5"

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-12-05

Sampling Location ID: 05-AS-80-5

Sampling Personnel: M. Godinho, M. ORR

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind WNW 25mph-35mph 41°-22°F, Sunny, Clear

Number of canisters placed in building: 1

Location of canister(s) within building: Living Room

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-80-5L	3733	03-05	68°F	N/A	25.5	11:18AM	11:00AM	6"

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial VAC not noted.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-12-05

Sampling Location ID: 05-AS-NE-1

Sampling Personnel: M.Godinho, M.ORR

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind WNW 25mph-35mph, 41°-22°F, Sunny, Clear

Number of canisters placed in building: 3

Location of canister(s) within building: Living Room, Basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-NE-1L	34413	103-31	60°F	N/A	26	12:27	12:18	6
05-AS-NE-1B	33867	103-03	54°F	N/A	25.5	12:30	12:20	6.5
D1-AS-12-12-05	9567	54-08	54°F	N/A	25.5	12:30	12:20	5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial VAC not noted on CANS.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-12-05

Sampling Location ID: 05-AS-132

Sampling Personnel: M. Godinho, M. ORR.

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind WNW 25mph-35mph 41°-22°F, Sunny, Clear

Number of canisters placed in building: 1

Location of canister(s) within building: Living Room

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-132L	34403	100-11	54.1	N/A	25.5	1:00pm	12:58	6

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on can Moderate Dust

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-12-05

Sampling Location ID: 05-AS-142

Sampling Personnel: M. Godinho, M. ORR

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind WNW 25mph-35mph. 41°-22°F, Clear, Sunny

Number of canisters placed in building: 2

Location of canister(s) within building: Main Floor (L), Basement south room with door closed.

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-142L	33547	03-46	70°F	N/A	26"	14:10	14:08	6.5"
05-AS-142B	14122	101-03	59°F	N/A	26"	14:15	14:10	7.5"

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on can.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-12-05

Sampling Location ID: 05-AS-167

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind WNW 25mph-35mph 41°-22°F, Clear

Number of canisters placed in building: 2

Location of canister(s) within building: Living Room, Basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-167A	9403	55-41	70°F	N/A	26	4:55pm	4:58	2
05-AS-167B	31444	03-15	60°F	N/A	26	5:00pm	5:00	7.5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on cans. Living Room very smokey (cigarettes)

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-13-05

Sampling Location ID: 05-AS-157

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind W@ 20mph, 31°-19°F Cloudy

Number of canisters placed in building: 2

Location of canister(s) within building: Living Room, Basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-157L	33884	2X	68°	N/A	25.5	3:00pm	2:45	5.5
05-AS-157B	23996	5887	68	N/A	25.5	3:05pm	2:45	7"

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on cans
Basement 2"-3" standing water

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-05

Sampling Location ID: 05-AS-NE-3

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind West 16mph-23mph, 27°-12°F Cloudy

Number of canisters placed in building: 2

Location of canister(s) within building: Living Room, BASEMENT

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-NE-3L	34357	103-52	66°	N/A	26	7:47AM	7:50	5.5
05-AS-NE-3B	10850	05-18	66°	N/A	26	7:45AM	7:48	5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial VAC not noted on CANS.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-05

Sampling Location ID: 05-AS-108L

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind West @ 16mph-22mph, 27°-12°F Cloudy,

Number of canisters placed in building: 1

Location of canister(s) within building: Office

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-108L	21075	103.05	62°F	N/A	26	8:12	8:02	5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on cans.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-85

Sampling Location ID: 05-AS-78

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind West @ 16-23 mph, 27°-12°F Cloudy

Number of canisters placed in building: 2

Location of canister(s) within building: Office, Basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-78L	TO-1570	53-45	83°F	N/A	26.5	8:38	8:25	6
05-AS-78B	13668	103-33	83°F	N/A	26	8:33 AM	8:25	6

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on cans. Observed at time of pickup spray cans, Paint, Lubricant and solvent cleaner ≈ 5' away from sampler on shelf above sampler.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-05

Sampling Location ID: 05-AS-BG17

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind West @ 16-23mph, 27° 12°F

Number of canisters placed in building: 1

Location of canister(s) within building: Living Room

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-BG17L	14008	97-21x	78°	N/A	25	11:15am	11:05	4.5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on can. Abatement system turned off immediately prior to start of sampling.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-05

Sampling Location ID: 05-AS-43L

Sampling Personnel: M. Godinko, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind West @ 16-23mph, 27°-12°F

Number of canisters placed in building: 1

Location of canister(s) within building: Living Room

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-43L	33990	96-05	73°	N/A	25.5	13:05	13:05	8

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on curv.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-05

Sampling Location ID: 05-AS-BG11

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind West @ 16-23 mph, 27°-12°F Cloudy

Number of canisters placed in building: 2

Location of canister(s) within building: Living Room, Basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-BG11L	918	03-81	67°	N/A	26	13:25	13:20	5.5
05-AS-BG11B	34363	103-16	67°	N/A	25.5	13:25	13:20	6

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on cans.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-05

Sampling Location ID: 05-AS-23

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind West 16-23 mph, 27°-12°F, Cloudy

Number of canisters placed in building: 2

Location of canister(s) within building: Living Room

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-23L	929	103-94	65°F	N/A	26	14:10	14:10	8
DI-AS-12-14-05	21016	98-01	65°F	N/A	26	14:10	14:10	4.5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on cans.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-05

Sampling Location ID: 05-AS-LS

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind west @ 16-23 mph, 27°-12°F Cloudy

Number of canisters placed in building: Locomotive Shop (1), Electrical Shop (1)

Location of canister(s) within building:

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-LS	TO-1623	100-16	56°	N/A	26	15:13	15:10	5
05-AS-ES	10770	04-08	48°	N/A	26	15:18	15:15	4

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on Cans. Motor exhaust fumes observed in both shops

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-05

Sampling Location ID: 05-AS-NE-5

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind West @ 16-23mph, 27°-12°F Partly Cloudy

Number of canisters placed in building: 2

Location of canister(s) within building: Living Room, Basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-NE-5L	33587	100-07	68°	N/A	25.5	15:55	16:00	4
05-AS-NE-5B	R-8	101-29	64°	N/A	25.5	16:00	16:02	4.5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on cans

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-14-05

Sampling Location ID: 05-AS-NE-4

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Wind West 16-23mph, 27-12°F Partly Cloudy

Number of canisters placed in building: 2

Location of canister(s) within building: Living Room, Basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-NE-4L	24490	103-57	67°	N/A	25.5	16:28	16:20	4
~~05-AS-NE-4B~~	~~[illegible]~~	~~103-71~~		~~N/A~~				
05-AS-NE-4B	24493	03-26	69°		26	16:30	16:23	4.5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Lab initial vac not noted on cans.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0596021.16

Date: 12-15-05

Sampling Location ID: 05-AS-EB

Sampling Personnel: M. Godinho, M. Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature):

Number of canisters placed in building: 2

Location of canister(s) within building: Equipment Blank

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
05-AS-EB1	1	103-88	24°		25	1353	—	25
05-AS-EB2	33564	03-75	24°		25	1355	—	25

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

Livingston Shop Complex Task I Air Sampling
Ambient Air Sample Log

Date: 12-12-05

Sample ID	Canister Serial No.	Flow Controller Serial No.	Initial Vacuum of Canister (in. Hg)	Start Time	Final Vacuum of Canister (in. Hg)	End Time	Location Description
05-AS-AMB-1-12-12-05	34739	03-14	25.5"	1157	5.5	1155	At 2nd and Gallatin up on hill
05-AS-AMB-2-12-12-05	34755	103-49	25.5"	11:42am	4 ~~1142~~ NRS	1142	Far end of Iron Horse Trailer Park (East end)
05-AS-AMB-3-12-12-05	33941	03-48	26"	10:35am	5.5	1024	Lewis and "N" St at tree
05-AS-AMB-2 12-14-05	34323	103-39	26.5	855	4 ~~850~~ NRS	850	TRAILER PARK
05-AS-AMB-1-12-14-05	11026	03-67	25	905	0	905	2nd/GALLATIN
05-AS-AMB-3-12-14-05	34394	1000-51	24.5	920	3	920	Lewis & "N" St.

Attachment E

Laboratory Analytical Reports, Chain-of-Custody Documentation, and Field Forms
April 2006 Sampling Event

Laboratory Analytical Reports and Chain-of-Custody Documentation

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- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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WORK ORDER #: 0604198

Work Order Summary

CLIENT:	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104	**BILL TO:**	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104
PHONE:	206-652-4905	**P.O. #**	
FAX:		**PROJECT #**	0696021*16 BN Livingston
DATE RECEIVED:	04/11/2006	**CONTACT:**	Nicole Danbacher
DATE COMPLETED:	04/20/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	06-AS-SE-1L	Modified TO-15 SIM	9.5 "Hg
02A	06-AS-SE-1B	Modified TO-15 SIM	10.0 "Hg
03A	06-AS SE 1 DUP	Modified TO-15 SIM	7.5 "Hg
03AA	06-AS SE 1 DUP Duplicate	Modified TO-15 SIM	7.5 "Hg
04A	EQUIP BLANK	Modified TO-15 SIM	29.0 "Hg
05A	Lab Blank	Modified TO-15 SIM	NA
06A	CCV	Modified TO-15 SIM	NA
07A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda L. Freeman DATE: 04/21/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 SIM
Kennedy/Jenks Consultants
Workorder# 0604198

Four 6 Liter Summa Canister (SIM Certified) samples were received on April 11, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Sample identifications for samples 06-AS-SE-1L, 06-AS-SE-1B, 06-AS SE 1 DUP and EQUIP BLANK were not provided on the sample tags. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the Chain of Custody was used to process and report the samples.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: 06-AS-SE-1L

Lab ID#: 0604198-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0059	0.077	0.032	0.42
Tetrachloroethene	0.039	0.040	0.26	0.27

Client Sample ID: 06-AS-SE-1B

Lab ID#: 0604198-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0060	0.095	0.032	0.51
Tetrachloroethene	0.040	0.13	0.27	0.87

Client Sample ID: 06-AS SE 1 DUP

Lab ID#: 0604198-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0054	0.055	0.029	0.30
Tetrachloroethene	0.036	0.10	0.24	0.70

Client Sample ID: 06-AS SE 1 DUP Duplicate

Lab ID#: 0604198-03AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0054	0.054	0.029	0.29
Tetrachloroethene	0.036	0.10	0.24	0.71

Client Sample ID: EQUIP BLANK

Lab ID#: 0604198-04A

No Detections Were Found.

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Client Sample ID: 06-AS-SE-1L

Lab ID#: 0604198-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041616**	**Date of Collection:**	**4/8/06**
Dil. Factor:	**1.96**	**Date of Analysis:**	**4/17/06 01:15 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.020	Not Detected	0.050	Not Detected
Trichloroethene	0.0059	0.077	0.032	0.42
Tetrachloroethene	0.039	0.040	0.26	0.27
trans-1,2-Dichloroethene	0.20	Not Detected	0.78	Not Detected
cis-1,2-Dichloroethene	0.039	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: 06-AS-SE-1B

Lab ID#: 0604198-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041617**	**Date of Collection:**	**4/8/06**
Dil. Factor:	**2.01**	**Date of Analysis:**	**4/17/06 02:08 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.020	Not Detected	0.051	Not Detected
Trichloroethene	0.0060	0.095	0.032	0.51
Tetrachloroethene	0.040	0.13	0.27	0.87
trans-1,2-Dichloroethene	0.20	Not Detected	0.80	Not Detected
cis-1,2-Dichloroethene	0.040	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	78	70-130

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Client Sample ID: 06-AS SE 1 DUP

Lab ID#: 0604198-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041618**	**Date of Collection:**	**4/8/06**
Dil. Factor:	**1.79**	**Date of Analysis:**	**4/17/06 02:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
Trichloroethene	0.0054	0.055	0.029	0.30
Tetrachloroethene	0.036	0.10	0.24	0.70
trans-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	80	70-130

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Client Sample ID: 06-AS SE 1 DUP Duplicate

Lab ID#: 0604198-03AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041619**	**Date of Collection:**	**4/8/06**
Dil. Factor:	**1.79**	**Date of Analysis:**	**4/17/06 03:41 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
Trichloroethene	0.0054	0.054	0.029	0.29
Tetrachloroethene	0.036	0.10	0.24	0.71
trans-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	76	70-130

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Client Sample ID: EQUIP BLANK

Lab ID#: 0604198-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041620**	**Date of Collection:**	**4/8/06**
Dil. Factor:	**1.00**	**Date of Analysis:**	**4/17/06 04:25 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 0604198-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041606**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/06 11:57 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: CCV

Lab ID#: 0604198-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/06 09:42 AM**	

Compound	**%Recovery**
Vinyl Chloride	95
Trichloroethene	94
Tetrachloroethene	103
trans-1,2-Dichloroethene	100
cis-1,2-Dichloroethene	97

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCS

Lab ID#: 0604198-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/16/06 10:28 AM**	

Compound	**%Recovery**
Vinyl Chloride	95
Trichloroethene	94
Tetrachloroethene	104
trans-1,2-Dichloroethene	106
cis-1,2-Dichloroethene	95

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Contact Person: SHERRI PETERSON
Company: KENNEDY JENKS CONSULTANTS Email: SHERRI.PETERSON@KennedyJenks.com
Address: 711 3rd Ave #790 City: SEATTLE State: WA Zip: 98104
Phone: 206-447-7246 Fax: 206-652-4927
Collected by: (Signature)

Project Info:
P.O. #
Project #: 0109L0021 #16
Project Name: BN LIVINGSTON

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by: VKP
Date: 4/12/06
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	06-AS-SE-1L		4.8.06	541	TO-15 SIM LIVINGSTON HS	26	6	9.5"Hg	5.0psi
02A	06-AS-SE-1B		4.8.06	538		25	6	10.0"Hg	
03A	06-AS SE 1 DUP		4.8.06	538		25	4.5	7.5"Hg	
04A	EQUIP BLANK		4.8.06	6:00		25	25	29.0"Hg	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	4.10.06 930	[signature]	04/11/06 0945
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	UPS		–	Good	Yes No None	0604198

Form 1258 rev.10

BN Livingston Shop Complex Task I Air Sampling
Chain-of-Custody Sample Log

0604198

Sample ID	Canister Serial Number	Flow Controller Serial Number
EQUIP BLANK	34316D	95-10X
016-AS-SE-1L	34458	103-63
016-AS-SE-1B	41104	102-04
016-AS-SE-1B	8-4	103-88

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Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

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WORK ORDER #: 0604192

Work Order Summary

CLIENT:	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104	**BILL TO:**	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104
PHONE:	206-652-4905	**P.O. #**	
FAX:		**PROJECT #**	0696021*16 BN Livingston
DATE RECEIVED:	04/11/2006	**CONTACT:**	Nicole Danbacher
DATE COMPLETED:	04/20/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	06-AS-SE-2L	Modified TO-15 SIM	8.0 "Hg
02A	06-AS-SE-2B	Modified TO-15 SIM	9.0 "Hg
03A	06-AS-BG-29L	Modified TO-15 SIM	9.0 "Hg
04A	06-AS-BG-29B	Modified TO-15 SIM	8.5 "Hg
05A	Lab Blank	Modified TO-15 SIM	NA
06A	CCV	Modified TO-15 SIM	NA
07A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda D. Freeman DATE: 04/21/06

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 SIM
Kennedy/Jenks Consultants
Workorder# 0604192

Four 6 Liter Summa Canister (SIM Certified) samples were received on April 11, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Sample identifications for samples 06-AS-SE-2L, 06-AS-SE-2B, 06-AS-BG-29L and 06-AS-BG-29B were not provided on the sample tags. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the Chain of Custody was used to process and report the samples.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: 06-AS-SE-2L

Lab ID#: 0604192-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	0.20	0.047	0.50
Trichloroethene	0.0055	0.028	0.030	0.15
Tetrachloroethene	0.037	0.25	0.25	1.7

Client Sample ID: 06-AS-SE-2B

Lab ID#: 0604192-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	0.11	0.049	0.29
Trichloroethene	0.0057	0.027	0.031	0.15
Tetrachloroethene	0.038	0.22	0.26	1.5

Client Sample ID: 06-AS-BG-29L

Lab ID#: 0604192-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0057	1.1	0.031	5.9

Client Sample ID: 06-AS-BG-29B

Lab ID#: 0604192-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0056	0.044	0.030	0.23

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Client Sample ID: 06-AS-SE-2L

Lab ID#: 0604192-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041412**	**Date of Collection:**	**4/8/06**
Dil. Factor:	**1.83**	**Date of Analysis:**	**4/14/06 08:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	0.20	0.047	0.50
Trichloroethene	0.0055	0.028	0.030	0.15
Tetrachloroethene	0.037	0.25	0.25	1.7
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: 06-AS-SE-2B

Lab ID#: 0604192-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041413**	**Date of Collection:**	**4/8/06**
Dil. Factor:	**1.91**	**Date of Analysis:**	**4/14/06 09:16 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	0.11	0.049	0.29
Trichloroethene	0.0057	0.027	0.031	0.15
Tetrachloroethene	0.038	0.22	0.26	1.5
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: 06-AS-BG-29L

Lab ID#: 0604192-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041414**	**Date of Collection:**	**4/7/06**
Dil. Factor:	**1.91**	**Date of Analysis:**	**4/14/06 09:55 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
Trichloroethene	0.0057	1.1	0.031	5.9
Tetrachloroethene	0.038	Not Detected	0.26	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 06-AS-BG-29B

Lab ID#: 0604192-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041415**	**Date of Collection:**	**4/7/06**
Dil. Factor:	**1.87**	**Date of Analysis:**	**4/15/06 07:50 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.048	Not Detected
Trichloroethene	0.0056	0.044	0.030	0.23
Tetrachloroethene	0.037	Not Detected	0.25	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
cis-1,2-Dichloroethene	0.037	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	94	70-130

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Client Sample ID: Lab Blank

Lab ID#: 0604192-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041405**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/06 03:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0604192-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/06 01:08 PM**	

Compound	**%Recovery**
Vinyl Chloride	108
Trichloroethene	95
Tetrachloroethene	99
trans-1,2-Dichloroethene	106
cis-1,2-Dichloroethene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: LCS

Lab ID#: 0604192-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/06 01:48 PM**	

Compound	**%Recovery**
Vinyl Chloride	99
Trichloroethene	95
Tetrachloroethene	102
trans-1,2-Dichloroethene	110
cis-1,2-Dichloroethene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
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(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Contact Person: Sherri Peterson
Company: Kennedy/Jenks Consultants Email: sherripeterson@kennedyjenks.com
Address: 711 3rd Ave #790 City: Seattle State: WA Zip: 98104
Phone: 206-447-8246 Fax: 206-652-4927
Collected by: (Signature)

Project Info:
P.O. #
Project #: 0696021*16
Project Name: BN Livingston

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by: VAL
Date: 4/12/06
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	06-AS-SE-2L		4-8-06	852	TO-15 SIM Livingston List	25	4.5	8.0 inHg	5.0 psi
02A	06-AS-SE-2B		4-8-06	8:53		25	7	9.0 inHg	
03A	06-AS-BG-29L		4-7-06	3:57		25	5	9.0 inHg	
04A	06-AS-BG-29B		4-7-06	3:54		25	6	8.5 inHg	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	4-8-06 1200	[signature] ATL	04/11/06 0145
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	UPS	J177739581 1	—	Good	Yes No None	0604192

Form 1208 rev.12

BN Livingston Shop Complex Task I Air Sampling 0604192
Chain-of-Custody Sample Log

Sample ID	Canister Serial Number	Flow Controller Serial Number
010AS-SE-2L	33942	53-20
010-AS-SE-2B	35253	100-65
010-AS BG-29L	335666	03-37
010-AS-BG-29B	343666	05-07

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Air Toxics Ltd. Introduces the Electronic Report

Thank you for choosing Air Toxics Ltd. To better serve our customers, we are providing your report by e-mail. This document is provided in Portable Document Format which can be viewed with Acrobat Reader by Adobe.

This electronic report includes the following:

- Work order Summary;
- Laboratory Narrative;
- Results; and
- Chain of Custody (copy).

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

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Hours 8:00 A.M to 6:00 P.M. Pacific

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

WORK ORDER #: 0604188

Work Order Summary

CLIENT:	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104	**BILL TO:**	Ms. Sherri Peterson Kennedy/Jenks Consultants 711 Third Avenue Suite 790 Seattle, WA 98104
PHONE:	206-652-4905	**P.O. #**	
FAX:		**PROJECT #**	0696021*16 BN Livingston
DATE RECEIVED:	04/11/2006	**CONTACT:**	Nicole Danbacher
DATE COMPLETED:	04/20/2006		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.
01A	06-AS-NE-2L	Modified TO-15 SIM	7.0 "Hg
02A	06-AS-NE-2B	Modified TO-15 SIM	7.0 "Hg
03A	06-AS-BG11B	Modified TO-15 SIM	9.0 "Hg
04A	06-AS-BG11L	Modified TO-15 SIM	10.0 "Hg
04AA	06-AS-BG11L Duplicate	Modified TO-15 SIM	10.0 "Hg
05A	Lab Blank	Modified TO-15 SIM	NA
06A	CCV	Modified TO-15 SIM	NA
07A	LCS	Modified TO-15 SIM	NA

CERTIFIED BY: Linda D. Freeman

Laboratory Director

DATE: 04/21/06

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763, NJ NELAP - CA004
NY NELAP - 11291, UT NELAP - 9166389892
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/05, Expiration date: 06/30/06
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15 SIM
Kennedy/Jenks Consultants
Workorder# 0604188

Four 6 Liter Summa Canister (SIM Certified) samples were received on April 11, 2006. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode. The method involves concentrating up to 0.5 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the below table. Specific project requirements may over-ride the ATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

Sample identifications for samples 06-AS-NE-2L, 06-AS-NE-2B, 06-AS-BG11B and 06-AS-BG11L were not provided on the sample tags. The discrepancy was noted in the Sample Receipt Confirmation email/fax and the information on the Chain of Custody was used to process and report the samples.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM

Client Sample ID: 06-AS-NE-2L

Lab ID#: 0604188-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0052	0.0094	0.028	0.050
Tetrachloroethene	0.035	0.36	0.24	2.5

Client Sample ID: 06-AS-NE-2B

Lab ID#: 0604188-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0052	0.011	0.028	0.061
Tetrachloroethene	0.035	0.60	0.24	4.0

Client Sample ID: 06-AS-BG11B

Lab ID#: 0604188-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0057	0.011	0.031	0.060

Client Sample ID: 06-AS-BG11L

Lab ID#: 0604188-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0060	0.064	0.032	0.34

Client Sample ID: 06-AS-BG11L Duplicate

Lab ID#: 0604188-04AA

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Trichloroethene	0.0060	0.067	0.032	0.36

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Client Sample ID: 06-AS-NE-2L

Lab ID#: 0604188-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041416**	**Date of Collection:**	**4/7/06**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/15/06 08:29 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Trichloroethene	0.0052	0.0094	0.028	0.050
Tetrachloroethene	0.035	0.36	0.24	2.5
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: 06-AS-NE-2B

Lab ID#: 0604188-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041417**	**Date of Collection:**	**4/7/06**
Dil. Factor:	**1.75**	**Date of Analysis:**	**4/15/06 09:08 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.018	Not Detected	0.045	Not Detected
Trichloroethene	0.0052	0.011	0.028	0.061
Tetrachloroethene	0.035	0.60	0.24	4.0
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
cis-1,2-Dichloroethene	0.035	Not Detected	0.14	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: 06-AS-BG11B

Lab ID#: 0604188-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041418**	**Date of Collection:**	**4/7/06**
Dil. Factor:	**1.91**	**Date of Analysis:**	**4/15/06 09:46 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.019	Not Detected	0.049	Not Detected
Trichloroethene	0.0057	0.011	0.031	0.060
Tetrachloroethene	0.038	Not Detected	0.26	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.76	Not Detected
cis-1,2-Dichloroethene	0.038	Not Detected	0.15	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 06-AS-BG11L

Lab ID#: 0604188-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041419**	**Date of Collection:**	**4/7/06**
Dil. Factor:	**2.01**	**Date of Analysis:**	**4/15/06 10:26 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.020	Not Detected	0.051	Not Detected
Trichloroethene	0.0060	0.064	0.032	0.34
Tetrachloroethene	0.040	Not Detected	0.27	Not Detected
trans-1,2-Dichloroethene	0.20	Not Detected	0.80	Not Detected
cis-1,2-Dichloroethene	0.040	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: 06-AS-BG11L Duplicate

Lab ID#: 0604188-04AA

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041420**	**Date of Collection:**	**4/7/06**
Dil. Factor:	**2.01**	**Date of Analysis:**	**4/15/06 11:06 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.020	Not Detected	0.051	Not Detected
Trichloroethene	0.0060	0.067	0.032	0.36
Tetrachloroethene	0.040	Not Detected	0.27	Not Detected
trans-1,2-Dichloroethene	0.20	Not Detected	0.80	Not Detected
cis-1,2-Dichloroethene	0.040	Not Detected	0.16	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 0604188-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041405**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/06 03:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (uG/m3)	Amount (uG/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
Trichloroethene	0.0030	Not Detected	0.016	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: CCV

Lab ID#: 0604188-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/06 01:08 PM**	

Compound	**%Recovery**
Vinyl Chloride	108
Trichloroethene	95
Tetrachloroethene	99
trans-1,2-Dichloroethene	106
cis-1,2-Dichloroethene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	95	70-130

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AN ENVIRONMENTAL ANALYTICAL LABORATORY

Client Sample ID: LCS

Lab ID#: 0604188-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	**6041403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 4/14/06 01:48 PM**	

Compound	**%Recovery**
Vinyl Chloride	99
Trichloroethene	95
Tetrachloroethene	102
trans-1,2-Dichloroethene	110
cis-1,2-Dichloroethene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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CHAIN-OF-CUSTODY RECORD

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Contact Person: Sherri Peterson
Company: Kennedy/Jenks Consultants Email: sherri peterson@kennedyjenks.com
Address: 711 Third Ave, #790 City: Seattle State: WA Zip: 98104
Phone: 206-447-8246 Fax: 206-652-4927
Collected by: (Signature)

Project Info:
P.O. #
Project #: 0696021*16
Project Name: BN Livingston

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by: VHR
Date: 4/12/06
Pressurization Gas: (N2) He

Lab I.D.	Field Sample I.D. (Location)	Can#	Date	Time	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	06-AS-NE-2L		4/7/06	12:51	TO-15 SIM Livingston List	25	3	7.0"Hg	5.0 psi
02A	06-AS-NE-2B		4/7/06	12:51		25	5	7.0"Hg	
03A	06-AS-BG11B		4/7/06	2:37		25	5.5	9.0"Hg	
04A	06-AS-BG11L		4/7/06	2:36		25	6.5	10.0"Hg	

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	4-8-06 1200	[signature]	04/11/06 0945
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Customer Seals Intact?	Work Order #
	UPS		—	Good	Yes No (None)	0604188

Form 1890 rev.10

BN Livingston Shop Complex Task I Air Sampling
Chain-of-Custody Sample Log

0604188

Sample ID	Canister Serial Number	Flow Controller Serial Number
06-AS-NE-2L	34451	203-01
06-AS-NE-2B	33 540	2X
06-AS-BG11 B	4070	03-13
06-AS-BG11 L	3936	03-48

MOBILE GEOCHEMISTRY
H&P

April 25, 2006

Ms. Sherri Peterson
Kennedy/Jenks Consultants
711 Third Avenue, Suite 790
Seattle, WA 98104

SUBJECT: DATA REPORT – LIVINGSTON, MT - KENNEDY/JENKS CONSULTANTS PROJECT #0696021*16

H&P Project # KJ041106-10

Ms. Peterson:

Please find enclosed a data report for the above referenced location. Vapor samples were analyzed in H&P's TO-15 laboratory.

Project Summary

The following analyses were conducted:

- 25 vapors for volatile organic compounds by EPA Method TO-15

The samples were received in appropriate containers with appropriate labels, seals, and chain-of-custody documentation.

Project Narrative

The results for all analyses and required QA/QC analyses are summarized in the enclosed tables. All calibrations, blanks, surrogates, and spike recoveries fulfill quality control criteria.

H&P Mobile GeoChemistry appreciates the opportunity to provide analytical services to Kennedy/Jenks Consultants on this project. If you have any questions relating to this data or report, please do not hesitate to contact us.

Sincerely,

Dr. Blayne Hartman

2470 Impala Drive, Carlsbad, California 92010 | 760.804.9678 — Fax 760.804.9159
3825 Industry Avenue, Lakewood, California 90712 | 562.426.6991 — Fax 562.426.6995
www.HandPmg.com | 1-800-834-9888

MOBILE GEOCHEMISTRY H&P

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
06-SG-108-1	E604046-01	Vapor	06-Apr-06	11-Apr-06
06-SG-108-2	E604046-02	Vapor	06-Apr-06	11-Apr-06
06-SG-108-3	E604046-03	Vapor	06-Apr-06	11-Apr-06
06-SG-NE-2-1	E604046-04	Vapor	06-Apr-06	11-Apr-06
06-SG-NE-2-2	E604046-05	Vapor	06-Apr-06	11-Apr-06
06-SG-NE-2-3	E604046-06	Vapor	06-Apr-06	11-Apr-06
06-SG-78-1	E604046-07	Vapor	06-Apr-06	11-Apr-06
06-SG-78-2	E604046-08	Vapor	06-Apr-06	11-Apr-06
D1-SG-04-06-06	E604046-09	Vapor	06-Apr-06	11-Apr-06
06-GF-NE-1-2	E604046-10	Vapor	06-Apr-06	11-Apr-06
06-GF-SE-5-2	E604046-11	Vapor	06-Apr-06	11-Apr-06
06-GF-167-1	E604046-12	Vapor	06-Apr-06	11-Apr-06
TRIPBLANK	E604046-13	Vapor	06-Apr-06	11-Apr-06
06-SG-SE-2-1	E604046-14	Vapor	07-Apr-06	11-Apr-06
06-SG-99-1	E604046-15	Vapor	07-Apr-06	11-Apr-06
06-GF-NE-5-1	E604046-16	Vapor	07-Apr-06	11-Apr-06
06-GF-167-2	E604046-17	Vapor	07-Apr-06	11-Apr-06
06-GF-NE-4-1	E604046-18	Vapor	07-Apr-06	11-Apr-06
06-GF-SE-1-1	E604046-19	Vapor	07-Apr-06	11-Apr-06
06-GF-NE-5-2	E604046-20	Vapor	08-Apr-06	11-Apr-06
D1-GF-04-08-06	E604046-21	Vapor	08-Apr-06	11-Apr-06
06-GF-NE-4-2	E604046-22	Vapor	08-Apr-06	11-Apr-06
06-GF-SE-1-2	E604046-23	Vapor	08-Apr-06	11-Apr-06
EQUIPMENT BLANK	E604046-24	Vapor	08-Apr-06	11-Apr-06
TRIPBLANK	E604046-25	Vapor	08-Apr-06	11-Apr-06

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-108-1 (E604046-01) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	91	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	13	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	5.1	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	38	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	34	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	6.2	5.0	"	"	"	"	"	"	
Trichloroethene	5.6	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-108-1 (E604046-01) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	110	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	54	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	51	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	17	5.0	"	"	"	"	"	"	
m,p-Xylene	40	5.0	"	"	"	"	"	"	
Styrene	8.0	5.0	"	"	"	"	"	"	
o-Xylene	31	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	9.6	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	12	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	53	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-108-2 (E604046-02) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	130	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	81	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	9.5	5.0	"	"	"	"	"	"	
Tetrahydrofuran	11	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	53	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	37	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	6.4	5.0	"	"	"	"	"	"	
Trichloroethene	7.3	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-108-2 (E604046-02) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	37	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	54	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	120	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	18	5.0	"	"	"	"	"	"	
m,p-Xylene	40	5.0	"	"	"	"	"	"	
Styrene	6.5	5.0	"	"	"	"	"	"	
o-Xylene	31	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	21	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	11	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	52	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.4 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-108-3 (E604046-03) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	47	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	13	5.0	"	"	"	"	"	"	
n-Hexane	7.6	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	15	5.0	"	"	"	"	"	"	
Benzene	7.4	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	28	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	8.6	5.0	"	"	"	"	"	"	
Trichloroethene	7.2	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-108-3 (E604046-03) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	7.0	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	60	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	15	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	18	5.0	"	"	"	"	"	"	
m,p-Xylene	44	5.0	"	"	"	"	"	"	
Styrene	6.1	5.0	"	"	"	"	"	"	
o-Xylene	32	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	9.1	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	14	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	56	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-NE-2-1 (E604046-04) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	74	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	16	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	5.3	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	8.1	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	17	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	32	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-NE-2-1 (E604046-04) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	37	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	830	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	10	5.0	"	"	"	"	"	"	
m,p-Xylene	24	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	17	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	13	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	8.1	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	34	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*101 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-NE-2-2 (E604046-05) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	66	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	140	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	7.5	5.0	"	"	"	"	"	"	
Tetrahydrofuran	23	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	22	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	14	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	36	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-NE-2-2 (E604046-05) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	17	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	3600	50	"	10	"	"	18-Apr-06	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	1	"	"	17-Apr-06	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	8.1	5.0	"	"	"	"	"	"	
m,p-Xylene	20	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	15	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	11	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	7.5	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	30	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*96.9 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.5 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-NE-2-3 (E604046-06) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	140	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	100	5.0	"	"	"	"	"	"	
n-Hexane	12	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	5.5	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	20	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	5.0	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	5.4	5.0	"	"	"	"	"	"	
Benzene	5.9	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	18	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	1500	5.0	"	"	"	"	"	"	E
n-Heptane	15	5.0	"	"	"	"	"	"	
Trichloroethene	70	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-NE-2-3 (E604046-06) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	33	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	4200	50	"	10	"	"	18-Apr-06	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	1	"	"	17-Apr-06	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	13	5.0	"	"	"	"	"	"	
m,p-Xylene	22	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	17	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	8.0	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	33	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-78-1 (E604046-07) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	240	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	13	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	14	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	8.8	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	27	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	95	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-78-1 (E604046-07) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	21	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	1500	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	8.8	5.0	"	"	"	"	"	"	
m,p-Xylene	22	5.0	"	"	"	"	"	"	
Styrene	6.4	5.0	"	"	"	"	"	"	
o-Xylene	21	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	21	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	16	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	74	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	22	20	"	"	"	"	"	"	
Hexachlorobutadiene	27	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.1 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-78-2 (E604046-08) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	240	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	18	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	7000	20	"	"	"	"	"	"	E
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	7.1	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	20	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	330	5.0	"	"	"	"	"	"	
n-Hexane	370	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	33	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	11	5.0	"	"	"	"	"	"	
Benzene	74	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	58	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	250	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-78-2 (E604046-08) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	17	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	100	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	43	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	26	5.0	"	"	"	"	"	"	
m,p-Xylene	29	5.0	"	"	"	"	"	"	
Styrene	8.8	5.0	"	"	"	"	"	"	
o-Xylene	25	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	8.7	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	15	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	62	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*99.7 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
D1-SG-04-06-06 (E604046-09) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	180	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	12	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	4400	20	"	"	"	"	"	"	E
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	7.7	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	12	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	210	5.0	"	"	"	"	"	"	
n-Hexane	260	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	21	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	6.7	5.0	"	"	"	"	"	"	
Benzene	46	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	34	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	180	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
D1-SG-04-06-06 (E604046-09) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	13	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	78	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	39	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	22	5.0	"	"	"	"	"	"	
m,p-Xylene	23	5.0	"	"	"	"	"	"	
Styrene	8.6	5.0	"	"	"	"	"	"	
o-Xylene	22	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	6.8	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	15	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	56	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*99.3 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-1-2 (E604046-10) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	21	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	450	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	100	5.0	"	"	"	"	"	"	
n-Hexane	5.3	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	6.1	5.0	"	"	"	"	"	"	
Tetrahydrofuran	15	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	11	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	6.4	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	5.4	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-1-2 (E604046-10) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	27	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	210	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*96.9 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-SE-5-2 (E604046-11) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	160	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	28	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	8.6	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	5.4	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-SE-5-2 (E604046-11) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	12	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	31	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	5.4	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-167-1 (E604046-12) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	120	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	10	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	5.2	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-167-1 (E604046-12) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	5.2	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	7.2	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	5.0	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.1 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
TRIPBLANK (E604046-13) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
Propene	ND	10	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	ND	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	7.8	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	5.3	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
TRIPBLANK (E604046-13) Vapor Sampled: 06-Apr-06 Received: 11-Apr-06									
4-Methyl-2-pentanone	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	12	5.0	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*98.3 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-SE-2-1 (E604046-14) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	220	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	6.1	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	8.7	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	23	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-SE-2-1 (E604046-14) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	15	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	26	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	7.9	5.0	"	"	"	"	"	"	
Styrene	5.5	5.0	"	"	"	"	"	"	
o-Xylene	7.1	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	5.0	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*98.1 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-99-1 (E604046-15) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	ND	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	ND	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-99-1 (E604046-15) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61803	17-Apr-06	17-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*94.4 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-5-1 (E604046-16) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	41	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	5.4	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	6.4	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	5.4	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-5-1 (E604046-16) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	12	5.0	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	5.8	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*98.1 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-167-2 (E604046-17) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	30	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	6.7	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	6.4	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-167-2 (E604046-17) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	7.4	5.0	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	9.8	5.0	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*104 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*98.9 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.5 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-4-1 (E604046-18) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	75	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	ND	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	10	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	5.5	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	5.1	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	24	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	7.6	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-4-1 (E604046-18) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	15	5.0	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	8.9	5.0	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*108 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*96.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-SE-1-1 (E604046-19) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	36	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	5.8	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	5.8	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-SE-1-1 (E604046-19) Vapor Sampled: 07-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	6.5	5.0	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	15	5.0	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	5.7	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*	*80-120*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8		*98.9 %*	*80-120*		*"*	*"*	*"*	*"*	
Surrogate: 4-Bromofluorobenzene		*97.8 %*	*80-120*		*"*	*"*	*"*	*"*	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-5-2 (E604046-20) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	8.4	5.0	"	"	"	"	"	"	
Acetone	81	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	6.0	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	5.6	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	5.9	5.0	"	"	"	"	"	"	
n-Hexane	12	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	8.3	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	11	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	9.6	5.0	"	"	"	"	"	"	
n-Heptane	8.9	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-5-2 (E604046-20) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	30	5.0	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	28	5.0	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	5.0	5.0	"	"	"	"	"	"	
m,p-Xylene	8.8	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	6.5	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	11	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.4 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
D1-GF-04-08-06 (E604046-21) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	8.6	5.0	"	"	"	"	"	"	
Acetone	87	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	7.5	5.0	"	"	"	"	"	"	
n-Hexane	9.6	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	6.7	5.0	"	"	"	"	"	"	
Benzene	23	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	12	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	8.8	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
D1-GF-04-08-06 (E604046-21) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	49	5.0	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	110	5.0	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	7.5	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	9.8	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*98.3 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-4-2 (E604046-22) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	19	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	66	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	7.7	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	9.4	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	12	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	19	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-4-2 (E604046-22) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	16	5.0	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	75	5.0	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	5.0	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*103 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*98.3 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.3 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-SE-1-2 (E604046-23) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	17	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	30	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	6.5	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-SE-1-2 (E604046-23) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	8.0	5.0	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	15	5.0	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
EQUIPMENT BLANK (E604046-24) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	ND	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	ND	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
EQUIPMENT BLANK (E604046-24) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.3 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.4 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
TRIPBLANK (E604046-25) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
Propene	33	10	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	ND	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	8.6	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	6.8	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
TRIPBLANK (E604046-25) Vapor Sampled: 08-Apr-06 Received: 11-Apr-06									
4-Methyl-2-pentanone	ND	5.0	ug/m³ Air	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	11	5.0	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	5.8	5.0	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	5.5	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.3 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61407 - TO-15										
Blank (ED61407-BLK1)				Prepared & Analyzed: 14-Apr-06						
Propene	ND	10	ug/m³ Air							
Dichlorodifluoromethane	ND	5.5	"							
Chloromethane	ND	5.0	"							
Dichlorotetrafluoroethane	ND	5.5	"							
Vinyl chloride	ND	5.0	"							
1,3-Butadiene	ND	5.0	"							
Bromomethane	ND	5.0	"							
Chloroethane	ND	5.0	"							
Bromoethene	ND	5.0	"							
Trichlorofluoromethane	ND	5.0	"							
Acetone	ND	20	"							
1,1-Dichloroethene	ND	5.0	"							
1,1,2-Trichlorotrifluoroethane	ND	6.0	"							
Allyl chloride	ND	5.0	"							
Methylene chloride	ND	5.0	"							
Carbon disulfide	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
Methyl tert-butyl ether	ND	5.0	"							
Vinyl acetate	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
2-Butanone	ND	5.0	"							
n-Hexane	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
Ethyl acetate	ND	5.0	"							
Chloroform	ND	5.0	"							
Tetrahydrofuran	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
1,2-Dichloroethane	ND	5.0	"							
Benzene	ND	5.0	"							
Carbon tetrachloride	ND	5.5	"							
Cyclohexane	ND	5.0	"							
2,2,4-Trimethylpentane	ND	5.0	"							
n-Heptane	ND	5.0	"							
Trichloroethene	ND	5.0	"							

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61407 - TO-15										
Blank (ED61407-BLK1)				Prepared & Analyzed: 14-Apr-06						
1,2-Dichloropropane	ND	5.0	ug/m³ Air							
1,4-Dioxane	ND	5.5	"							
Bromodichloromethane	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
4-Methyl-2-pentanone	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
Toluene	6.58	5.0	"							B
1,1,2-Trichloroethane	ND	5.0	"							
2-Hexanone	ND	5.0	"							
Dibromochloromethane	ND	6.5	"							
Tetrachloroethene	15.9	5.0	"							B
1,2-Dibromoethane (EDB)	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	5.0	"							
Styrene	ND	5.0	"							
o-Xylene	ND	5.0	"							
Bromoform	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	6.0	"							
4-Ethyltoluene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	10	"							
Benzyl chloride	ND	10	"							
1,4-Dichlorobenzene	ND	10	"							
1,2-Dichlorobenzene	ND	10	"							
1,2,4-Trichlorobenzene	ND	20	"							
Hexachlorobutadiene	ND	11	"							
Surrogate: 1,2-Dichloroethane-d4	*106*		*"*	*103*		*103*	*80-120*			
Surrogate: Toluene-d8	*94.2*		*"*	*96.2*		*97.9*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*186*		*"*	*182*		*102*	*80-120*			

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61407 - TO-15										
LCS (ED61407-BS1)				Prepared & Analyzed: 14-Apr-06						
Propene	35.4	10	ug/m³ Air	35.0		101	65-135			
Dichlorodifluoromethane	118	5.5	"	101		117	65-135			
Chloromethane	44.9	5.0	"	42.0		107	65-135			
Dichlorotetrafluoroethane	166	5.5	"	142		117	65-135			
Vinyl chloride	55.2	5.0	"	72.0		76.7	65-135			
1,3-Butadiene	49.5	5.0	"	44.8		110	65-135			
Bromomethane	83.7	5.0	"	79.2		106	65-135			
Chloroethane	57.8	5.0	"	53.6		108	65-135			
Bromoethene	95.5	5.0	"	89.2		107	65-135			
Trichlorofluoromethane	130	5.0	"	113		115	65-135			
Acetone	56.5	20	"	48.4		117	65-135			
1,1-Dichloroethene	88.5	5.0	"	80.8		110	65-135			
1,1,2-Trichlorotrifluoroethane	182	6.0	"	155		117	65-135			
Allyl chloride	68.9	5.0	"	64.0		108	65-135			
Methylene chloride	79.7	5.0	"	70.8		113	65-135			
Carbon disulfide	68.3	5.0	"	63.2		108	65-135			
trans-1,2-Dichloroethene	87.1	5.0	"	80.8		108	65-135			
Methyl tert-butyl ether	81.2	5.0	"	73.6		110	65-135			
Vinyl acetate	86.8	5.0	"	72.0		121	65-135			
1,1-Dichloroethane	90.1	5.0	"	82.4		109	65-135			
2-Butanone	65.1	5.0	"	60.0		108	65-135			
n-Hexane	75.8	5.0	"	72.0		105	65-135			
cis-1,2-Dichloroethene	88.7	5.0	"	80.0		111	65-135			
Ethyl acetate	82.1	5.0	"	73.6		112	65-135			
Chloroform	115	5.0	"	99.2		116	65-135			
Tetrahydrofuran	63.1	5.0	"	60.0		105	65-135			
1,1,1-Trichloroethane	130	5.0	"	111		117	65-135			
1,2-Dichloroethane	93.0	5.0	"	82.4		113	65-135			
Benzene	69.4	5.0	"	64.8		107	65-135			
Carbon tetrachloride	149	5.5	"	128		116	65-135			
Cyclohexane	70.3	5.0	"	70.4		99.9	65-135			
2,2,4-Trimethylpentane	105	5.0	"	95.2		110	65-135			
n-Heptane	91.7	5.0	"	83.6		110	65-135			
Trichloroethene	132	5.0	"	110		120	65-135			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61407 - TO-15										
LCS (ED61407-BS1)				Prepared & Analyzed: 14-Apr-06						
1,2-Dichloropropane	105	5.0	ug/m³ Air	94.4		111	65-135			
1,4-Dioxane	83.8	5.5	"	73.6		114	65-135			
Bromodichloromethane	161	5.0	"	137		118	65-135			
cis-1,3-Dichloropropene	105	5.0	"	92.4		114	65-135			
4-Methyl-2-pentanone	96.5	5.0	"	83.2		116	65-135			
trans-1,3-Dichloropropene	107	5.0	"	92.4		116	65-135			
Toluene	88.3	5.0	"	76.8		115	65-135			
1,1,2-Trichloroethane	132	5.0	"	111		119	65-135			
2-Hexanone	98.9	5.0	"	83.2		119	65-135			
Dibromochloromethane	205	6.5	"	174		118	65-135			
Tetrachloroethene	166	5.0	"	138		120	65-135			
1,2-Dibromoethane (EDB)	182	5.0	"	157		116	65-135			
Chlorobenzene	107	5.0	"	93.6		114	65-135			
Ethylbenzene	102	5.0	"	88.4		115	65-135			
m,p-Xylene	103	5.0	"	88.4		117	65-135			
Styrene	97.2	5.0	"	86.8		112	65-135			
o-Xylene	103	5.0	"	88.4		117	65-135			
Bromoform	1060	5.0	"	840		126	65-135			
1,1,2,2-Tetrachloroethane	148	6.0	"	140		106	65-135			
4-Ethyltoluene	118	5.0	"	100		118	65-135			
1,3,5-Trimethylbenzene	112	5.0	"	100		112	65-135			
1,2,4-Trimethylbenzene	109	5.0	"	100		109	65-135			
1,3-Dichlorobenzene	126	10	"	122		103	65-135			
Benzyl chloride	128	10	"	105		122	65-135			
1,4-Dichlorobenzene	127	10	"	122		104	65-135			
1,2-Dichlorobenzene	120	10	"	122		98.4	65-135			
1,2,4-Trichlorobenzene	94.7	20	"	151		62.7	65-135			QL-1L
Hexachlorobutadiene	144	11	"	218		66.1	65-135			
Surrogate: 1,2-Dichloroethane-d4	*102*		*"*	*103*		*99.0*	*80-120*			
Surrogate: Toluene-d8	*96.7*		*"*	*96.2*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*185*		*"*	*182*		*102*	*80-120*			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61803 - TO-15										
Blank (ED61803-BLK1)				Prepared & Analyzed: 17-Apr-06						
Propene	ND	10	ug/m³ Air							
Dichlorodifluoromethane	ND	5.5	"							
Chloromethane	ND	5.0	"							
Dichlorotetrafluoroethane	ND	5.5	"							
Vinyl chloride	ND	5.0	"							
1,3-Butadiene	ND	5.0	"							
Bromomethane	ND	5.0	"							
Chloroethane	ND	5.0	"							
Bromoethene	ND	5.0	"							
Trichlorofluoromethane	ND	5.0	"							
Acetone	ND	20	"							
1,1-Dichloroethene	ND	5.0	"							
1,1,2-Trichlorotrifluoroethane	ND	6.0	"							
Allyl chloride	ND	5.0	"							
Methylene chloride	ND	5.0	"							
Carbon disulfide	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
Methyl tert-butyl ether	ND	5.0	"							
Vinyl acetate	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
2-Butanone	ND	5.0	"							
n-Hexane	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
Ethyl acetate	ND	5.0	"							
Chloroform	ND	5.0	"							
Tetrahydrofuran	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
1,2-Dichloroethane	ND	5.0	"							
Benzene	ND	5.0	"							
Carbon tetrachloride	ND	5.5	"							
Cyclohexane	ND	5.0	"							
2,2,4-Trimethylpentane	ND	5.0	"							
n-Heptane	ND	5.0	"							
Trichloroethene	ND	5.0	"							

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61803 - TO-15										
Blank (ED61803-BLK1)				Prepared & Analyzed: 17-Apr-06						
1,2-Dichloropropane	ND	5.0	ug/m³ Air							
1,4-Dioxane	ND	5.5	"							
Bromodichloromethane	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
4-Methyl-2-pentanone	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
Toluene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
2-Hexanone	ND	5.0	"							
Dibromochloromethane	ND	6.5	"							
Tetrachloroethene	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	5.0	"							
Styrene	ND	5.0	"							
o-Xylene	ND	5.0	"							
Bromoform	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	6.0	"							
4-Ethyltoluene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	10	"							
Benzyl chloride	ND	10	"							
1,4-Dichlorobenzene	ND	10	"							
1,2-Dichlorobenzene	ND	10	"							
1,2,4-Trichlorobenzene	ND	20	"							
Hexachlorobutadiene	ND	11	"							
Surrogate: 1,2-Dichloroethane-d4	*107*		*"*	*103*		*104*	*80-120*			
Surrogate: Toluene-d8	*94.0*		*"*	*96.2*		*97.7*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*187*		*"*	*182*		*103*	*80-120*			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61803 - TO-15										
LCS (ED61803-BS1)				Prepared & Analyzed: 17-Apr-06						
Propene	34.5	10	ug/m³ Air	35.0		98.6	65-135			
Dichlorodifluoromethane	115	5.5	"	101		114	65-135			
Chloromethane	43.8	5.0	"	42.0		104	65-135			
Dichlorotetrafluoroethane	161	5.5	"	142		113	65-135			
Vinyl chloride	51.6	5.0	"	72.0		71.7	65-135			
1,3-Butadiene	45.9	5.0	"	44.8		102	65-135			
Bromomethane	81.0	5.0	"	79.2		102	65-135			
Chloroethane	52.3	5.0	"	53.6		97.6	65-135			
Bromoethene	89.6	5.0	"	89.2		100	65-135			
Trichlorofluoromethane	128	5.0	"	113		113	65-135			
Acetone	55.0	20	"	48.4		114	65-135			
1,1-Dichloroethene	84.4	5.0	"	80.8		104	65-135			
1,1,2-Trichlorotrifluoroethane	171	6.0	"	155		110	65-135			
Allyl chloride	63.2	5.0	"	64.0		98.8	65-135			
Methylene chloride	74.5	5.0	"	70.8		105	65-135			
Carbon disulfide	64.6	5.0	"	63.2		102	65-135			
trans-1,2-Dichloroethene	83.8	5.0	"	80.8		104	65-135			
Methyl tert-butyl ether	77.5	5.0	"	73.6		105	65-135			
Vinyl acetate	83.0	5.0	"	72.0		115	65-135			
1,1-Dichloroethane	85.4	5.0	"	82.4		104	65-135			
2-Butanone	63.7	5.0	"	60.0		106	65-135			
n-Hexane	69.8	5.0	"	72.0		96.9	65-135			
cis-1,2-Dichloroethene	83.7	5.0	"	80.0		105	65-135			
Ethyl acetate	77.3	5.0	"	73.6		105	65-135			
Chloroform	111	5.0	"	99.2		112	65-135			
Tetrahydrofuran	59.4	5.0	"	60.0		99.0	65-135			
1,1,1-Trichloroethane	125	5.0	"	111		113	65-135			
1,2-Dichloroethane	89.8	5.0	"	82.4		109	65-135			
Benzene	65.9	5.0	"	64.8		102	65-135			
Carbon tetrachloride	145	5.5	"	128		113	65-135			
Cyclohexane	67.6	5.0	"	70.4		96.0	65-135			
2,2,4-Trimethylpentane	93.0	5.0	"	95.2		97.7	65-135			
n-Heptane	82.4	5.0	"	83.6		98.6	65-135			
Trichloroethene	116	5.0	"	110		105	65-135			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61803 - TO-15										
LCS (ED61803-BS1)				Prepared & Analyzed: 17-Apr-06						
1,2-Dichloropropane	91.8	5.0	ug/m³ Air	94.4		97.2	65-135			
1,4-Dioxane	73.8	5.5	"	73.6		100	65-135			
Bromodichloromethane	145	5.0	"	137		106	65-135			
cis-1,3-Dichloropropene	92.2	5.0	"	92.4		99.8	65-135			
4-Methyl-2-pentanone	85.2	5.0	"	83.2		102	65-135			
trans-1,3-Dichloropropene	95.4	5.0	"	92.4		103	65-135			
Toluene	79.0	5.0	"	76.8		103	65-135			
1,1,2-Trichloroethane	116	5.0	"	111		105	65-135			
2-Hexanone	86.0	5.0	"	83.2		103	65-135			
Dibromochloromethane	187	6.5	"	174		107	65-135			
Tetrachloroethene	145	5.0	"	138		105	65-135			
1,2-Dibromoethane (EDB)	163	5.0	"	157		104	65-135			
Chlorobenzene	97.7	5.0	"	93.6		104	65-135			
Ethylbenzene	91.2	5.0	"	88.4		103	65-135			
m,p-Xylene	94.3	5.0	"	88.4		107	65-135			
Styrene	88.7	5.0	"	86.8		102	65-135			
o-Xylene	92.7	5.0	"	88.4		105	65-135			
Bromoform	960	5.0	"	840		114	65-135			
1,1,2,2-Tetrachloroethane	131	6.0	"	140		93.6	65-135			
4-Ethyltoluene	108	5.0	"	100		108	65-135			
1,3,5-Trimethylbenzene	99.6	5.0	"	100		99.6	65-135			
1,2,4-Trimethylbenzene	97.5	5.0	"	100		97.5	65-135			
1,3-Dichlorobenzene	116	10	"	122		95.1	65-135			
Benzyl chloride	120	10	"	105		114	65-135			
1,4-Dichlorobenzene	118	10	"	122		96.7	65-135			
1,2-Dichlorobenzene	109	10	"	122		89.3	65-135			
1,2,4-Trichlorobenzene	99.2	20	"	151		65.7	65-135			
Hexachlorobutadiene	152	11	"	218		69.7	65-135			
Surrogate: 1,2-Dichloroethane-d4	*108*		*"*	*103*		*105*	*80-120*			
Surrogate: Toluene-d8	*93.4*		*"*	*96.2*		*97.1*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*187*		*"*	*182*		*103*	*80-120*			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ041106-10 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Notes and Definitions

QL-1L	The LCS and/or LCSD recoveries fell below the established control specifications for this analyte. Any result for this compound is qualified and should be considered an estimate only.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

MOBILE GEOCHEMISTRY

H&P

Chain of Custody Record

☐ 148 S. Vinewood St., Escondido, CA 92029 • ph 760.735.3208 • fax 760.735.2469
☐ 432 N. Cedros Ave., Solana Beach, CA 92075 • ph 858.793.0401 • fax 858.793.0404
☐ 3825 Industry Avenue, Lakewood, CA 90712 • ph 562.426.6991 • fax 562.426.6995

060262003

Date: 4/6/06

H&P Project # KJ0411D6-10

~~Outside~~ Lab:

Client: Kennedy/Jenks Consultants

Address: 711 Third Ave., Suite 790
Seattle, WA 98104

Phone: 206-447-8246 Fax: 206-652-4927

Collector: Dave Falkenbush

Client Project # 06916021*16

Location: Livingston, MT

Turnaround time: Standard

Page: 1 Of 2

Project Manager Sherri Peterson

Global ID:

EDF: Yes / No

Analyze only for vinyl chloride, TCE, PCE, cis-DCE, trans-DCE.
8260/TO-15 per Blayne and John Norris of KJ

Sample Receipt
Intact: ☐ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☐ N/A
Cold: ☐ Yes ☐ No
N/A (Received on Site)

	Sample Name	~~Field Point Name~~ canister #	Depth	Time	Date	Sample Type	Container Type	TPH gasoline / diesel	TPH extended	8021 for BTEX/MTBE	8021 for Halogenated compounds	418.1 TRPH	8260B BTEX / Oxygenates	8260B Oxygenates	8260B VOC's	8260B VOC's and Oxygenates	Methane	Fixed Gases						Total # of containers
1	06-SG-108-1	MC120	sub slab	1006	4/6/06	vapor	Summa								X									1
2	06-SG-108-2	MC029	"	1019											X									1
3	06-SG-108-3	CEL082	"	1026											X									1
4	06-SG-NE-2-1	MC012	"	1128											X									1
5	06-SG-NE-2-2	CEL078	"	1142											X									1
6	06-SG-NE-2-3	CEL070	"	1149											X									1
7	06-SG-78-1	CEL081	"	1537											X									1
8	06-SG-78-2	CEL076	"	1548											X									1
9	DI-SG-04-06-06	CEL092	"	1552											X									1
10	06-GF-NE-1-2	CEL099	"	1218	4/6/06										X									1
11	06-GF-SE-5-2	MC125	"	1405											X									1
12	06-GF-167-1	MC052	"	1717											X									1
13	Trip Blank	MS008		—											X									1

Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Sherri L. Peterson	Kennedy/Jenks	Dave Balch	H&P	4/7/06	1330
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ *Disposal @ $2.00 each* ☐ *Return to client* ☐ *Pickup*

MOBILE GEOCHEMISTRY

H&P

Chain of Custody Record

☐ 148 S. Vinewood St., Escondido, CA 92029 • ph 760.735.3208 • fax 760.735.2469
☒ 432 N. Cedros Ave., Solana Beach, CA 92075 • ph 858.793.0401 • fax 858.793.0404
☐ 3825 Industry Avenue, Lakewood, CA 90712 • ph 562.426.6991 • fax 562.426.6995

000262.03

Date: 4/8/06

H&P Project # KJH1106-10

~~Outside~~ E&C Lab:

Client: Kennedy / Jenks Consultants

Address: 711 Third Ave Suite 790
Seattle, WA 98104

Phone: 206-447-8246 Fax: 206-652-4927

Collector: Dave Balkenbush

Client Project # 0696021*16

Location: Livingston, MT

Turn around time: Normal

Page: 2 of 2

Project Manager: Sherri Peterson

Global ID: EDF: Yes / No

Analyze for Vinyl Chloride, TCE, PCE, Cis-DCE, Trans-DCE
8260/70-15 per Blayne & John Nuttis of KJ

Sample Receipt
Intact: ☒ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☒ N/A
Cold: ☐ Yes ☐ No
N/A (Received on Site)

	Sample Name	~~Field Point Name~~ Canister #	Depth	Time	Date	Sample Type	Container Type	TPH gasoline / diesel	TPH extended	8021 for BTEX/MTBE	8021 for Halogenated compounds	418.1 TRPH	8260B: BTEX / Oxygenates	8260B: Oxygenates	8260B: VOC's	8260B: VOC's and Oxygenates	Methane	Fixed Gases						Total # of containers
10	06-SG-SE-2-1	CEL061	Sub Slab	0903	4/7/06	Vapor	Summa								X									1
50	06-SG-99-1	MC-021	Sub Slab	1210											X									1
60	06-GF-NE-5-1 •	CEL095	Flux	1033											X									1
70	06-GF-167-2 •	MC045	Flux	1620											X									1
80	06-GF-NE-4-1 •	MS006	Flux	1713											X									1
150	06-GF-SE-1-1 •	MC110	Flux	1744											X									1
200	06-GF-NE-5-2 •	M108	Flux	1010	4/8/06	Vapor	Summa								X									1
210	D1-GF-04-08-06 •	MC101	Flux	1014											X									1
220	06-GF-NE-4-2 •	CEL072	Flux	1710											X									1
230	06-GF-SE-1-2 •	MC041	Flux	1730											X									1
240	Equipment Blank •	M130	-	1035											X									1
250	Trip Blank •	CEL065	-	-											X									1

Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date	Time
K.J.		Dave Balk	H&P	4/8/06	1730
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ *Disposal @ $2.00 each* ☐ *Return to client* ☐ *Pickup*

MOBILE GEOCHEMISTRY

H&P

May 1, 2006

Ms. Sherri Peterson
Kennedy/Jenks Consultants
711 Third Avenue, Suite 790
Seattle, WA 98104

SUBJECT: DATA REPORT – LIVINGSTON, MT - KENNEDY/JENKS CONSULTANTS PROJECT #0696021*16

H&P Project # KJ040706-12

Ms. Peterson:

Please find enclosed a data report for the above referenced location. Vapor samples were analyzed in H&P's TO-15 laboratory.

Project Summary

The following analyses were conducted:

- 13 vapors for volatile organic compounds by EPA Method TO-15

The samples were received in appropriate containers with appropriate labels, seals, and chain-of-custody documentation.

Project Narrative

The results for all analyses and required QA/QC analyses are summarized in the enclosed tables. All calibrations, blanks, surrogates, and spike recoveries fulfill quality control criteria.

H&P Mobile GeoChemistry appreciates the opportunity to provide analytical services to Kennedy/Jenks Consultants on this project. If you have any questions relating to this data or report, please do not hesitate to contact us.

Sincerely,

Dr. Blayne Hartman

2470 Impala Drive, Carlsbad, California 92010 | 760.804.9678 — Fax 760.804.9159
3825 Industry Avenue, Lakewood, California 90712 | 562.426.6991 — Fax 562.426.6995
www.HandPmg.com | 1-800-834-9888

MOBILE GEOCHEMISTRY H&P

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
06-SG-142-1	E604036-01	Vapor	05-Apr-06	06-Apr-06
06-SG-142-2	E604036-02	Vapor	05-Apr-06	06-Apr-06
06-SG-142-3	E604036-03	Vapor	05-Apr-06	06-Apr-06
06-SG-LS-1	E604036-04	Vapor	05-Apr-06	06-Apr-06
06-SG-LS-2	E604036-05	Vapor	05-Apr-06	06-Apr-06
06-SG-LS-3	E604036-06	Vapor	05-Apr-06	06-Apr-06
06-SG-ES-1	E604036-07	Vapor	05-Apr-06	06-Apr-06
06-SG-ES-2	E604036-08	Vapor	05-Apr-06	06-Apr-06
06-SG-ES-3	E604036-09	Vapor	05-Apr-06	06-Apr-06
D1-SG-04-05-06	E604036-10	Vapor	05-Apr-06	06-Apr-06
06-GF-NE-1-1	E604036-11	Vapor	05-Apr-06	06-Apr-06
06-GF-SE-5-1	E604036-12	Vapor	05-Apr-06	06-Apr-06
TRIPBLANK	E604036-13	Vapor	05-Apr-06	06-Apr-06

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-142-1 (E604036-01) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61104	11-Apr-06	11-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	71	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	360	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	9.3	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	55	5.0	"	"	"	"	"	"	
n-Hexane	37	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	310	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	22000	5.0	"	"	"	"	"	"	E
Benzene	11	5.0	"	"	"	"	"	"	
Carbon tetrachloride	850	5.5	"	"	"	"	"	"	
Cyclohexane	31	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	25	5.0	"	"	"	"	"	"	
Trichloroethene	13	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-142-1 (E604036-01) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	29	5.0	ug/m³ Air	1	ED61104	11-Apr-06	11-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	13	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	130	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	19	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	510	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	190	5.0	"	"	"	"	"	"	
m,p-Xylene	370	5.0	"	"	"	"	"	"	
Styrene	17	5.0	"	"	"	"	"	"	
o-Xylene	370	5.0	"	"	"	"	"	"	
Bromoform	8.2	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	7.9	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	18	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	18	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*83.9 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*96.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-142-2 (E604036-02) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61406	12-Apr-06	12-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	51	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	8.4	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	160	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	6.2	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	20	5.0	"	"	"	"	"	"	
n-Hexane	38	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	160	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	9600	5.0	"	"	"	"	"	"	E
Benzene	27	5.0	"	"	"	"	"	"	
Carbon tetrachloride	590	5.5	"	"	"	"	"	"	
Cyclohexane	40	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	6.2	5.0	"	"	"	"	"	"	
n-Heptane	24	5.0	"	"	"	"	"	"	
Trichloroethene	7.2	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	9.0	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-142-2 (E604036-02) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	8.5	5.0	ug/m³ Air	1	ED61406	12-Apr-06	12-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	70	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	17	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	16	5.0	"	"	"	"	"	"	
m,p-Xylene	32	5.0	"	"	"	"	"	"	
Styrene	7.6	5.0	"	"	"	"	"	"	
o-Xylene	24	5.0	"	"	"	"	"	"	
Bromoform	7.7	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	6.7	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	13	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	39	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*94.9 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	

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H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-142-3 (E604036-03) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61406	12-Apr-06	12-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	57	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	460	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	10	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	50	5.0	"	"	"	"	"	"	
n-Hexane	26	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	340	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	23000	5.0	"	"	"	"	"	"	E
Benzene	13	5.0	"	"	"	"	"	"	
Carbon tetrachloride	820	5.5	"	"	"	"	"	"	
Cyclohexane	41	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	7.4	5.0	"	"	"	"	"	"	
n-Heptane	21	5.0	"	"	"	"	"	"	
Trichloroethene	18	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-142-3 (E604036-03) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	33	5.0	ug/m³ Air	1	ED61406	12-Apr-06	12-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	8.7	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	84	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	24	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	480	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	17	5.0	"	"	"	"	"	"	
m,p-Xylene	34	5.0	"	"	"	"	"	"	
Styrene	7.3	5.0	"	"	"	"	"	"	
o-Xylene	25	5.0	"	"	"	"	"	"	
Bromoform	7.9	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	6.0	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	10	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	36	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*84.1 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*80-120*		"	"	"	"	

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Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-LS-1 (E604036-04) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61406	12-Apr-06	12-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	320	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	5.3	5.0	"	"	"	"	"	"	
n-Hexane	11	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	810	5.0	"	"	"	"	"	"	
Benzene	16	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	47	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	8.2	5.0	"	"	"	"	"	"	
n-Heptane	11	5.0	"	"	"	"	"	"	
Trichloroethene	110	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-LS-1 (E604036-04) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61406	12-Apr-06	12-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	5.2	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	66	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	41	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	10	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	20	5.0	"	"	"	"	"	"	
m,p-Xylene	45	5.0	"	"	"	"	"	"	
Styrene	7.4	5.0	"	"	"	"	"	"	
o-Xylene	36	5.0	"	"	"	"	"	"	
Bromoform	7.9	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	8.5	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	15	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	53	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*100 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*99.6 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-LS-2 (E604036-05) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	250	ug/m³ Air	25	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	140	"	"	"	"	"	"	
Chloromethane	ND	120	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	140	"	"	"	"	"	"	
Vinyl chloride	ND	120	"	"	"	"	"	"	
1,3-Butadiene	ND	120	"	"	"	"	"	"	
Bromomethane	ND	120	"	"	"	"	"	"	
Chloroethane	ND	120	"	"	"	"	"	"	
Bromoethene	ND	120	"	"	"	"	"	"	
Trichlorofluoromethane	ND	120	"	"	"	"	"	"	
Acetone	720	500	"	"	"	"	"	"	
1,1-Dichloroethene	ND	120	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	150	"	"	"	"	"	"	
Allyl chloride	ND	120	"	"	"	"	"	"	
Methylene chloride	ND	120	"	"	"	"	"	"	
Carbon disulfide	ND	120	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	120	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	120	"	"	"	"	"	"	
Vinyl acetate	ND	120	"	"	"	"	"	"	
1,1-Dichloroethane	ND	120	"	"	"	"	"	"	
2-Butanone	ND	120	"	"	"	"	"	"	
n-Hexane	ND	120	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	120	"	"	"	"	"	"	
Ethyl acetate	ND	120	"	"	"	"	"	"	
Chloroform	ND	120	"	"	"	"	"	"	
Tetrahydrofuran	ND	120	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	120	"	"	"	"	"	"	
1,2-Dichloroethane	200	120	"	"	"	"	"	"	
Benzene	ND	120	"	"	"	"	"	"	
Carbon tetrachloride	ND	140	"	"	"	"	"	"	
Cyclohexane	180	120	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	120	"	"	"	"	"	"	
n-Heptane	ND	120	"	"	"	"	"	"	
Trichloroethene	ND	120	"	"	"	"	"	"	
1,2-Dichloropropane	ND	120	"	"	"	"	"	"	
1,4-Dioxane	ND	140	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-LS-2 (E604036-05) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	ND	120	ug/m³ Air	25	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	120	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	120	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	120	"	"	"	"	"	"	
Toluene	180	120	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	120	"	"	"	"	"	"	
2-Hexanone	ND	120	"	"	"	"	"	"	
Dibromochloromethane	ND	160	"	"	"	"	"	"	
Tetrachloroethene	8800	120	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	120	"	"	"	"	"	"	
Chlorobenzene	ND	120	"	"	"	"	"	"	
Ethylbenzene	ND	120	"	"	"	"	"	"	
m,p-Xylene	ND	120	"	"	"	"	"	"	
Styrene	ND	120	"	"	"	"	"	"	
o-Xylene	ND	120	"	"	"	"	"	"	
Bromoform	ND	120	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	150	"	"	"	"	"	"	
4-Ethyltoluene	ND	120	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	120	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	130	120	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	250	"	"	"	"	"	"	
Benzyl chloride	ND	250	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	250	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	250	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	280	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*105 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*99.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

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H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-LS-3 (E604036-06) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	1000	ug/m³ Air	100	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	550	"	"	"	"	"	"	
Chloromethane	ND	500	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	550	"	"	"	"	"	"	
Vinyl chloride	ND	500	"	"	"	"	"	"	
1,3-Butadiene	ND	500	"	"	"	"	"	"	
Bromomethane	ND	500	"	"	"	"	"	"	
Chloroethane	ND	500	"	"	"	"	"	"	
Bromoethene	ND	500	"	"	"	"	"	"	
Trichlorofluoromethane	ND	500	"	"	"	"	"	"	
Acetone	2600	2000	"	"	"	"	"	"	
1,1-Dichloroethene	ND	500	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	600	"	"	"	"	"	"	
Allyl chloride	ND	500	"	"	"	"	"	"	
Methylene chloride	ND	500	"	"	"	"	"	"	
Carbon disulfide	ND	500	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	500	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	500	"	"	"	"	"	"	
Vinyl acetate	ND	500	"	"	"	"	"	"	
1,1-Dichloroethane	ND	500	"	"	"	"	"	"	
2-Butanone	ND	500	"	"	"	"	"	"	
n-Hexane	ND	500	"	"	"	"	"	"	
cis-1,2-Dichloroethene	760	500	"	"	"	"	"	"	
Ethyl acetate	ND	500	"	"	"	"	"	"	
Chloroform	ND	500	"	"	"	"	"	"	
Tetrahydrofuran	ND	500	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	500	"	"	"	"	"	"	
1,2-Dichloroethane	530	500	"	"	"	"	"	"	
Benzene	ND	500	"	"	"	"	"	"	
Carbon tetrachloride	ND	550	"	"	"	"	"	"	
Cyclohexane	800	500	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	500	"	"	"	"	"	"	
n-Heptane	ND	500	"	"	"	"	"	"	
Trichloroethene	23000	500	"	"	"	"	"	"	
1,2-Dichloropropane	ND	500	"	"	"	"	"	"	
1,4-Dioxane	ND	550	"	"	"	"	"	"	

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H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-LS-3 (E604036-06) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	ND	500	ug/m³ Air	100	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	500	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	500	"	"	"	"	"	"	
Toluene	5400	500	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	500	"	"	"	"	"	"	
2-Hexanone	ND	500	"	"	"	"	"	"	
Dibromochloromethane	ND	650	"	"	"	"	"	"	
Tetrachloroethene	310000	2500	"	500	"	"	17-Apr-06	"	
1,2-Dibromoethane (EDB)	ND	500	"	100	"	"	13-Apr-06	"	
Chlorobenzene	ND	500	"	"	"	"	"	"	
Ethylbenzene	850	500	"	"	"	"	"	"	
m,p-Xylene	1700	500	"	"	"	"	"	"	
Styrene	ND	500	"	"	"	"	"	"	
o-Xylene	1500	500	"	"	"	"	"	"	
Bromoform	ND	500	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	600	"	"	"	"	"	"	
4-Ethyltoluene	910	500	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	660	500	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	2400	500	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	1000	"	"	"	"	"	"	
Benzyl chloride	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	1000	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	2000	"	"	"	"	"	"	
Hexachlorobutadiene	ND	1100	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*98.9 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*100 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-ES-1 (E604036-07) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	500	ug/m³ Air	50	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	280	"	"	"	"	"	"	
Chloromethane	ND	250	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	280	"	"	"	"	"	"	
Vinyl chloride	ND	250	"	"	"	"	"	"	
1,3-Butadiene	ND	250	"	"	"	"	"	"	
Bromomethane	ND	250	"	"	"	"	"	"	
Chloroethane	ND	250	"	"	"	"	"	"	
Bromoethene	ND	250	"	"	"	"	"	"	
Trichlorofluoromethane	ND	250	"	"	"	"	"	"	
Acetone	ND	1000	"	"	"	"	"	"	
1,1-Dichloroethene	ND	250	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	300	"	"	"	"	"	"	
Allyl chloride	ND	250	"	"	"	"	"	"	
Methylene chloride	ND	250	"	"	"	"	"	"	
Carbon disulfide	ND	250	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	250	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	250	"	"	"	"	"	"	
Vinyl acetate	ND	250	"	"	"	"	"	"	
1,1-Dichloroethane	ND	250	"	"	"	"	"	"	
2-Butanone	ND	250	"	"	"	"	"	"	
n-Hexane	ND	250	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	250	"	"	"	"	"	"	
Ethyl acetate	ND	250	"	"	"	"	"	"	
Chloroform	ND	250	"	"	"	"	"	"	
Tetrahydrofuran	ND	250	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	250	"	"	"	"	"	"	
1,2-Dichloroethane	270	250	"	"	"	"	"	"	
Benzene	ND	250	"	"	"	"	"	"	
Carbon tetrachloride	ND	280	"	"	"	"	"	"	
Cyclohexane	320	250	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	250	"	"	"	"	"	"	
n-Heptane	ND	250	"	"	"	"	"	"	
Trichloroethene	4600	250	"	"	"	"	"	"	
1,2-Dichloropropane	ND	250	"	"	"	"	"	"	
1,4-Dioxane	ND	280	"	"	"	"	"	"	

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H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-ES-1 (E604036-07) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	ND	250	ug/m³ Air	50	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	250	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	250	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	250	"	"	"	"	"	"	
Toluene	290	250	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	250	"	"	"	"	"	"	
2-Hexanone	ND	250	"	"	"	"	"	"	
Dibromochloromethane	ND	320	"	"	"	"	"	"	
Tetrachloroethene	72000	250	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	250	"	"	"	"	"	"	
Chlorobenzene	ND	250	"	"	"	"	"	"	
Ethylbenzene	ND	250	"	"	"	"	"	"	
m,p-Xylene	ND	250	"	"	"	"	"	"	
Styrene	ND	250	"	"	"	"	"	"	
o-Xylene	ND	250	"	"	"	"	"	"	
Bromoform	ND	250	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	300	"	"	"	"	"	"	
4-Ethyltoluene	ND	250	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	250	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	250	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
Benzyl chloride	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
Hexachlorobutadiene	ND	550	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*97.8 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-ES-2 (E604036-08) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	100	ug/m³ Air	10	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	55	"	"	"	"	"	"	
Chloromethane	ND	50	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	55	"	"	"	"	"	"	
Vinyl chloride	ND	50	"	"	"	"	"	"	
1,3-Butadiene	ND	50	"	"	"	"	"	"	
Bromomethane	ND	50	"	"	"	"	"	"	
Chloroethane	ND	50	"	"	"	"	"	"	
Bromoethene	ND	50	"	"	"	"	"	"	
Trichlorofluoromethane	54	50	"	"	"	"	"	"	
Acetone	1100	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	50	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	60	"	"	"	"	"	"	
Allyl chloride	ND	50	"	"	"	"	"	"	
Methylene chloride	ND	50	"	"	"	"	"	"	
Carbon disulfide	ND	50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	50	"	"	"	"	"	"	
Vinyl acetate	ND	50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	50	"	"	"	"	"	"	
2-Butanone	72	50	"	"	"	"	"	"	
n-Hexane	76	50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	50	"	"	"	"	"	"	
Ethyl acetate	ND	50	"	"	"	"	"	"	
Chloroform	ND	50	"	"	"	"	"	"	
Tetrahydrofuran	ND	50	"	"	"	"	"	"	
1,1,1-Trichloroethane	260	50	"	"	"	"	"	"	
1,2-Dichloroethane	1300	50	"	"	"	"	"	"	
Benzene	ND	50	"	"	"	"	"	"	
Carbon tetrachloride	ND	55	"	"	"	"	"	"	
Cyclohexane	170	50	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	50	"	"	"	"	"	"	
n-Heptane	ND	50	"	"	"	"	"	"	
Trichloroethene	2900	50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	50	"	"	"	"	"	"	
1,4-Dioxane	ND	55	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-ES-2 (E604036-08) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	ND	50	ug/m³ Air	10	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	50	"	"	"	"	"	"	
Toluene	300	50	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	50	"	"	"	"	"	"	
2-Hexanone	ND	50	"	"	"	"	"	"	
Dibromochloromethane	ND	65	"	"	"	"	"	"	
Tetrachloroethene	41000	250	"	50	"	"	17-Apr-06	"	
1,2-Dibromoethane (EDB)	ND	50	"	10	"	"	13-Apr-06	"	
Chlorobenzene	ND	50	"	"	"	"	"	"	
Ethylbenzene	96	50	"	"	"	"	"	"	
m,p-Xylene	210	50	"	"	"	"	"	"	
Styrene	ND	50	"	"	"	"	"	"	
o-Xylene	170	50	"	"	"	"	"	"	
Bromoform	ND	50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	60	"	"	"	"	"	"	
4-Ethyltoluene	100	50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	63	50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	270	50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
Benzyl chloride	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	110	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*106 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*98.6 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.5 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-ES-3 (E604036-09) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	500	ug/m³ Air	50	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	280	"	"	"	"	"	"	
Chloromethane	ND	250	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	280	"	"	"	"	"	"	
Vinyl chloride	ND	250	"	"	"	"	"	"	
1,3-Butadiene	ND	250	"	"	"	"	"	"	
Bromomethane	ND	250	"	"	"	"	"	"	
Chloroethane	ND	250	"	"	"	"	"	"	
Bromoethene	ND	250	"	"	"	"	"	"	
Trichlorofluoromethane	ND	250	"	"	"	"	"	"	
Acetone	ND	1000	"	"	"	"	"	"	
1,1-Dichloroethene	ND	250	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	300	"	"	"	"	"	"	
Allyl chloride	ND	250	"	"	"	"	"	"	
Methylene chloride	ND	250	"	"	"	"	"	"	
Carbon disulfide	ND	250	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	250	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	250	"	"	"	"	"	"	
Vinyl acetate	ND	250	"	"	"	"	"	"	
1,1-Dichloroethane	ND	250	"	"	"	"	"	"	
2-Butanone	ND	250	"	"	"	"	"	"	
n-Hexane	ND	250	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	250	"	"	"	"	"	"	
Ethyl acetate	ND	250	"	"	"	"	"	"	
Chloroform	ND	250	"	"	"	"	"	"	
Tetrahydrofuran	ND	250	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	250	"	"	"	"	"	"	
1,2-Dichloroethane	ND	250	"	"	"	"	"	"	
Benzene	ND	250	"	"	"	"	"	"	
Carbon tetrachloride	ND	280	"	"	"	"	"	"	
Cyclohexane	ND	250	"	"	"	"	"	"	
2,2,4-Trimethylpentane	320	250	"	"	"	"	"	"	
n-Heptane	ND	250	"	"	"	"	"	"	
Trichloroethene	730	250	"	"	"	"	"	"	
1,2-Dichloropropane	ND	250	"	"	"	"	"	"	
1,4-Dioxane	ND	280	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-SG-ES-3 (E604036-09) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	ND	250	ug/m³ Air	50	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	250	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	250	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	250	"	"	"	"	"	"	
Toluene	720	250	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	250	"	"	"	"	"	"	
2-Hexanone	ND	250	"	"	"	"	"	"	
Dibromochloromethane	ND	320	"	"	"	"	"	"	
Tetrachloroethene	46000	250	"	"	"	"	"	"	B
1,2-Dibromoethane (EDB)	ND	250	"	"	"	"	"	"	
Chlorobenzene	ND	250	"	"	"	"	"	"	
Ethylbenzene	ND	250	"	"	"	"	"	"	
m,p-Xylene	290	250	"	"	"	"	"	"	
Styrene	ND	250	"	"	"	"	"	"	
o-Xylene	ND	250	"	"	"	"	"	"	
Bromoform	270	250	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	300	"	"	"	"	"	"	
4-Ethyltoluene	ND	250	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	250	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	300	250	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	500	"	"	"	"	"	"	
Benzyl chloride	ND	500	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	500	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	1000	"	"	"	"	"	"	
Hexachlorobutadiene	ND	550	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*101 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.4 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.7 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
D1-SG-04-05-06 (E604036-10) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61407	13-Apr-06	13-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	180	100	ug/m³ Air	10	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	55	"	"	"	"	"	"	
Chloromethane	ND	50	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	55	"	"	"	"	"	"	
Vinyl chloride	ND	50	"	"	"	"	"	"	
1,3-Butadiene	ND	50	"	"	"	"	"	"	
Bromomethane	ND	50	"	"	"	"	"	"	
Chloroethane	ND	50	"	"	"	"	"	"	
Bromoethene	ND	50	"	"	"	"	"	"	
Trichlorofluoromethane	54	50	"	"	"	"	"	"	
Acetone	650	200	"	"	"	"	"	"	
1,1-Dichloroethene	ND	50	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	68	60	"	"	"	"	"	"	
Allyl chloride	ND	50	"	"	"	"	"	"	
Methylene chloride	ND	50	"	"	"	"	"	"	
Carbon disulfide	ND	50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	50	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	50	"	"	"	"	"	"	
Vinyl acetate	ND	50	"	"	"	"	"	"	
1,1-Dichloroethane	ND	50	"	"	"	"	"	"	
2-Butanone	56	50	"	"	"	"	"	"	
n-Hexane	54	50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	50	"	"	"	"	"	"	
Ethyl acetate	ND	50	"	"	"	"	"	"	
Chloroform	ND	50	"	"	"	"	"	"	
Tetrahydrofuran	ND	50	"	"	"	"	"	"	
1,1,1-Trichloroethane	260	50	"	"	"	"	"	"	
1,2-Dichloroethane	410	50	"	"	"	"	"	"	
Benzene	ND	50	"	"	"	"	"	"	
Carbon tetrachloride	ND	55	"	"	"	"	"	"	
Cyclohexane	130	50	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	50	"	"	"	"	"	"	
n-Heptane	ND	50	"	"	"	"	"	"	
Trichloroethene	3200	50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	50	"	"	"	"	"	"	
1,4-Dioxane	ND	55	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
D1-SG-04-05-06 (E604036-10) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	ND	50	ug/m³ Air	10	ED61407	13-Apr-06	13-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	50	"	"	"	"	"	"	
Toluene	190	50	"	"	"	"	"	"	B
1,1,2-Trichloroethane	ND	50	"	"	"	"	"	"	
2-Hexanone	ND	50	"	"	"	"	"	"	
Dibromochloromethane	ND	65	"	"	"	"	"	"	
Tetrachloroethene	47000	50	"	"	"	"	"	"	E
1,2-Dibromoethane (EDB)	ND	50	"	"	"	"	"	"	
Chlorobenzene	ND	50	"	"	"	"	"	"	
Ethylbenzene	70	50	"	"	"	"	"	"	
m,p-Xylene	160	50	"	"	"	"	"	"	
Styrene	ND	50	"	"	"	"	"	"	
o-Xylene	130	50	"	"	"	"	"	"	
Bromoform	62	50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	60	"	"	"	"	"	"	
4-Ethyltoluene	96	50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	60	50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	260	50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	100	"	"	"	"	"	"	
Benzyl chloride	ND	100	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	100	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	200	"	"	"	"	"	"	
Hexachlorobutadiene	ND	110	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*102 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*100 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*98.4 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-1-1 (E604036-11) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61104	11-Apr-06	11-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	ND	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	6.3	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	ND	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-NE-1-1 (E604036-11) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61104	11-Apr-06	11-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	7.0	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	5.4	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*95.6 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*99.3 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-SE-5-1 (E604036-12) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
1,1-Difluoroethane (LCC)	ND	10	ug/l	1	ED61104	11-Apr-06	11-Apr-06	EPA TO-15 Soil Gas Analysis	
Propene	ND	10	ug/m³ Air	"	"	"	"	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	39	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	ND	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
06-GF-SE-5-1 (E604036-12) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Bromodichloromethane	ND	5.0	ug/m³ Air	1	ED61104	11-Apr-06	11-Apr-06	EPA TO-15	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	5.0	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	6.6	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*98.1 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*97.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.5 %*	*80-120*		"	"	"	"	

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
TRIPBLANK (E604036-13) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
Propene	ND	10	ug/m³ Air	1	ED61104	11-Apr-06	11-Apr-06	EPA TO-15	
Dichlorodifluoromethane	ND	5.5	"	"	"	"	"	"	
Chloromethane	ND	5.0	"	"	"	"	"	"	
Dichlorotetrafluoroethane	ND	5.5	"	"	"	"	"	"	
Vinyl chloride	ND	5.0	"	"	"	"	"	"	
1,3-Butadiene	ND	5.0	"	"	"	"	"	"	
Bromomethane	ND	5.0	"	"	"	"	"	"	
Chloroethane	ND	5.0	"	"	"	"	"	"	
Bromoethene	ND	5.0	"	"	"	"	"	"	
Trichlorofluoromethane	ND	5.0	"	"	"	"	"	"	
Acetone	ND	20	"	"	"	"	"	"	
1,1-Dichloroethene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichlorotrifluoroethane	ND	6.0	"	"	"	"	"	"	
Allyl chloride	ND	5.0	"	"	"	"	"	"	
Methylene chloride	ND	5.0	"	"	"	"	"	"	
Carbon disulfide	ND	5.0	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	5.0	"	"	"	"	"	"	
Vinyl acetate	ND	5.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	5.0	"	"	"	"	"	"	
2-Butanone	ND	5.0	"	"	"	"	"	"	
n-Hexane	ND	5.0	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	5.0	"	"	"	"	"	"	
Ethyl acetate	ND	5.0	"	"	"	"	"	"	
Chloroform	ND	5.0	"	"	"	"	"	"	
Tetrahydrofuran	ND	5.0	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	5.0	"	"	"	"	"	"	
1,2-Dichloroethane	ND	5.0	"	"	"	"	"	"	
Benzene	ND	5.0	"	"	"	"	"	"	
Carbon tetrachloride	ND	5.5	"	"	"	"	"	"	
Cyclohexane	ND	5.0	"	"	"	"	"	"	
2,2,4-Trimethylpentane	ND	5.0	"	"	"	"	"	"	
n-Heptane	ND	5.0	"	"	"	"	"	"	
Trichloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dichloropropane	ND	5.0	"	"	"	"	"	"	
1,4-Dioxane	ND	5.5	"	"	"	"	"	"	
Bromodichloromethane	ND	5.0	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	

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Volatile Organic Compounds by EPA TO-15

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Dilution Factor	Batch	Prepared	Analyzed	Method	Notes
TRIPBLANK (E604036-13) Vapor Sampled: 05-Apr-06 Received: 06-Apr-06									
4-Methyl-2-pentanone	ND	5.0	ug/m³ Air	1	ED61104	11-Apr-06	11-Apr-06	EPA TO-15	
trans-1,3-Dichloropropene	ND	5.0	"	"	"	"	"	"	
Toluene	ND	5.0	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	5.0	"	"	"	"	"	"	
2-Hexanone	ND	5.0	"	"	"	"	"	"	
Dibromochloromethane	ND	6.5	"	"	"	"	"	"	
Tetrachloroethene	ND	5.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	5.0	"	"	"	"	"	"	
Chlorobenzene	ND	5.0	"	"	"	"	"	"	
Ethylbenzene	ND	5.0	"	"	"	"	"	"	
m,p-Xylene	ND	5.0	"	"	"	"	"	"	
Styrene	ND	5.0	"	"	"	"	"	"	
o-Xylene	ND	5.0	"	"	"	"	"	"	
Bromoform	ND	5.0	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	6.0	"	"	"	"	"	"	
4-Ethyltoluene	ND	5.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	5.0	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	10	"	"	"	"	"	"	
Benzyl chloride	ND	10	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	10	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	20	"	"	"	"	"	"	
Hexachlorobutadiene	ND	11	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*99.0 %*	*80-120*		"	"	"	"	
Surrogate: Toluene-d8		*98.1 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*101 %*	*80-120*		"	"	"	"	

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61104 - TO-15										
Blank (ED61104-BLK1)				Prepared & Analyzed: 11-Apr-06						
Propene	ND	10	ug/m³ Air							
Dichlorodifluoromethane	ND	5.5	"							
Chloromethane	ND	5.0	"							
Dichlorotetrafluoroethane	ND	5.5	"							
Vinyl chloride	ND	5.0	"							
1,3-Butadiene	ND	5.0	"							
Bromomethane	ND	5.0	"							
Chloroethane	ND	5.0	"							
Bromoethene	ND	5.0	"							
Trichlorofluoromethane	ND	5.0	"							
Acetone	ND	20	"							
1,1-Dichloroethene	ND	5.0	"							
1,1,2-Trichlorotrifluoroethane	ND	6.0	"							
Allyl chloride	ND	5.0	"							
Methylene chloride	ND	5.0	"							
Carbon disulfide	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
Methyl tert-butyl ether	ND	5.0	"							
Vinyl acetate	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
2-Butanone	ND	5.0	"							
n-Hexane	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
Ethyl acetate	ND	5.0	"							
Chloroform	ND	5.0	"							
Tetrahydrofuran	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
1,2-Dichloroethane	ND	5.0	"							
Benzene	ND	5.0	"							
Carbon tetrachloride	ND	5.5	"							
Cyclohexane	ND	5.0	"							
2,2,4-Trimethylpentane	ND	5.0	"							
n-Heptane	ND	5.0	"							
Trichloroethene	ND	5.0	"							

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61104 - TO-15										
Blank (ED61104-BLK1)				Prepared & Analyzed: 11-Apr-06						
1,2-Dichloropropane	ND	5.0	ug/m³ Air							
1,4-Dioxane	ND	5.5	"							
Bromodichloromethane	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
4-Methyl-2-pentanone	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
Toluene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
2-Hexanone	ND	5.0	"							
Dibromochloromethane	ND	6.5	"							
Tetrachloroethene	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	5.0	"							
Styrene	ND	5.0	"							
o-Xylene	ND	5.0	"							
Bromoform	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	6.0	"							
4-Ethyltoluene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	10	"							
Benzyl chloride	ND	10	"							
1,4-Dichlorobenzene	ND	10	"							
1,2-Dichlorobenzene	ND	10	"							
1,2,4-Trichlorobenzene	ND	20	"							
Hexachlorobutadiene	ND	11	"							
Surrogate: 1,2-Dichloroethane-d4	*102*		*"*	*103*		*99.0*	*80-120*			
Surrogate: Toluene-d8	*95.4*		*"*	*96.2*		*99.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*184*		*"*	*182*		*101*	*80-120*			

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61104 - TO-15										
LCS (ED61104-BS1)				Prepared & Analyzed: 11-Apr-06						
Propene	36.4	10	ug/m³ Air	35.0		104	65-135			
Dichlorodifluoromethane	113	5.5	"	101		112	65-135			
Chloromethane	43.8	5.0	"	42.0		104	65-135			
Dichlorotetrafluoroethane	158	5.5	"	142		111	65-135			
Vinyl chloride	53.6	5.0	"	72.0		74.4	65-135			
1,3-Butadiene	48.3	5.0	"	44.8		108	65-135			
Bromomethane	84.2	5.0	"	79.2		106	65-135			
Chloroethane	57.9	5.0	"	53.6		108	65-135			
Bromoethene	92.7	5.0	"	89.2		104	65-135			
Trichlorofluoromethane	117	5.0	"	113		104	65-135			
Acetone	62.1	20	"	48.4		128	65-135			
1,1-Dichloroethene	84.2	5.0	"	80.8		104	65-135			
1,1,2-Trichlorotrifluoroethane	165	6.0	"	155		106	65-135			
Allyl chloride	65.9	5.0	"	64.0		103	65-135			
Methylene chloride	76.8	5.0	"	70.8		108	65-135			
Carbon disulfide	66.8	5.0	"	63.2		106	65-135			
trans-1,2-Dichloroethene	82.1	5.0	"	80.8		102	65-135			
Methyl tert-butyl ether	79.0	5.0	"	73.6		107	65-135			
Vinyl acetate	85.6	5.0	"	72.0		119	65-135			
1,1-Dichloroethane	86.4	5.0	"	82.4		105	65-135			
2-Butanone	68.6	5.0	"	60.0		114	65-135			
n-Hexane	77.9	5.0	"	72.0		108	65-135			
cis-1,2-Dichloroethene	85.5	5.0	"	80.0		107	65-135			
Ethyl acetate	80.3	5.0	"	73.6		109	65-135			
Chloroform	107	5.0	"	99.2		108	65-135			
Tetrahydrofuran	66.1	5.0	"	60.0		110	65-135			
1,1,1-Trichloroethane	118	5.0	"	111		106	65-135			
1,2-Dichloroethane	85.0	5.0	"	82.4		103	65-135			
Benzene	70.1	5.0	"	64.8		108	65-135			
Carbon tetrachloride	138	5.5	"	128		108	65-135			
Cyclohexane	71.2	5.0	"	70.4		101	65-135			
2,2,4-Trimethylpentane	97.8	5.0	"	95.2		103	65-135			
n-Heptane	87.8	5.0	"	83.6		105	65-135			
Trichloroethene	116	5.0	"	110		105	65-135			

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61104 - TO-15										
LCS (ED61104-BS1)				Prepared & Analyzed: 11-Apr-06						
1,2-Dichloropropane	98.0	5.0	ug/m³ Air	94.4		104	65-135			
1,4-Dioxane	72.4	5.5	"	73.6		98.4	65-135			
Bromodichloromethane	140	5.0	"	137		102	65-135			
cis-1,3-Dichloropropene	94.8	5.0	"	92.4		103	65-135			
4-Methyl-2-pentanone	88.8	5.0	"	83.2		107	65-135			
trans-1,3-Dichloropropene	95.3	5.0	"	92.4		103	65-135			
Toluene	82.6	5.0	"	76.8		108	65-135			
1,1,2-Trichloroethane	121	5.0	"	111		109	65-135			
2-Hexanone	89.0	5.0	"	83.2		107	65-135			
Dibromochloromethane	180	6.5	"	174		103	65-135			
Tetrachloroethene	147	5.0	"	138		107	65-135			
1,2-Dibromoethane (EDB)	164	5.0	"	157		104	65-135			
Chlorobenzene	96.6	5.0	"	93.6		103	65-135			
Ethylbenzene	88.8	5.0	"	88.4		100	65-135			
m,p-Xylene	90.3	5.0	"	88.4		102	65-135			
Styrene	84.9	5.0	"	86.8		97.8	65-135			
o-Xylene	87.3	5.0	"	88.4		98.8	65-135			
Bromoform	885	5.0	"	840		105	65-135			
1,1,2,2-Tetrachloroethane	127	6.0	"	140		90.7	65-135			
4-Ethyltoluene	94.7	5.0	"	100		94.7	65-135			
1,3,5-Trimethylbenzene	86.7	5.0	"	100		86.7	65-135			
1,2,4-Trimethylbenzene	81.6	5.0	"	100		81.6	65-135			
1,3-Dichlorobenzene	98.4	10	"	122		80.7	65-135			
Benzyl chloride	98.6	10	"	105		93.9	65-135			
1,4-Dichlorobenzene	93.7	10	"	122		76.8	65-135			
1,2-Dichlorobenzene	87.4	10	"	122		71.6	65-135			
1,2,4-Trichlorobenzene	47.5	20	"	151		31.5	65-135			QL-1L
Hexachlorobutadiene	63.6	11	"	218		29.2	65-135			QL-1L
Surrogate: 1,2-Dichloroethane-d4	*100*		*"*	*103*		*97.1*	*80-120*			
Surrogate: Toluene-d8	*95.6*		*"*	*96.2*		*99.4*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*182*		*"*	*182*		*100*	*80-120*			

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Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61406 - TO-15										
Blank (ED61406-BLK1)				Prepared & Analyzed: 12-Apr-06						
Propene	ND	10	ug/m³ Air							
Dichlorodifluoromethane	ND	5.5	"							
Chloromethane	ND	5.0	"							
Dichlorotetrafluoroethane	ND	5.5	"							
Vinyl chloride	ND	5.0	"							
1,3-Butadiene	ND	5.0	"							
Bromomethane	ND	5.0	"							
Chloroethane	ND	5.0	"							
Bromoethene	ND	5.0	"							
Trichlorofluoromethane	ND	5.0	"							
Acetone	ND	20	"							
1,1-Dichloroethene	ND	5.0	"							
1,1,2-Trichlorotrifluoroethane	ND	6.0	"							
Allyl chloride	ND	5.0	"							
Methylene chloride	ND	5.0	"							
Carbon disulfide	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
Methyl tert-butyl ether	ND	5.0	"							
Vinyl acetate	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
2-Butanone	ND	5.0	"							
n-Hexane	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
Ethyl acetate	ND	5.0	"							
Chloroform	ND	5.0	"							
Tetrahydrofuran	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
1,2-Dichloroethane	ND	5.0	"							
Benzene	ND	5.0	"							
Carbon tetrachloride	ND	5.5	"							
Cyclohexane	ND	5.0	"							
2,2,4-Trimethylpentane	ND	5.0	"							
n-Heptane	ND	5.0	"							
Trichloroethene	ND	5.0	"							

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61406 - TO-15										
Blank (ED61406-BLK1)				Prepared & Analyzed: 12-Apr-06						
1,2-Dichloropropane	ND	5.0	ug/m³ Air							
1,4-Dioxane	ND	5.5	"							
Bromodichloromethane	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
4-Methyl-2-pentanone	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
Toluene	ND	5.0	"							
1,1,2-Trichloroethane	ND	5.0	"							
2-Hexanone	ND	5.0	"							
Dibromochloromethane	ND	6.5	"							
Tetrachloroethene	ND	5.0	"							
1,2-Dibromoethane (EDB)	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	5.0	"							
Styrene	ND	5.0	"							
o-Xylene	ND	5.0	"							
Bromoform	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	6.0	"							
4-Ethyltoluene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	10	"							
Benzyl chloride	ND	10	"							
1,4-Dichlorobenzene	ND	10	"							
1,2-Dichlorobenzene	ND	10	"							
1,2,4-Trichlorobenzene	ND	20	"							
Hexachlorobutadiene	ND	11	"							
Surrogate: 1,2-Dichloroethane-d4	*101*		*"*	*103*		*98.1*	*80-120*			
Surrogate: Toluene-d8	*94.1*		*"*	*96.2*		*97.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*180*		*"*	*182*		*98.9*	*80-120*			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61406 - TO-15										
LCS (ED61406-BS1)				Prepared & Analyzed: 12-Apr-06						
Propene	35.1	10	ug/m³ Air	35.0		100	65-135			
Dichlorodifluoromethane	117	5.5	"	101		116	65-135			
Chloromethane	45.5	5.0	"	42.0		108	65-135			
Dichlorotetrafluoroethane	164	5.5	"	142		115	65-135			
Vinyl chloride	55.9	5.0	"	72.0		77.6	65-135			
1,3-Butadiene	50.8	5.0	"	44.8		113	65-135			
Bromomethane	86.4	5.0	"	79.2		109	65-135			
Chloroethane	57.8	5.0	"	53.6		108	65-135			
Bromoethene	96.2	5.0	"	89.2		108	65-135			
Trichlorofluoromethane	121	5.0	"	113		107	65-135			
Acetone	56.4	20	"	48.4		117	65-135			
1,1-Dichloroethene	87.4	5.0	"	80.8		108	65-135			
1,1,2-Trichlorotrifluoroethane	185	6.0	"	155		119	65-135			
Allyl chloride	68.3	5.0	"	64.0		107	65-135			
Methylene chloride	81.6	5.0	"	70.8		115	65-135			
Carbon disulfide	68.8	5.0	"	63.2		109	65-135			
trans-1,2-Dichloroethene	88.8	5.0	"	80.8		110	65-135			
Methyl tert-butyl ether	80.5	5.0	"	73.6		109	65-135			
Vinyl acetate	86.5	5.0	"	72.0		120	65-135			
1,1-Dichloroethane	92.2	5.0	"	82.4		112	65-135			
2-Butanone	69.5	5.0	"	60.0		116	65-135			
n-Hexane	78.3	5.0	"	72.0		109	65-135			
cis-1,2-Dichloroethene	87.9	5.0	"	80.0		110	65-135			
Ethyl acetate	83.8	5.0	"	73.6		114	65-135			
Chloroform	111	5.0	"	99.2		112	65-135			
Tetrahydrofuran	67.9	5.0	"	60.0		113	65-135			
1,1,1-Trichloroethane	127	5.0	"	111		114	65-135			
1,2-Dichloroethane	92.8	5.0	"	82.4		113	65-135			
Benzene	70.8	5.0	"	64.8		109	65-135			
Carbon tetrachloride	146	5.5	"	128		114	65-135			
Cyclohexane	72.9	5.0	"	70.4		104	65-135			
2,2,4-Trimethylpentane	104	5.0	"	95.2		109	65-135			
n-Heptane	90.7	5.0	"	83.6		108	65-135			
Trichloroethene	123	5.0	"	110		112	65-135			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61406 - TO-15										
LCS (ED61406-BS1)				Prepared & Analyzed: 12-Apr-06						
1,2-Dichloropropane	101	5.0	ug/m³ Air	94.4		107	65-135			
1,4-Dioxane	81.6	5.5	"	73.6		111	65-135			
Bromodichloromethane	152	5.0	"	137		111	65-135			
cis-1,3-Dichloropropene	98.8	5.0	"	92.4		107	65-135			
4-Methyl-2-pentanone	93.4	5.0	"	83.2		112	65-135			
trans-1,3-Dichloropropene	100	5.0	"	92.4		108	65-135			
Toluene	85.2	5.0	"	76.8		111	65-135			
1,1,2-Trichloroethane	126	5.0	"	111		114	65-135			
2-Hexanone	95.3	5.0	"	83.2		115	65-135			
Dibromochloromethane	196	6.5	"	174		113	65-135			
Tetrachloroethene	159	5.0	"	138		115	65-135			
1,2-Dibromoethane (EDB)	177	5.0	"	157		113	65-135			
Chlorobenzene	103	5.0	"	93.6		110	65-135			
Ethylbenzene	96.8	5.0	"	88.4		110	65-135			
m,p-Xylene	96.2	5.0	"	88.4		109	65-135			
Styrene	92.9	5.0	"	86.8		107	65-135			
o-Xylene	96.3	5.0	"	88.4		109	65-135			
Bromoform	983	5.0	"	840		117	65-135			
1,1,2,2-Tetrachloroethane	142	6.0	"	140		101	65-135			
4-Ethyltoluene	111	5.0	"	100		111	65-135			
1,3,5-Trimethylbenzene	104	5.0	"	100		104	65-135			
1,2,4-Trimethylbenzene	98.3	5.0	"	100		98.3	65-135			
1,3-Dichlorobenzene	118	10	"	122		96.7	65-135			
Benzyl chloride	120	10	"	105		114	65-135			
1,4-Dichlorobenzene	117	10	"	122		95.9	65-135			
1,2-Dichlorobenzene	108	10	"	122		88.5	65-135			
1,2,4-Trichlorobenzene	81.6	20	"	151		54.0	65-135			QL-1L
Hexachlorobutadiene	113	11	"	218		51.8	65-135			QL-1L
Surrogate: 1,2-Dichloroethane-d4	*101*		*"*	*103*		*98.1*	*80-120*			
Surrogate: Toluene-d8	*95.8*		*"*	*96.2*		*99.6*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*182*		*"*	*182*		*100*	*80-120*			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61407 - TO-15										
Blank (ED61407-BLK1)				Prepared & Analyzed: 14-Apr-06						
Propene	ND	10	ug/m³ Air							
Dichlorodifluoromethane	ND	5.5	"							
Chloromethane	ND	5.0	"							
Dichlorotetrafluoroethane	ND	5.5	"							
Vinyl chloride	ND	5.0	"							
1,3-Butadiene	ND	5.0	"							
Bromomethane	ND	5.0	"							
Chloroethane	ND	5.0	"							
Bromoethene	ND	5.0	"							
Trichlorofluoromethane	ND	5.0	"							
Acetone	ND	20	"							
1,1-Dichloroethene	ND	5.0	"							
1,1,2-Trichlorotrifluoroethane	ND	6.0	"							
Allyl chloride	ND	5.0	"							
Methylene chloride	ND	5.0	"							
Carbon disulfide	ND	5.0	"							
trans-1,2-Dichloroethene	ND	5.0	"							
Methyl tert-butyl ether	ND	5.0	"							
Vinyl acetate	ND	5.0	"							
1,1-Dichloroethane	ND	5.0	"							
2-Butanone	ND	5.0	"							
n-Hexane	ND	5.0	"							
cis-1,2-Dichloroethene	ND	5.0	"							
Ethyl acetate	ND	5.0	"							
Chloroform	ND	5.0	"							
Tetrahydrofuran	ND	5.0	"							
1,1,1-Trichloroethane	ND	5.0	"							
1,2-Dichloroethane	ND	5.0	"							
Benzene	ND	5.0	"							
Carbon tetrachloride	ND	5.5	"							
Cyclohexane	ND	5.0	"							
2,2,4-Trimethylpentane	ND	5.0	"							
n-Heptane	ND	5.0	"							
Trichloroethene	ND	5.0	"							

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61407 - TO-15										
Blank (ED61407-BLK1)				Prepared & Analyzed: 14-Apr-06						
1,2-Dichloropropane	ND	5.0	ug/m³ Air							
1,4-Dioxane	ND	5.5	"							
Bromodichloromethane	ND	5.0	"							
cis-1,3-Dichloropropene	ND	5.0	"							
4-Methyl-2-pentanone	ND	5.0	"							
trans-1,3-Dichloropropene	ND	5.0	"							
Toluene	6.58	5.0	"							B
1,1,2-Trichloroethane	ND	5.0	"							
2-Hexanone	ND	5.0	"							
Dibromochloromethane	ND	6.5	"							
Tetrachloroethene	15.9	5.0	"							B
1,2-Dibromoethane (EDB)	ND	5.0	"							
Chlorobenzene	ND	5.0	"							
Ethylbenzene	ND	5.0	"							
m,p-Xylene	ND	5.0	"							
Styrene	ND	5.0	"							
o-Xylene	ND	5.0	"							
Bromoform	ND	5.0	"							
1,1,2,2-Tetrachloroethane	ND	6.0	"							
4-Ethyltoluene	ND	5.0	"							
1,3,5-Trimethylbenzene	ND	5.0	"							
1,2,4-Trimethylbenzene	ND	5.0	"							
1,3-Dichlorobenzene	ND	10	"							
Benzyl chloride	ND	10	"							
1,4-Dichlorobenzene	ND	10	"							
1,2-Dichlorobenzene	ND	10	"							
1,2,4-Trichlorobenzene	ND	20	"							
Hexachlorobutadiene	ND	11	"							
Surrogate: 1,2-Dichloroethane-d4	*106*		*"*	*103*		*103*	*80-120*			
Surrogate: Toluene-d8	*94.2*		*"*	*96.2*		*97.9*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*186*		*"*	*182*		*102*	*80-120*			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61407 - TO-15										
LCS (ED61407-BS1)				Prepared & Analyzed: 14-Apr-06						
Propene	35.4	10	ug/m³ Air	35.0		101	65-135			
Dichlorodifluoromethane	118	5.5	"	101		117	65-135			
Chloromethane	44.9	5.0	"	42.0		107	65-135			
Dichlorotetrafluoroethane	166	5.5	"	142		117	65-135			
Vinyl chloride	55.2	5.0	"	72.0		76.7	65-135			
1,3-Butadiene	49.5	5.0	"	44.8		110	65-135			
Bromomethane	83.7	5.0	"	79.2		106	65-135			
Chloroethane	57.8	5.0	"	53.6		108	65-135			
Bromoethene	95.5	5.0	"	89.2		107	65-135			
Trichlorofluoromethane	130	5.0	"	113		115	65-135			
Acetone	56.5	20	"	48.4		117	65-135			
1,1-Dichloroethene	88.5	5.0	"	80.8		110	65-135			
1,1,2-Trichlorotrifluoroethane	182	6.0	"	155		117	65-135			
Allyl chloride	68.9	5.0	"	64.0		108	65-135			
Methylene chloride	79.7	5.0	"	70.8		113	65-135			
Carbon disulfide	68.3	5.0	"	63.2		108	65-135			
trans-1,2-Dichloroethene	87.1	5.0	"	80.8		108	65-135			
Methyl tert-butyl ether	81.2	5.0	"	73.6		110	65-135			
Vinyl acetate	86.8	5.0	"	72.0		121	65-135			
1,1-Dichloroethane	90.1	5.0	"	82.4		109	65-135			
2-Butanone	65.1	5.0	"	60.0		108	65-135			
n-Hexane	75.8	5.0	"	72.0		105	65-135			
cis-1,2-Dichloroethene	88.7	5.0	"	80.0		111	65-135			
Ethyl acetate	82.1	5.0	"	73.6		112	65-135			
Chloroform	115	5.0	"	99.2		116	65-135			
Tetrahydrofuran	63.1	5.0	"	60.0		105	65-135			
1,1,1-Trichloroethane	130	5.0	"	111		117	65-135			
1,2-Dichloroethane	93.0	5.0	"	82.4		113	65-135			
Benzene	69.4	5.0	"	64.8		107	65-135			
Carbon tetrachloride	149	5.5	"	128		116	65-135			
Cyclohexane	70.3	5.0	"	70.4		99.9	65-135			
2,2,4-Trimethylpentane	105	5.0	"	95.2		110	65-135			
n-Heptane	91.7	5.0	"	83.6		110	65-135			
Trichloroethene	132	5.0	"	110		120	65-135			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Volatile Organic Compounds by EPA TO-15 - Quality Control

H&P Mobile Geochemistry

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch ED61407 - TO-15										
LCS (ED61407-BS1)				Prepared & Analyzed: 14-Apr-06						
1,2-Dichloropropane	105	5.0	ug/m³ Air	94.4		111	65-135			
1,4-Dioxane	83.8	5.5	"	73.6		114	65-135			
Bromodichloromethane	161	5.0	"	137		118	65-135			
cis-1,3-Dichloropropene	105	5.0	"	92.4		114	65-135			
4-Methyl-2-pentanone	96.5	5.0	"	83.2		116	65-135			
trans-1,3-Dichloropropene	107	5.0	"	92.4		116	65-135			
Toluene	88.3	5.0	"	76.8		115	65-135			
1,1,2-Trichloroethane	132	5.0	"	111		119	65-135			
2-Hexanone	98.9	5.0	"	83.2		119	65-135			
Dibromochloromethane	205	6.5	"	174		118	65-135			
Tetrachloroethene	166	5.0	"	138		120	65-135			
1,2-Dibromoethane (EDB)	182	5.0	"	157		116	65-135			
Chlorobenzene	107	5.0	"	93.6		114	65-135			
Ethylbenzene	102	5.0	"	88.4		115	65-135			
m,p-Xylene	103	5.0	"	88.4		117	65-135			
Styrene	97.2	5.0	"	86.8		112	65-135			
o-Xylene	103	5.0	"	88.4		117	65-135			
Bromoform	1060	5.0	"	840		126	65-135			
1,1,2,2-Tetrachloroethane	148	6.0	"	140		106	65-135			
4-Ethyltoluene	118	5.0	"	100		118	65-135			
1,3,5-Trimethylbenzene	112	5.0	"	100		112	65-135			
1,2,4-Trimethylbenzene	109	5.0	"	100		109	65-135			
1,3-Dichlorobenzene	126	10	"	122		103	65-135			
Benzyl chloride	128	10	"	105		122	65-135			
1,4-Dichlorobenzene	127	10	"	122		104	65-135			
1,2-Dichlorobenzene	120	10	"	122		98.4	65-135			
1,2,4-Trichlorobenzene	94.7	20	"	151		62.7	65-135			QL-1L
Hexachlorobutadiene	144	11	"	218		66.1	65-135			
Surrogate: 1,2-Dichloroethane-d4	*102*		*"*	*103*		*99.0*	*80-120*			
Surrogate: Toluene-d8	*96.7*		*"*	*96.2*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*185*		*"*	*182*		*102*	*80-120*			

Kennedy/Jenks Consultants - Seattle 711 Third Avenue, Suite 790 Seattle WA, 98104	Project: KJ040706-12 Project Number: 0696021*16 Project Manager: Ms. Sherri Peterson	Reported: 10-Jul-06

Notes and Definitions

QL-1L	The LCS and/or LCSD recoveries fell below the established control specifications for this analyte. Any result for this compound is qualified and should be considered an estimate only.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate (CLP E-flag).
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
B	Analyte is found in the associated blank as well as in the sample (CLP B-flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

MOBILE GEOCHEMISTRY

H&P

Chain of Custody Record

☐ 148 S. Vinewood St., Escondido, CA 92029 • ph 760.735.3208 • fax 760.735.2469
☐ 432 N. Cedros Ave., Solana Beach, CA 92075 • ph 858.793.0401 • fax 858.793.0404
☐ 3825 Industry Avenue, Lakewood, CA 90712 • ph 562.426.6991 • fax 562.426.6995

0600262.02

Date: 4/5/06
H&P Project # KJ0407006-12
Outside Lab:

Client: Kennedy/Jenks Consultants
Address: 711 Third Ave., Suite 790
Seattle, WA 98104
Phone: 206-447-8246 Fax: 206-652-4927

Collector: Dave Bulkley
Client Project # 06916021*16
Location: Livingston, MT
Turn around time: Normal

Page: 1 Of 1
Project Manager Sherri Peterson

Global ID: EDF: Yes / No

Report only Vinyl Chloride, TCE, PCE, Cis-DCE, Trans-DCE. 8260/TO-15 as per Blayne and John Norris.

Sample Receipt
Intact: ☐ Yes ☐ No
Seal Intact: ☐ Yes ☐ No ☐ N/A
Cold: ☐ Yes ☐ No
N/A (Received on Site)

	Sample Name	Canister # ~~Field Point Name~~	Depth	Time	Date	Sample Type	Container Type	TPH gasoline / diesel	TPH extended	8021 for BTEX/MTBE	8021 for Halogenated compounds	418.1 TRPH	8260B: BTEX / Oxygenates	8260B: Oxygenates	8260B: VOC's	8260B: VOC's and Oxygenates	Methane	Fixed Gases							Total # of containers
1	06-SG-142-1	MC002	sub slab	1112	4/5/06	Vapor	Summa								X										1
2	06-SG-142-2	MC039		1148											X										1
3	06-SG-142-3	MC059		1159											X										1
4	06-SG-LS-1	MC042		1642											X										1
5	06-SG-LS-2	MC006		1651											X										1
6	06-SG-LS-3	CEL064		1702											X										1
7	06-SG-ES-1	MC103		1716											X										1
8	06-SG-ES-2	MC058		1733											X										1
9	06-SG-ES-3	CEL069		1743											X										1
10	DI-SG-04-05-06	MC001		1737											X										1
11	06-GF-NE-1-1	MS015	Flux chamber	1258			Flux Chamber								X										1
12	06-GF-SE-5-1	MC055	Flux chamber	1407											X										1
13	Triplblank	ML105		–	4/6/06										X										1

Relinquished by: (Signature)	(company)	Received by: (Signature)	(company)	Date:	Time:
Sherri R Peterson	Kennedy/Jenks	Dave Bulkley	H&P	4/6/06	1426

*Signature constitutes authorization to proceed with analysis and acceptance of condition on back.

Sample disposal instruction: ☐ Disposal @ $2.00 each ☐ Return to client ☐ Pickup

MOBILE GEO CHEMISTRY

H&P

May 5, 2006

Ms. Sherri Peterson
Kennedy/Jenks Consultants
711 Third Avenue, Suite 790
Seattle, WA 98104

Subject: Reporting Level for Sample # 06-SG-99-1.

Ms. Peterson:

Our nominal report level for this project was 5 ug/m3 for TCE based upon our most recent method detection level (MDL). However, please note that the MDL is a statistical determination based upon a series of consecutive analyses per EPA methodology. In practice, the actual detection level is based upon the mass spectrometer response for the compound and the signal to noise ratio of the instrument on the day of analysis. The daily calibration showed a very strong response and a very high signal to noise ratio. Based upon this, the analyst concluded that concentrations as low as 1 ug/m3 would have easily been detected by the mass spectrometer. A re-examination of the total ion chromatogram for the sample of interest showed no peak for TCE, implying that the TCE concentration in sample #)^-SG-99-1 was below 1 ug/m3.

Feel free to contact me if you have any further questions.

Dr. Blayne Hartman

432 North Cedros Avenue, Solana Beach, California 92075 | 858 793.0401 — Fax 858 793.0404
148 South Vinewood Street, Escondido, California 92029 | 760 735.3208 — Fax 760 735.2469
3825 Industry Avenue, Lakewood, California 90712 | 562 426.6991 — Fax 562 426.6995
www.HandPmg.com | 1-800-834-9888

	Radon Analysis for H&P/Kennedy Jenks				Client Project #0696021*16										
	Collected 4/5/06 to 4/7/06 in Livingston MT														
	by Dave Ballerbush of H&P for Kennedy Jenks														
	Results corrected to in situ pressure of 0.85 atm based on assumed Livingston elevation of 4600 ft														
	Used Summa Sample Containers														
			time	count in	Vol run	Conc.	**Conc.**	**±1 sig**	**Notes**						
	Summary		MST		(cc)	dpm/L	**pCi/L**	**pCi/L**							
Received 4/7/06															
	06-SG-142-R (LEL 063)		11:25	Z13/31	37	1237	**557**								
	06-SG-142-RI (MC028)		11:36	83/34	127	6.2	**2.8**	**0.2**							
	06-SG-LS-R (MC003)		17:03	Z12/33	33	1179	**531**								
	06-SG-LS-RI (MC046)		17:05	81/31	82	9.6	**4.3**	**0.3**							
	06-SG-ES-R (MC008)		17:22	SC6/34	32	1260	**568**								
	06-SG-ES-RI (MC043)		17:21	82/33	98	5.9	**2.7**	**0.3**							
Received 4/10/06															
	06-SG-108-R		10:11	Z13/31	40	1456	**656**								
	06-SG-108-RI		09:54	81/31	121	1.12	**0.50**	**0.13**							
	06-SG-NE-2-R		11:32	Z12/33	40	1362	**613**								
	06-SG-NE-2-RI		11:12	82/33	121	3.2	**1.4**	**0.2**							
	D1-SGR-04-06-06		11:36	SC6/34	40	1319	**594**								
	06-SG-78-RI		15:26	83/34	117	1.1	**0.5**	**0.1**							
	06-SG-78-R		15:40	58/31	40	1534	**691**								
Delivered 4/11/06															
	06-SG-SE-2-R		9:08	Z13/31	45	1493	**672**								
	06-SG-SE-2-RI		8:42	81/31	115	20.5	**9.2**	**0.5**							
	06-SG-99-R		12:14	Z12/33	36	188	**85**	**5**							
	06-SG-99-RI		11:52	82/33	121	12.7	**5.7**	**0.3**							
	DI-SGR-04-07-06		12:17	SC6/34	36	184	**83**								
Duplicates									**Dupe/Initial**						
	DI-SGR-04-07-06		12:17	58/31	30	179	**81**	**2**	**0.97**						
	06-SG-LS-R		17:22	58/31	30	1187	**535**	**17**	**0.94**						
	06-SG-LS-R		17:03	SC6/34	31	1226	**552**	**18**	**1.04**						
	Uncertainty given in pCi/liter is based on counting statistics for low acftivity samples. For high activity samples uncertainty is ±5%.														
	Decay correctiions based on Rn decay constan			0.1813	per day										
	Conversion from dpm based on 0.4504 pCi/dpm														
	ID	Collect	Time	Count in	Vol run	Press	obs	sig	He	Air/He	Decay T	Decay fa	dpm/liter	pCi/liter	Sig	Notes
		Date	(CST)		(cc)	factor	dpm	dpm	eff	eff	(hours)				from	
	Samples														counts	
Received 4/7/06																
1	06-SG-142-R (LEL 063)	4/5/2006	11:25	Z13/31	37	1.18	20.63	0.39	0.803	0.99	97.0	2.081	1237	557	11	
2	06-SG-142-RI (MC028)	4/5/2006	11:36	83/34	127	1.18	0.41	0.03	0.838	0.98	81.2	1.847	6.2	2.8	0.2	
3	06-SG-LS-R (MC003)	4/5/2006	17:03	Z12/33	33	1.18	18.00	0.36	0.790	0.99	91.4	1.995	1179	531	11	
4	06-SG-LS-RI (MC046)	4/5/2006	17:05	81/31	82	1.18	0.46	0.04	0.857	0.98	70.4	1.702	9.6	4.3	0.3	
5	06-SG-ES-R (MC008)	4/5/2006	17:22	SC6/34	32	1.18	18.52	0.37	0.783	0.99	91.2	1.992	1260	568	11	
6	06-SG-ES-RI (MC043)	4/5/2006	17:21	82/33	98	1.18	0.31	0.03	0.810	0.98	75.2	1.765	5.9	2.7	0.3	
Received 4/10/06																
1	06-SG-108-R	4/6/2006	10:11	Z13/31	40	1.18	21.74	0.63	0.803	0.99	122.0	2.513	1456	656	19	
2	06-SG-108-RI	4/6/2006	09:54	81/31	121	1.18	0.06	0.02	0.857	0.98	106.6	2.237	1.1	0.5	0.1	
3	06-SG-NE-2-R	4/6/2006	11:32	Z12/33	40	1.18	20.18	0.06	0.790	0.99	120.8	2.491	1362	613	2	
4	06-SG-NE-2-RI	4/6/2006	11:12	82/33	121	1.18	0.16	0.02	0.810	0.98	105.4	2.217	3.2	1.4	0.2	
5	D1-SGR-04-06-06	4/6/2006	11:36	SC6/34	40	1.18	19.38	0.59	0.783	0.99	120.8	2.491	1319	594	18	
6	06-SG-78-RI	4/6/2006	15:26	83/34	117	1.18	0.06	0.02	0.838	0.98	101.4	2.151	1.1	0.5	0.1	
7	06-SG-78-R	4/6/2006	15:40	58/31	40	1.18	27.43	0.53	0.925	0.99	116.8	2.417	1534	691	13	
Delivered 4/11/06																
1	06-SG-SE-2-R	4/7/2006	9:08	Z13/31	45	1.18	25.38	0.49	0.803	0.99	120.4	2.483	1493	672	13	
2	06-SG-SE-2-RI	4/7/2006	8:42	81/31	115	1.18	1.05	0.05	0.857	0.98	106.6	2.237	20.5	9.2	0.5	
3	06-SG-99-R	4/7/2006	12:14	Z12/33	36	1.18	2.57	0.16	0.790	0.99	117.4	2.427	188	85	5.27	
4	06-SG-99-RI	4/7/2006	11:52	82/33	121	1.18	0.66	0.04	0.810	0.98	103.6	2.187	12.7	5.7	0.3	
5	DI-SGR-04-07-06	4/7/2006	12:17	SC6/34	36	1.18	2.50	0.07	0.783	0.99	117.4	2.427	184	83	2	
Dupes																Dupe/Initial
	DI-SGR-04-07-06	4/7/2006	12:17	58/31	30	1.18	2.39	0.05	0.925	0.99	117.5	2.429	179	81	2	0.97
	06-SG-LS-R	4/5/2006	17:22	58/31	30	1.18	7.96	0.25	0.925	0.99	208.6	4.835	1187	535	17	0.94
	06-SG-LS-R	4/5/2006	17:03	SC6/34	31	1.18	7.17	0.24	0.783	0.99	209.0	4.849	1226	552	18	1.04
	average dupe/initial															0.98
	sig (as ssd)															0.05

Kennedy/Jenks Consultants Field Forms

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE 1 OF 1

Project No.: 0696021*16

Date: 4/5/06

Site Name: BN Livingston Shop Complex/City of Livingston

Prepared By: Sherri Peterson
(Print Name)

Field Activities: Collecting air samples and soil gas samples using summa canisters, flux chambers, and mini canisters

RD/RA Task: TASK I - INDOOR AIR

Weather Conditions: low to mid 40's, SSW wind 15 mph, sunny Thunderstorm late in day.

Subcontractors *(list all performing field activities in work area)*
Dave Balkenbush (H&P)

Visitors *(list all visitors, including name, phone number, and organization)*
Jarrett Keck (DEQ)
Pearl Pereira (CDM) - with DEQ

At LS/ES only:
David Nolt - Livingston Weekly
Garrett Cheen - Livingston Enterprise

WORK PERFORMED

Time	Description of Work Performed
	Set up flux chambers at two locations. Collected subslab samples at three locations. Conditions at one scheduled location were not as anticipated, so that location was rescheduled for 4/6/06.
	Subslab and indoor air radon samples were collected at the locations where subslab samples were collected.
	At flux chamber locations, the chamber was purged with zero air and an initial sample of the chamber collected.

K/J Field Personnel: Mary Orr
Sherri Peterson

Signature: Sherri L Peterson

Task Manager Review *(initial)*: SLP
Date: 4/5/06

Copy to Project File (yes/no): yes

Revision No. 2

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE / OF /

Project No.: 0696021*16

Date: 4/6/06

Site Name: BN Livingston Shop Complex/City of Livingston

Prepared By: Sherri Peterson
(Print Name)

Field Activities: Collecting air samples and soil gas samples using summa canisters, flux chambers, and mini canisters

RD/RA Task: TASK I - INDOOR AIR

Weather Conditions: low to mid 40's, raining most of day, wind NW 15mph.

Subcontractors *(list all performing field activities in work area)*
Dave Balkenbush (H&P)

Visitors *(list all visitors, including name, phone number, and organization)*
Jarrett Keck (DEQ)
Pearl Pereira (CDM) with DEQ

WORK PERFORMED

Time	Description of Work Performed
	Collected subslab VOC and radon samples at three locations. Indoor Air Radon was also collected at these locations.
	Collected final (24-hr) samples at two locations where flux chambers were set up on 4/5/06, then removed flux chambers.
	Set up indoor air (24-hr) sample summa canisters at three locations – two background locations and one within study area.
	Set up flux chamber at one location, purged chamber, and collected initial sample from chamber.
	At one scheduled location, unforeseen conditions were encountered. Field team did not have necessary equipment available so rescheduled location for 4/7/06 to provide time to acquire necessary equipment.

K/J Field Personnel: Mary Orr
S. Peterson

Signature: Sherri R Peterson

Task Manager Review *(initial)*: SLP
Date: 4/6/06

Copy to Project File *(yes/no)*: yes

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE 1 OF 1

Project No.: 0696021*16

Date: 4/7/06

Site Name: BN Livingston Shop Complex/City of Livingston

Prepared By: Sherri Peterson
(Print Name)

Field Activities: Collecting air samples and soil gas samples using summa canisters, flux chambers, and mini canisters

Weather Conditions: Dry, cloudy, light wind 10-15 mph E. mid 40's.

RD/RA Task: TASK I - INDOOR AIR

Subcontractors *(list all performing field activities in work area)*
Dave Ballenbush (H&P)

Visitors *(list all visitors, including name, phone number, and organization)*
Jarrett Keck (DEQ)

WORK PERFORMED

Time	Description of Work Performed
	Collected subslab VOC and radon samples at two locations. Indoor air radon was also collected at these locations.
	Picked up indoor air summa canisters at three locations - two background and one within study area.
	At one location, collected final (24-hr) sample ~~at~~ from flux chamber set up on 4/6/06, then removed flux chamber.
	Flux chambers were set up at three locations, purged with zero air, and initial samples collected from chambers. One of these locations also set up Indoor air Summa canisters in basement and main living area.

K/J Field Personnel: Maury Orr
S. Peterson

Signature: Sherri L Peterson

Task Manager Review *(initial)*: SLP
Date: 4/7/06

Copy to Project File (yes/no): yes

Revision No. 2

DAILY FIELD LOG

Kennedy/Jenks Consultants
PAGE OF

Project No.: 0696021*16

Date: 4.8.06

Site Name: BN Livingston Shop Complex/City of Livingston

Prepared By:
(Print Name)

Field Activities: Collecting air samples and soil gas samples using summa canisters, flux chambers, and mini canisters

Weather Conditions: 52 °F foggy

RD/RA Task: TASK I - INDOOR AIR

Subcontractors *(list all performing field activities in work area)*
DAVE Balkenbush H&P

Visitors *(list all visitors, including name, phone number, and organization)*
JARRETT KECK - DEQ

WORK PERFORMED

Time	Description of Work Performed
	Picked up canisters from two locations.
	Collected soil gas samples from three locations.
	Shipped out eight canisters to air toxics.
	Shipped manuals & meter Almaq with other technical data
	Completed documentation

K/J Field Personnel:
[signature]

Signature: [signature]

Task Manager Review *(initial)*: SLP

Date: 4/11/06

Copy to Project File *(yes/no)*: (yes)

Job Safety Briefing Record **Kennedy/Jenks Consultants**

By: Sherri Peterson Date: 4/5/06 Project: Task I – Indoor Air Soil Gas Job No. 0696021*16

Time: 9:00 am Location: BN Livingston Shop Complex Sheet 1 of 1

Weather Conditions: rainy, ~45°, light wind, periods of sun

Temperature 53 °F Max 40 °F Min

Briefing Conducted By: Sherri Peterson of Kennedy/Jenks

Persons Attending:

NAME	AFFILIATION	BNSF CONTRACTOR SAFETY TRAINING DATE	REQUIRED PPE (Y or N)
Maury Orr	KJ		Y
Dave Balkenbush	H&P	—	Y
Jarrett Keck	DEQ		
PEARL PEREIRA	CDM		

(Use additional forms if needed to include all attendees.)

Scope of work covered:

Slips, trips, falls, crawlspace entry/concerns, railroad entry.

Actions/Comments/Notes:

Job Safety Briefing Record **Kennedy/Jenks Consultants**

By: Sherri Peterson Date: 4/06/06 Project: **Task I – Indoor Air** Job No. **0696021*16**

Time: 8:30am Location: BN Livingston Shop Complex Sheet 1 of 1

Weather Conditions: Raining, winds forecast to 15-25 mph

Temperature 45 °F Max 30 °F Min

Briefing Conducted By: Sherri Peterson of Kennedy/Jenks Consultants

Persons Attending:

NAME	AFFILIATION	BNSF CONTRACTOR SAFETY TRAINING DATE	REQUIRED PPE (Y or N)
Maury Orr	KJ		Y
Dave Balkenbush	H&P	–	Y
Jarrett Keck	DEQ		Y
Pearl Pereira	CDM		

(Use additional forms if needed to include all attendees.)

Scope of work covered:
Slips, trips and falls, residence entry, weather

Actions/Comments/Notes:

Job Safety Briefing Record **Kennedy/Jenks Consultants**

By: Sherri Peterson Date: 4/7/06 Project: **Task I – Indoor Air** Job No. **0696021*16**

Time: 8am Location: BN Livingston Shop Complex Sheet 1 of 1

Weather Conditions: Dry, cloudy, light wind 10-15 mph E

Temperature 50 °F Max 32 °F Min

Briefing Conducted By: Sherri Peterson of Kennedy/Jenks Consultants

Persons Attending:

NAME	AFFILIATION	BNSF CONTRACTOR SAFETY TRAINING DATE	REQUIRED PPE (Y or N)
Maury Orr	KJ		
Dave Ballenbush	H&P		
Jarrett Keck	DEQ		

(Use additional forms if needed to include all attendees.)

Scope of work covered:

Slips, trips, and falls, residence entry, entry into basement areas.

Actions/Comments/Notes:

Job Safety Briefing Record **Kennedy/Jenks Consultants**

By: Maury Orr Date: 4.8.06 Project: **Task I – Indoor Air** Job No. **0696021*16**

Time: 0745 Location: BN Livingston Shop Complex Sheet 1 of 1

Weather Conditions: Foggy Winds SSE 0-5 mph

Temperature 52 °F Max ____ °F Min

Briefing Conducted By: Maury Orr of Kennedy Jenks Consultants

Persons Attending:

NAME	AFFILIATION	BNSF CONTRACTOR SAFETY TRAINING DATE	REQUIRED PPE (Y or N)
Maury Orr	KJ		
Dave Baikenbush	H & P		Y
Jarrett Keck			

(Use additional forms if needed to include all attendees.)

Scope of work covered: Slips, trips & falls. clean shoes & residents entry main & basement areas

Actions/Comments/Notes:

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0696021.16

Date: 4/6/06 (Setup)

Sampling Location ID: 06-~~35~~ AS-NE-2

Sampling Personnel: Maury Orr, Sherri Peterson

Weather conditions (Note approximate wind speed/direction, rain, and temperature): Raining, low 40's lt. breeze.

Number of canisters placed in building: 2

Location of canister(s) within building: Living Room area, basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
06-AS-NE-2A	34451	203-01	38°F	—	25"	11:55	12:51	3
06-AS-NE-2B	33540	2x	38°F	—	25"	11:55	12:57	5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Basement window open in main area wont close. lots of chemicals left in house (see questionnaire) – moved to garage area.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0696021.16

Date: 06 Apr. 06

Sampling Location ID: 06-AS-BG-29

Sampling Personnel: Maury Orr

Weather conditions (Note approximate wind speed/direction, rain, and temperature): rain, 38°F, wind NW 15-25

Number of canisters placed in building: (2) TWO

Location of canister(s) within building: (1) one in the main floor and (1) one in the basement.

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
06-AS-BG29	335606	03-37	74°F		25 in Hg	408pm	3:57p	5
06-AS-BG29B	313666	05-07	62°F		25 in Hg	409pm	3:54p	6

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.): Wood burning stove in operation w/fan in stove taking a suction from the basement and discharging onto the main floor.

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0696021.16

Date: 4/6/06 (setup)

Sampling Location ID: 06-AS-BG11

Sampling Personnel: Maury Orr, Sherri Peterson

Weather conditions (Note approximate wind speed/direction, rain, and temperature): 45/30, raining, light wind in morning, wind NW 15-25 late afternoon

Number of canisters placed in building: 2

Location of canister(s) within building: One in basement, one in Living room

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
06-AS-BG11B	4070	03-13	68°F	—	25" Hg	2:32	2:37	5.5
06-AS-BG11L	3936	03-48	68°F	—	25" Hg	2:34	2:36	6.5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0696021.16

Date: ~~06-AS-SE-2L~~ 4/7/06

Sampling Location ID: 06-AS-SE-2

Sampling Personnel: M. ORR / S. PETERSON

Weather conditions (Note approximate wind speed/direction, rain, and temperature): 57°F/36°F SSE 10-15 mph WINDS

Number of canisters placed in building: (2) TWO

Location of canister(s) within building: MAIN FLOOR & BASEMENT

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
06-AS-SE-2L	33942	53-20	60°F	–	25.5	9:15	8:52	4.5
06-AS-SE-2B	35253	100-65	60°F	–	25	9:13	8:53	7

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

BN Livingston Shop Complex Task I
FIELD INDOOR AIR SAMPLING LOG

Project No.: 0696021.16

Date: 4.7.06

Sampling Location ID: 06-AS.SE-1

Sampling Personnel: None

Weather conditions (Note approximate wind speed/direction, rain, and temperature): 57-36 °F, SSE WINDS 10-15 mph CLOUDY

Number of canisters placed in building: (3) THREE

Location of canister(s) within building: one on main level & two in basement

Sample ID	Canister serial no.	Flow controller serial no.	Temp. at sample collection point	LAB initial vacuum of canister (in. Hg)	FIELD Initial vacuum of canister	Sample start time	Sample end time	Final vacuum of canister (in. Hg)
06-AS-SE-1L	34458	103-63	68°F	26	26	541	527	6
06-AS-SE-1B'	4164	102-04	56°F		25	538	530	6
06-AS-SE-1B'D	R-4	103-88	56°F		25	538	530	4.5

Comments (Odors/chemicals present, smoking, windows/doors open during sampling,etc.):

H&P Field Forms

MOBILE GEOCHEMISTRY

H&P

Radon

Soil Vapor Survey Sheet

'oject Name & Location KJ040506TECH

Date: 4/7/06

ient: KJ

Field Rep: Shawn

Start Time: 0800

&P Operator Dave B

Finish Time: 1800

'eather Conditions:

Bags of Bentonite:

	Point ID	Flow Rate	Time Placed	Time Sampled	Target Depth	Actual Depth	Purge Volume	Moisture Content	Canister #	Field Notes
1	06-SG-SE-2-R	100 cc/min		0908	subslab				MC106	-23/-1
2	06-SG-SE-2-RI	"	–	0842	ambient	→			MC049	-23/-1
3	06-SG-99-R	"	–	1214	Subslab			duplicate	CEL071	-24/-1
4	06-SG-99-RI	"	–	1152	ambient				MC124	-24-1
5	~~06~~ DI-SGR-04-07-06	"	–	1217	subslab				MS008	-22/-2
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										

roken/Unrecovered Tools:

Overtime:

Accepted By:

Subslab

MOBILE GEOCHEMISTRY

H&P

Soil Vapor Survey Sheet

'oject Name & Location KJ 040506 TECH — Date: 4/7/06

ient: KJ — Field Rep: Sherry — Start Time: 0800

&P Operator Dave B — Finish Time:

'eather Conditions: — Bags of Bentonite:

	Point ID	Flow Rate	Time Placed	Time Sampled	Target Depth	Actual Depth	Purge Volume	Moisture Content	Canister # ~~Field Notes~~
1	06-SG-SE-2-1	100ml/min	0838	0903	subslab		20ml	-23/-2	CEL061
2	06-SG-99-1	"	1135	1210	"		20ml	-23/-1	MC021
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

roken/Unrecovered Tools: — Overtime: — Accepted By:

Flux Chambers

MOBILE GEOCHEMISTRY

H&P

Soil Vapor Survey Sheet

roject Name & Location KJ040506TECH

Date: 4/6/06

ient: KJ

Field Rep: Sherry

Start Time: 0800

&P Operator Dave B

Finish Time: 1800

eather Conditions:

Bags of Bentonite:

	Point ID	Flow Rate	Time Placed	Time Sampled	Target Depth	Actual Depth	Purge Volume	Moisture Content	Field Notes
1	06-GF-NE-1-2	100 cc/min	4/5/06	4/6/06 1218	Flux Chamber		10cc (sample train)	EL 099	Final Sample
2	06-GF-SE-5-2	"	4/5/06	4/6/06 1405	"		"	-24/-1 MC125	Final Sample
3	06-GF-167-1	"	4/6/06	~~[illegible]~~ 1717	"		"	-24/-1 MC052	Initial Sample
4	~~06~~-								
5									
6									
7									
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roken/Unrecovered Tools: Overtime: Accepted By:

MOBILE GEOCHEMISTRY

H&P

Subslab

Soil Vapor Survey Sheet

roject Name & Location KS040506 TECH

Date: 4/6/06

ient: KJ

Field Rep: Sherry

Start Time: 0800

&P Operator Dave B

Finish Time: 1800

eather Conditions:

Bags of Bentonite:

	Point ID	Flow Rate	Time Placed	Time Sampled	Target Depth	Actual Depth	Purge Volume	Moisture Content	Field Notes
1	06-SG-108-1	100 ml/min	0930	1006	subslab		20 ml		MC120 -221-1
2	06-SG-108-2	"	0934	1019	"		"		MC079 -231-1
3	06-SG-108-3	"	0939	1026	"		"		CEL082 -221-1
4	06-SG-NE-2-1	"	1055	1128	"		"		MC012 -221-1
5	06-SG-NE-2-2	"	1058	1142	"		"		CEL078 -231-1
6	06-SG-NE-2-3	"	1101	1149	"		"		CEL070 -221-1
7	06-SG-78-1	"	1503	1537	"		"		CEL081 -221-1
8	06-SG-78-2	"	1510	1548	"		"	duplicate	CEL096 -241-2
9	DI-SG-04-06-06	"	"	1552	"		420 ml		CEL092 -241-2
10									
11									
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roken/Unrecovered Tools: Overtime: Accepted By:

Radon

MOBILE GEOCHEMISTRY

H&P

Soil Vapor Survey Sheet

oject Name & Location KJ040506 TECH

Date: 4/6/06

ient: KJ

Field Rep: Sherry

Start Time: ~~0700~~ 0800

&P Operator Dave B

Finish Time: 1800

eather Conditions:

Bags of Bentonite:

	Point ID	Flow Rate	Time Placed	Time Sampled	Target Depth	Actual Depth	Purge Volume	Moisture Content	Field Notes
1	06-SG-108-R	100 ml/min		1011	subslab		420 ml		CEL079 -22/-1
2	06-SG-108-RI	"		0954	ambient		—		MC117 -23/-2
3	06-SG-NE-2-R	"		1132	subslab			duplicate	MC020 -22/-1
4	06-SG-NE-2-RI	"		1112	ambient				CEL091 -23/-1
5	DI-SGR-04-06-06	"		1136	subslab				MC026 -22/-1
6	06-SG-78-RI	"		1526	(subslab)				CEL086 -24/-2
7	06-SG-78-R	"		1540	ambient				CEL090 -23/-1
8									
9									
10									
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roken/Unrecovered Tools: Overtime: Accepted By:

MOBILE GEOCHEMISTRY

H&P

Sub Slab

Soil Vapor Survey Sheet

'oject Name & Location KJ040506 TECH — Date: 4/5/06

ient: KJ — Field Rep: Sherry — Start Time: 0800

&P Operator Dave B — Finish Time: 1800

'eather Conditions: — Bags of Bentonite:

	Point ID	Flow Rate	Time Placed	Time Sampled	Target ~~Depth~~ Substab	Actual ~~Depth~~ Substab	Purge Volume	Moisture ~~Content~~ Slab depth	Canister # Field Notes
- 1	06-SG-142-1	100 ml/min	1030	1112	Substab		20 ml	6"	MC002 -23 / -05
- 2	06-SG-142-2	"	1040	1148	"		20 ml	4"	MC039 -23/ 0
- 3	06-SG-142-3	"	1048	1159	"		20 ml	4"	MC059 -23 /0
- 4	06-SG-LS-1	"	1500	1642	"		20 ml	-1 vacuum	MC042 -23/-1
- 5	06-SG-LS-2	"	1515	1651	"		20 ml	-1	MC006 -23/-1
- 6	06-SG-LS-3	"	1528	1702	"		20 ml		CEL064 -23/-1
- 7	06-SG-ES-1	"	1545	1716	"		20 ml		MC103 -23/-2
- 8	06-SG-ES-2	"	1600	1733	"		20 ml	Duplicate	MC058 -23/-2
- 9	06-SG-ES-3	"	1620	1743	"		20 ml		CEL069 -23/-1
- 10	D1-SG-04-05-06	"	1545	1737	"		420 ml		MC001 -23/-1
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roken/Unrecovered Tools: Overtime: Accepted By:

MOBILE GEOCHEMISTRY

H&P

Soil Vapor Survey Sheet

Flux Chambers

oject Name & Location KJ040506TECH

Date: 4/5/06

ient: KJ

Field Rep: Sherry

Start Time: 0800

&P Operator Dave

Finish Time: 1800

eather Conditions:

Bags of Bentonite:

	Point ID	Flow Rate	Time Placed	Time Sampled	Target Depth	Actual Depth	Purge Volume	Moisture Content	Canister #	Field Notes
1	06-GF-NE-1-1	100 ml/min		1258	Flux	Flux	5min flush	0 air	MS015	Initial -24/0
2	06-GF-SE-5-1	100 ml/min		1407	"	"	"		MC055	Initial -24/0
3										
4										
5										
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roken/Unrecovered Tools: Overtime: Accepted By:

Jared
(406) 431-1393

Radon

MOBILE GEOCHEMISTRY

H&P

Soil Vapor Survey Sheet

Project Name & Location: KJ040506TECH
Date: 4/5/06
Client: KJ
Field Rep: Sherry
Start Time: 0800
H&P Operator: Dave Balkenbush
Finish Time: 1800
Weather Conditions:
Bags of Bentonite:

	Point ID	Flow Rate	Time Placed	Time Sampled	Target Depth	Actual Depth	Purge Volume	Moisture Content	Canister # / Field Notes
1	06-SG-142-R	100 cc/min	1121	1125	Substab	substab			063 -24/-1 Radon Sample
2	06-SG-142-RI	"	1132	1136	ambient	ambient			MC028 -25/-1
3	06-SG-LS-R	"	1659	1703	substab				MC003 -23/-1
4	06-SG-LS-RI	"	1701	1705	ambient				MC046 -23/-1
5	06-SG-ES-R	"	1717	1722	substab				MC008 -24/-2
6	06-SG-ES-RI	"	1717	1721	ambient				MC043 -23/-1
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Broken/Unrecovered Tools: Overtime: Accepted By:

Attachment F

Task-Specific Health and Safety Plan

Date Approved by Kennedy/Jenks Consultants

Regional Safety Supervisor:

Task Site Safety Officer: Sherri Peterson Phone: 206-447-8246 (Cell: 206-419-1349)

Task Field Site Safety Officer: Maury Orr Phone: 503-295-4911 (Cell: 360-241-3242)

Task Description:

Task I addresses the evaluation and possible remediation of volatile organic compounds (VOCs) in indoor air in inhabitable structures. This task involves using evacuated air sampling canisters (Summa™), mini-canisters, or Tedlar™ bags to collect air and/or soil gas samples at locations at the Livingston railyard and nearby inhabitable structures (residential and commercial). This task also involves the drillings and installation of vapor probes for collection of soil gas samples.

Field work performed for this task will adhere to safety protocols specified in the *Facility-Wide Health and Safety Plan* (HASP) dated March 2005.

Task-specific health and safety protocols, and additional health and safety protocols and/or deviations from the *Facility-Wide Health and Safety Plan*, if applicable, are outlined in this addendum.

THIS HEALTH AND SAFETY PLAN ADDENDUM IS FOR
TASK I – STAGE II - SOIL GAS/INDOOR AIR INVESTIGATION ACTIVITIES
(ADDENDUM No. 2)

Summary Information

Activity	Approx. Start Date	Approx. Duration (Days)	Field Personnel	CPR	First Aid
Stage II - Soil Gas/Indoor Air Investigation	Oct/Nov 2006	8 weeks	Sherri Peterson	X	X
			Maury Orr	X	X
			Mike Godinho	X	
			Matt Gibson	X	X
			TBD		

HAZWOPER and BNSF Safety Training:

☐No ☒Yes Field personnel (working on the Livingston railyard) 40-hour and 8-hour HAZWOPER trained.

Field personnel to wear a photographic identification badge and carry proof of current BNSF Contractor Orientation and Roadway Worker Protection training when work at the Livingston railyard.

Applicable Sampling and Analysis Plan (SAP) and Standard Operating Guidelines (SOGs):

1. *Facility-Wide Sampling and Analysis Plan* (SAP)
2. SOG-1, SOG-2, SOG-7, SOG-10, SOG-13, SOG-12 (Appendix A of *Facility-Wide Sampling and Analysis Plan*)
3. Task-specific SAP in *Addendum No.1 to Final Task I – Supplemental Investigation Work Plan for Indoor Air*, Section 2.0.
4. Sub-Slab Soil Vapor Standard Operating Procedures (*Addendum No.1 to Final Task I – Supplemental Investigation Work Plan for Indoor Air*, Attachment B).
5. Task-specific SAP in *Addendum No.2 to Final Task I – Supplemental Investigation Work Plan for Indoor Air*, Section 2.0.
6. Vapor Monitoring Well/Implants Standard Operating Procedures (*Addendum No.2 to Final Task I – Supplemental Investigation Work Plan for Indoor Air*, Attachment H).

Study Area:

The study area include: the Livingston railyard and nearby inhabitable structures where VOCs partitioning from groundwater could potentially migrate into structures.

Study area and locations to be sampled are shown on Figure 4 (attached).

Task involves work within 25 feet of track:

☒No ☐Yes

If yes, describe means of work clearance and track control:

Health and Safety Risks:

Potential exposure to VOCs as well as potential chemicals at residences and businesses, potential confined spaces in structures (i.e., residential crawlspace), pets, wild animals, and insects. Also potential processes at commercial properties. However, based on our assessment of hazards, residential crawlspaces are not likely to be permit-required confined spaces.

Physical Hazards:

Slip and trip, bumps and cuts (residential crawlspace), cold weather. Hazards associated with operating a drilling rig (noise, dust, high pressure pneumatic lines, etc), underground utilities.

Potential Chemical Hazards:

Chemicals of Concern	TWA-PEL/TLV in parts per million (ppm)
Tetrachloroethene	100 ppm / 25 ppm
Trichloroethene	100 ppm / 25 ppm
cis-1,2-Dichloroethene	200 ppm / 25 ppm
trans-1,2-Dichloroethene	200 ppm / 25 ppm
Vinyl chloride	1 ppm / 1 ppm

Personal Protective Equipment (PPE):

☒ Initial–Level D: Hard hat with six point suspension, boots (steel-toe and shank, leather, above ankle, lace-up defined heel), safety glasses (with permanently affixed side shields), orange-reflective vest worn as an outer cover, work gloves, and hearing protection as needed when at Livingston railyard. When working outdoors, wear adequate protection against cold. See "Other" below for PPE when entering private property.

List additional equipment (e.g., boot covers, Tyvek® coveralls, etc.): Tyvek® coveralls, latex gloves/chemical resistant gloves, as needed.

☐ Upgrade-Level C: All of above plus half-face respirator with _____ cartridges

☒ Other: (describe): No specific PPE is required when entering residences. If boots are worn into residences, make sure they are clean and will not track dirt into the residence. None of the locations where samples will be collected at businesses require special PPE (except as noted above for Livingston railyard).

The following PPE are required for entry into residential crawlspaces:

Hard hat, boots (steel-toe and shank), safety glasses, leather gloves, protective knee pads, and sufficient lighting.

See Section 8.4 of *Facility-Wide Sampling and Analysis Plan* for appropriate disposal of PPE.

Safety Measures and Monitoring:

Follow *Facility-Wide Health and Safety Plan* guidance. Only enter structures when accompanied by owner/ operator/occupant. Follow health and safety requirements of any commercial operation.

Note: Residential crawlspaces are not a permit-required confined space entry; however, the following safety procedures must be followed:

- Work in pairs with one person standing by outside to call for help
- Ensure a safe means to enter and exit
- Wear PPE (as described above)
- Provide sufficient lighting

Criteria for upgrading PPE *(list threshold values in breathing zones, or other triggers for upgrading PPE)*: Withdraw from area and re-assess PPE requirements if there are noticeable odors in work area.

Work Zones:

No special work zones will be established for sampling; however, private property owners will be asked to keep away from sampling locations and equipment during sample collection.

All field personnel (including any subcontractors) must check in/check out with the site safety officer (SSO) or field site safety officer (FSSO) on a daily basis.

Other Work Requirements:

Work only in areas with proper illumination or bring sufficient lighting to assess area for hazards. Appropriate traffic protection measures will be employed while working within public rights-of-way.

Community Protection Measures:

Private property owners will be asked to keep away from sampling locations and equipment during sample collection on their property.

Task-Specific Training or Medical Surveillance Requirements:

As required by OSHA 29 CFR 1910.120.

Task-Specific Hazardous Materials:

None

Task-Specific Decontamination Procedures:

Wear clean boots or boot covers when entering residential or commercial structures. Do not track dirt into structures.

Refer to SOG-1 and SOG-2 (Appendix A of *Facility-Wide Sampling and Analysis Plan*)

Refer to Section 8.4 of *Facility-Wide Sampling and Analysis Plan* for appropriate management of investigation-derived waste (IDW).

Task-Specific Contact Telephone Numbers:

1. Sherri Peterson (206) 447-8246
2. See *Facility-Wide Health and Safety Plan* (Table 3) for additional emergency contact information

Task-Specific Coordination Requirements with BNSF, MRL, or Talgo-LRC:

Schedule soil gas investigation activities with each property owner/operator/occupant.

Task-Specific Requirements from the Facility-Wide HASP:

Follow all applicable requirements of *Facility-Wide Health and Safety Plan*.

Task-Specific Deviations from Facility-Wide HASP:

None

Emergency Response (Contingency) Plan:

See *Facility-Wide Health and Safety Plan* (Section 7.0)

Hazardous Material Used for Task (Attach Material Safety Data Sheets and Submit to BNSF, MRL, and/or Talgo-LRC):

None

Map and Directions to Hospital:

See attached figure.

SIGNATURES
Task Manager: Sherri Peterson (206) 447-8246 (Cell: 206-419-1349)
Project Manager: John Norris (253) 874-0555 Pager (888) 341-7278
Site Safety Officer: Sherri Peterson (206) 447-8246 (Cell: 206-419-1349)
Regional Safety Supervisor: John Jindra (253) 942-3466
ATTACHMENTS Attachment 1 – Locations of Field Activities • Proposed Sampling Locations - Figure 4 from *Addendum No. 2 to Final Task I – Supplemental Investigation Work Plan for Indoor Air* Attachment 2 – Route to Hospital • Hospital Location and Route Map – Figure 3 from *Facility-Wide Health and Safety Plan*

Attachment 1 – Locations of Field Activities

E. SUMMIT ST.
N. D ST.
E. MONTANA ST.
N. E ST.
N. F ST.
N. G ST.
N. H ST.
N. I ST.
N. L ST.
N. M ST.
N. N ST.
E. GALLATIN ST.
AS-AMB-1
05-AS-LS
05-AS-ES
05-AS-NE-4
05-AS-NE-2
E. CHINOOK ST.
SHOP
K/J FIELD OFFICE
(331 BENNETT)
LIVINGSTON
RAILYARD BOUNDRY
STUDY AREA BOUNDARY
05-AS-78
E. PARK ST.
05-AS-142
05-AS-SE-2
05-AS-SE-1
05-AS-108
05-AS-SE-5
05-AS-99
E. CALLENDER ST.
S. D ST.
S. E ST.
S. F ST.
S. G ST.
S. H ST.
S. I ST.
S. K ST.
S. L ST.
S. M ST.
S. N ST.
S. O ST.
S. P ST.
S. Q ST.
S. R ST.
05-AS-BG11
05-AS-BG29
E. LEWIS ST.
E. CLARK ST.
YELLOWSTONE RIVER
A
B
C
D
E
F

LEGEND

- DEQ PROPOSED SOIL GAS SAMPLING LOCATIONS (ONLY LOCATIONS WHERE SOIL BORINGS ARE PLANNED ARE SHOWN)
- DEQ DESIGNATED AMBIENT AIR SAMPLING AREAS
- PREVIOUS INDOOR AIR SAMPLING LOCATIONS (DECEMBER 2005 AND APRIL 2006)
- AREA IDENTIFICATION
- STUDY AREA BOUNDARY
- ESTIMATED PCE > 2.5 µg/L IN GROUND WATER AS INTERPRETED BY DEQ

NOTE:
WITHIN AMBIENT AIR SAMPLE AREAS, SUBSLAB SOIL GAS OR SHALLOW GAS SAMPLES WILL ALSO BE COLLECTED. THESE LOCATIONS ARE NOT IDENTIFIED ON THIS FIGURE, BUT ARE LISTED IN TABLE 4 OF THIS PLAN.

BASEMAP SOURCE:
HORIZONS, INC. RAPID, SD (1989)

N

0 250 500
APPROXIMATE SCALE IN FEET

Kennedy/Jenks Consultants

BURLINGTON NORTHERN LIVINGSTON SHOP COMPLEX – LIVINGSTON, MT

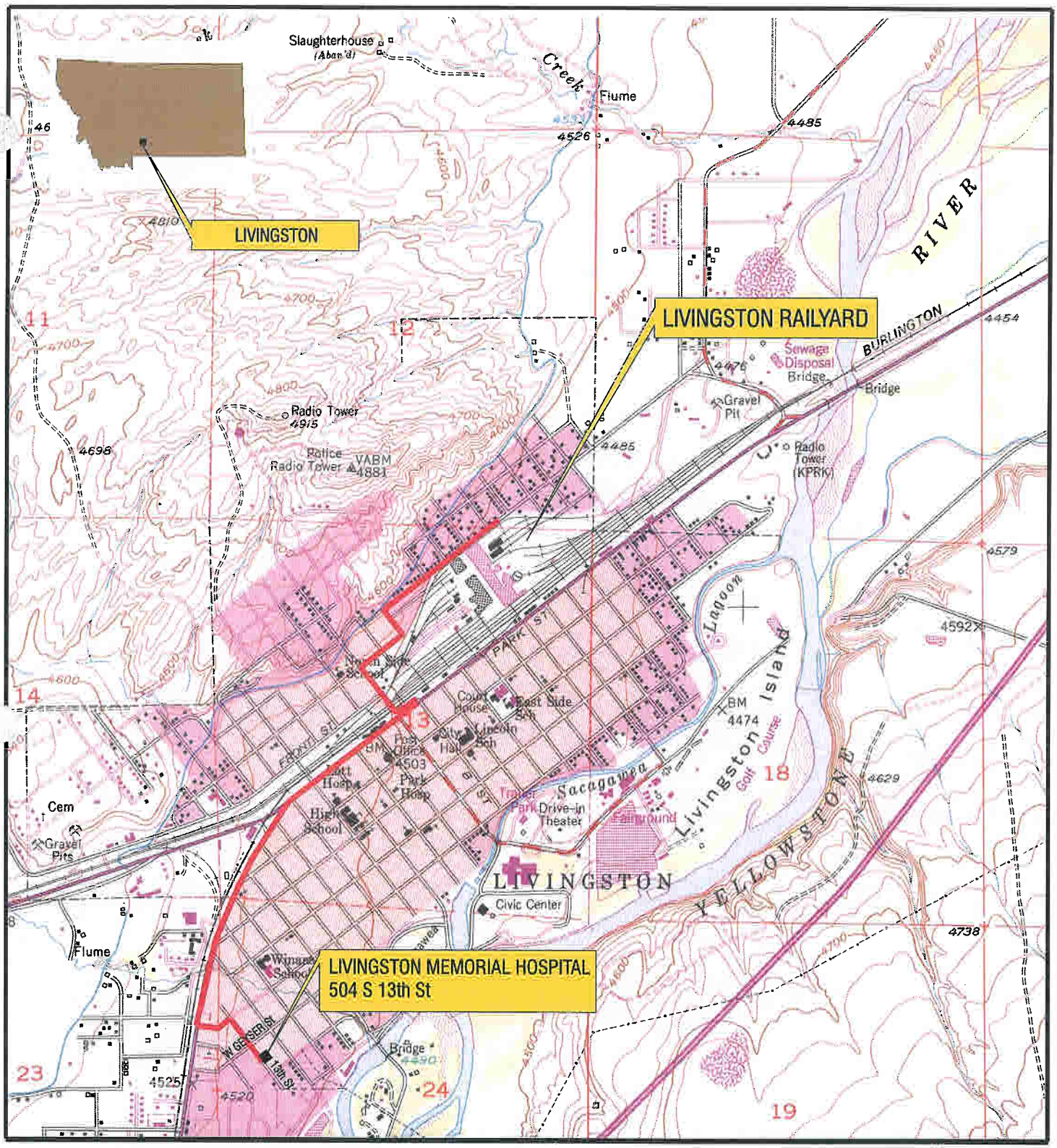
PROPOSED SAMPLING LOCATIONS

0796021.16/TASK I/AD2/P07SK004

1/07 (DEQ VERSION)

FIGURE 4

Attachment 2 – Route to Hospital



Directions to Hospital

- Proceed Southwest on E. Gallatin St.
- Turn LEFT onto N. Main St.
- Turn RIGHT onto Park St. (US-89)
- Turn LEFT onto S. 13th St.
- Hospital is on LEFT at 504 S. 13th St.

Kennedy/Jenks Consultants

BURLINGTON NORTHERN LIVINGSTON SHOP COMPLEX–LIVINGSTON, MT

HOSPITAL LOCATION AND ROUTE MAP

3/05 059621.16/HASP/P05SK003

FIGURE 3

Attachment G

Environmental Requirements, Criteria, and Limitations (ERCLs)

ATTACHMENT G

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
	FEDERAL AND STATE CONTAMINANT SPECIFIC ERCLS	
Surface and Groundwater Quality Standards (Applicable)		
Section 75-5-605, Montana Code Annotated (MCA)	Causing of Pollution Section 75-5-605 of the Montana Water Quality Act prohibits the causing of pollution of any state waters. Section 75-5-103(21)(a)(i) defines pollution as contamination or other alteration of physical, chemical, or biological properties of state waters which exceeds that permitted by the water quality standards.	Activities proposed in the *Addendum No. 2 to Final Task I Supplemental Investigation Work Plan for Indoor Air* (Addendum No. 2) will not impact surface and groundwater.
	Placement of Wastes Section 75-5-605, MCA states that it is unlawful to place or cause to be placed any wastes where they will cause pollution of any state waters. Any permitted placement of waste is not placement if the agency's permitting authority contains provisions for review of the placement of materials to ensure it will not cause pollution to state waters.	Investigation-derived waste (IDW) generated during field activities associated with Addendum No. 2 will be managed as outlined in Section 8.4 of the Facility-Wide Sampling and Analysis Plan (Facility-Wide SAP). Management of IDW will not cause pollution of any state waters.
Section 75-5-303, MCA	Nondegradation Section 75-5-303, MCA states that existing uses of state waters and the level of water quality necessary to protect the uses must be maintained and protected, with certain limited exceptions.	Activities proposed in the Addendum No. 2 will not degrade water quality.
Groundwater Quality Standards		
40 Code of Federal Regulations (CFR) 141	Maximum Contaminant Levels and Maximum Contaminant Level Goals (Well-Suited) Because the aquifer affected by the site is currently and has been used as a drinking water source, the MCLs and non-zero MCLGs specified in 40 CFR Part 141 (Primary Drinking Water Standards) are well-suited requirements which are ultimately to be attained by the remedy for the site[1]. Because many of the MCLs are equivalent with the State groundwater standards, the Primary Drinking Water Standards are listed below with the State groundwater standards.	Activities proposed in the Addendum No. 2 will not impact groundwater.
40 CFR 143.3	Secondary Maximum Contaminant Levels (Well-Suited) Because the aquifer affected by the site is currently and has been used as a drinking water source, the Secondary Maximum Contaminant Levels (SMCLs) specified in 40 CFR Part 143.3 are well-suited requirements which are ultimately to be attained by the remedy for the site. 40 CFR 143.3 contains standards for color, odor (3 threshold odor number) and corrosivity which are well-suited to the remedial action.	
Administrative Rules of Montana (ARM) 17.30.1006	Montana Groundwater Pollution Control System (Applicable) ARM 17.30.1006 classifies groundwater into Classes I through IV based upon its specific conductance and establishes the groundwater quality standards applicable with respect to each groundwater classification. Based upon its specific conductance, the groundwater at the site must meet the standards for Class I groundwater. These standards are applicable. Concentrations of substances in Class I may not exceed the human health standards for groundwater listed in department Circular WQB-7.[2] For the primary contaminants of concern, the Circular WQB-7 standards and MCLs are listed below. For all contaminants of concern except vinyl chloride, the MCLs and Circular WQB-7 standards are equivalent.[3] All levels are ug/l and are dissolved phase. VOCs: Tetrachloroethene - 5.0; Trichloroethene - 5.0; Cis-1,2-Dichloroethene - 70; Vinyl chloride - 0.15; Chlorobenzene - 100; 1,4-Dichlorobenzene - 75 PAHs (SVOCs): Acenaphthene - 420; Anthracene - 2,100; Benzo(a)anthracene - 0.48; Benzo(a)pyrene - 0.048; Benzo(b)fluoranthene - 0.48; Benzo(k)fluoranthene - 4.79; Chrysene - 48; Dibenzo(a,h)anthracene - 0.048; Fluoranthene - 280; Fluorene - 280; Indeno(1,2,3-cd)pyrene - 0.48; Naphthalene - 28; Pyrene - 210 Lead - 15 For concentrations of parameters for which human health standards are not listed in WQB-7, ARM 17.30.1006 allows no increase of a parameter to a level that renders the waters harmful, detrimental or injurious to the beneficial uses listed for Class I water. This includes the following petroleum constituents. All levels are "ug/l and are dissolved phase	

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
ARM 17.30.1011	ARM 17.30.1011 provides that any groundwater whose existing quality is higher than the standard for its classification must be maintained at that high quality unless degradation may be allowed under the principles established in Section 75-5-303, MCA, and the nondegradation rules at ARM Title 17,chapter 30, subchapter 7.	Activities proposed in the Addendum No. 2 will not impact groundwater.
Surface Water Quality Standards (Applicable)		
Montana Water Quality Act, Section 75-5-101, et seq., MCA Federal Clean Water Act, 33 U.S.C. §§ 1251, et seq.	The Montana Water Quality Act, Sections 75-5-101 et seq., establishes requirements for restoring and maintaining the quality of surface and ground waters and the federal Clean Water Act, 33 U.S.C. Sections 1251 et seq., establishes requirements for restoring and maintaining the quality of surface waters. Under these Acts the state has authority to adopt water quality standards designed to protect beneficial uses of each water body and to designate uses for each water body. Montana's regulations classify state waters according to quality, place restrictions on the discharge of pollutants to state waters and prohibit the degradation of state waters.	Activities proposed in the Addendum No. 2 will not impact surface water.
ARM 17.30.611	ARM 17.30.611(1) (Applicable) provides that the waters of the Yellowstone River drainage upstream of the Laurel water supply intake, which includes the Livingston area, are classified "B-1" for water use.	
ARM 17.30.623	ARM 17.30.623 provides that concentrations of carcinogenic, bioconcentrating, toxic or harmful parameters which would remain in the water after conventional water treatment may not exceed the applicable standards set forth in department Circular WQB-7.	
WQB-7 standards	WQB-7 provides that "For surface waters the Standard is the more restrictive of either the Aquatic Life Standard or the Human Health Standard." For the primary Contaminants of Concern the Circular WQB-7 standards are the same as listed above in groundwater.	
ARM 17.30.623	The B-1 classification standards at ARM 17.30.623 also include the following criteria: 1) Dissolved oxygen concentration must not be reduced below the levels given in department Circular WQB-7; 2) Hydrogen ion concentration (pH) must be maintained within the range of 6.5 to 9.5; 3) the maximum allowable increase above naturally occurring turbidity is 5 nephelometric turbidity units; 4) Temperature increases must be kept within prescribed limits; 5) No increase are allowed above naturally occurring concentrations of sediment, settleable solids, oils, floating solids, which will or is likely to create a nuisance or render the waters harmful, detrimental, or injurious to public health, recreation, safety, welfare, livestock, wild animals, birds, fish or other wildlife. 6) True color must be kept within specified limits.	
ARM 17.30.637	ARM 17.30.637 which prohibits discharges containing substances that will: (a) settle to form objectionable sludge deposits or emulsions beneath the surface of the water or upon adjoining shorelines; (b) create floating debris, scum, a visible oil film (or be present in concentrations at or in excess of 10 milligrams per liter) or globules of grease or other floating materials; (c) produce odors, colors or other conditions which create a nuisance or render undesirable tastes to fish flesh or make fish inedible; (d) create concentrations or combinations of materials which are toxic or harmful to human, animal, plant or aquatic life; (e) create conditions which produce undesirable aquatic life.	
ARM 17.30.705	ARM 17.30.705 provides that for any surface water, existing and anticipated uses and the water quality necessary to protect these uses must be maintained and protected unless degradation is allowed under the nondegradation rules at ARM 17.30.708.	
Water Quality Act, Title 17, Chapter 30, Sub-Chapters 6 and 13 and ARM 17.30.1332	<u>Stormwater Runoff (Applicable)</u> Pursuant to authority under the Water Quality Act, Title 17, Chapter 30, Sub-Chapter 6, and Title 17, Chapter 30, Sub-Chapter 13, including ARM 17.30.1332, the Water Quality Division issues general stormwater permits for certain activities. For construction activities, the following permit must be obtained: General Discharge Permit for Storm Water Associated with Construction Activity, Permit No. MTR100000 (May 19, 1997). Generally, the permits require the permittee to implement Best Management Practices (BMP) and to take all reasonable steps to minimize or prevent any discharge which has a reasonable likelihood of adversely affecting human health or the environment. However, if there is evidence indicating potential or realized impacts on water quality due to any storm water discharge associated with the activity, an individual MPDES permit or alternative general permit may be required.	Activities proposed in the Addendum No. 2 will not impact surface water runoff at the Facility.

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
Ambient Air Quality Standards (Applicable)		
	The following standards are applicable at the site[4]:	Activities proposed in the Addendum No. 2 will not impact ambient air.
40 CFR 50.12 and ARM 17.8.222	40 CFR 50.12 and ARM 17.8.222. Ambient air quality standard for lead. Lead concentrations in the ambient air shall not exceed the following 90-day average: 1.5 micrograms lead per cubic meter of air.	
40 CFR 50.9 and ARM 17.8.213 40 CFR 50.10	40 CFR 50.9 and ARM 17.8.213. Ambient air quality standard for ozone. No person shall cause or contribute to concentrations of ozone in the ambient air exceeding: 0.10 ppm 1-hour average (0.12 ppm federal standard). 40 CFR 50.10 establishes a daily maximum 8-hour average 0.08 parts per million (ppm).	
ARM 17.8.220	ARM 17.8.220. Ambient air quality standard for settled particulate matter. Particulate matter concentrations in the ambient air shall not exceed the following 30-day average: 10 grams per square meter.	
40 CFR 50.6 and ARM 17.8.223	40 CFR 50.6 and ARM 17.8.223. Ambient air quality standards for PM-10. PM-10 concentrations in the ambient air shall not exceed the following standards: 150 micrograms/cubic meter of air, 24-hour average; and 50 micrograms/cubic meter of air, expected annual average.	
40 CFR 50.8 and ARM 17.8.212	40 CFR 50.8 and ARM 17.8.212. Ambient air quality standards for carbon monoxide. Carbon monoxide concentrations in the ambient air shall not exceed the following standards: 9 ppm 8-hour average; and 23 ppm for a 1-hour average (35 ppm for federal).	
Emission Standards (Applicable)		
Sections 75-2-101, et seq., MCA,	Montana has promulgated standards to regulate emissions of certain contaminants into the air. The state emission standards are enforceable under the Montana Clean Air Act, Sections 75-2-101 et seq., MCA.	Activities proposed in the Addendum No. 2 will not result in emissions from point sources.
ARM 17.8.304	ARM 17.8.304. Visible Air Contaminants. No source may discharge emissions into the atmosphere that exhibit an opacity of 20 percent or greater, averaged over six consecutive minutes. This standard is limited to point sources, but excludes wood waste burners, incinerators, and motor vehicles.	
ARM 17.8.308	ARM 17.8.308. Airborne Particulate Matter. Emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20 percent or greater, averaged over six consecutive minutes. This standard applies to the production, handling, transportation, or storage of any material; to the use of streets, roads, or parking lots; and to construction or demolition projects.	
ARM 17.8.315	ARM 17.8.315. Odors. If a business or other activity will create odors, those odors must be controlled, and no business or activity may cause a public nuisance.	Activities proposed in the Addendum No. 2 will not generate odors. No open burning will be conducted during implementation of Task I.
ARM 17.8.604	ARM 17.8.604. Prohibited open burning. Open burning of numerous specific materials, including but not limited to oil and petroleum products and hazardous wastes, is prohibited.	
ARM 17.8.705	ARM 17.8.705 requires that permits be obtained for the construction, installation, alteration, or use of specified air contaminant sources. All air permits required for remedial actions must be obtained.	Activities proposed in the Addendum No. 2 do not require air permits.
ARM 17.8.715	ARM 17.8.715 requires sources for which air quality permits are required to use best available control technology (BACT) or to meet the lowest achievable emission rate (LAER), as applicable.	

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
FEDERAL LOCATION SPECIFIC ERCLS		
Criteria Classification of Solid Waste Disposal Facilities and Practices (Applicable and Well-Suited)		
40 CFR 257	Under the selected remedy, no solid or hazardous waste (other than media treated to cleanup levels) may be disposed on-site. The standards therefore are pertinent to the cinder pile (well-suited) and placement of ex situ soils treated to cleanup levels (applicable) and post-jurisdictional wastes (applicable). The criteria contained in 40 CFR Part 257, establish standards with which solid waste disposal must comply to avoid possible adverse effects on health or the environment. 40 CFR Part 257 includes the following standards: Section 257.3-1(a) requires that facilities or practices in the floodplain not result in the washout of solid waste so as to pose a hazard to human life, wildlife, or land or water resources. Section 257.3-2 provides for the protection of threatened or endangered species. Section 257.3-3 provides that a facility shall not cause the discharge of pollutants into waters of the United States. Section 257.3-4 states that a facility or practice shall not contaminate underground drinking water.	Non-hazardous IDW (i.e., soil, water) will be generated during implementation of Addendum No. 2. Depending on the constituents and concentrations present and upon approval from DEQ, this soil or water may be landspread at the Livingston railyard, or treated, if feasible, and landspread at the Livingston railyard. Alternatively, non-hazardous IDW will be disposed offsite at an appropriate permitted disposal facility. Any solid waste (i.e., plastic wrapping, cardboard, non-indigenous waste that contain de minimus amounts of listed wastes, etc.) will be contained in a plastic bag (if necessary) [double-bagged (if necessary)], and placed in a garbage can for collection and appropriate disposal as solid waste. See Section 8.4 of the Facility-Wide SAP for additional information on how non-hazardous waste and solid waste will be managed to comply with these ERCLs. Activities proposed in Addendum No. 2 do not involve the cinder pile.
The Endangered Species Act (Well-Suited)		
16 U.S.C. §§ 1531 – 1544, 50 CFR Part 402, 40 CFR 6.302(h), 40 CFR 257.3-2 Sections 87-5-106, -107, -111, and -201, MCA ARM 12.5.201	This statute and implementing regulations (16 U.S.C. § 1531 et seq., 50 CFR Part 402, 40 CFR 6.302(h), and 40 CFR 257.3-2) require that any federal activity or federally authorized activity may not jeopardize the continued existence of any threatened or endangered species or destroy or adversely modify a critical habitat. Compliance with this requirement involves consultation with the U.S. Fish and Wildlife Service (USFWS) and a determination of whether there are listed or proposed species or critical habitats present at the Site, and, if so, whether any proposed activities will impact such wildlife or habitat. No endangered or threatened species was identified onsite although the Yellowstone Trout is treated as a species of special concern by the State. Any action affecting federal or State endangered or threatened species must comply with all listed requirements. Sections 87-5-106, 107, and 111, MCA (Applicable): Endangered species should be protected in order to maintain and to the extent possible enhance their numbers. These sections list endangered species, prohibited acts and penalties. See also, §§ 87-5-106 and 87-5-201, MCA, (Applicable) concerning protection of wild birds, nests and eggs. ARM 12.5.201 (Applicable). Certain activities are prohibited with respect to specified endangered species.	Activities proposed in the Addendum No. 2 will not impact endangered species. According to the ROD, no endangered species or threatened specifies were identified at the Facility, although the Yellowstone Trout is treated as a species of special concern by the State.
Migratory Bird Treaty Act (Well-Suited)		
16 U.S.C. §§ 703, et seq.	This requirement (16 U.S.C. § 703 et seq.) establishes a federal responsibility for the protection of the international migratory bird resource and requires continued consultation with the USFWS during remedial design and remedial action to ensure that the cleanup of the site does not unnecessarily impact migratory birds.	Activities proposed in the Addendum No. 2 will not impact migratory birds. Migratory birds may be present near the Facility. However, the Livingston railyard does not provide the majority of habitat for these species relative to the surrounding area, and no features exist that are particularly attractive to these species.
Bald Eagle Protection Act (Well-Suited)		
16 U.S.C. §§ 668, et seq.	This requirement (16 U.S.C. § 668 et seq.) establishes a federal responsibility for protection of bald and golden eagles, and requires continued consultation with the USFWS during remedial design and remedial action to ensure that any cleanup of the site does not unnecessarily adversely affect the bald and golden eagle.	Activities proposed in the Addendum No. 2 will not impact bald eagles. Bald eagles may be present near the Facility. However, the Livingston railyard does not provide the majority of habitat for these species relative to the surrounding area, and no features exist that are particularly attractive to these species.

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
Historic Sites, Buildings, Objects, and Antiquities Act (Well-Suited)		
16 U.S.C. 461, et seq.	These requirements, found at 16 U.S.C. 461 et seq., provide that, in conducting an environmental review of a proposed action, the responsible official shall consider the existence and location of natural landmarks using information provided by the National Park Service pursuant to 36 CFR 62.6(d) to avoid undesirable impacts upon such landmarks. No historic sites were identified.	Activities proposed in the Addendum No. 2 will not impact historic sites. According to the ROD, no historic sites were identified.
Fish and Wildlife Coordination Act (Well-Suited)		
16 U.S.C. 661, et seq. and 40 CFR 6.302(g)	These standards are found at 16 U.S.C. § 661 et seq. and 40 CFR 6.302(g) and require that federally funded or authorized projects ensure that any modification of any stream or other water body affected by a funded or authorized action provide for adequate protection of fish and wildlife resources.	Activities proposed in the Addendum No. 2 do not involve the modification of any stream or other water body.
Floodplain Management Order (Well-Suited)		
40 CFR Part 6, Appendix A, Executive Order No. 11,988	This requirement (40 CFR Part 6, Appendix A, Executive Order No. 11,988) mandates that federally funded or authorized actions within the 100 year floodplain avoid, to the maximum extent possible, adverse impacts associated with development of a floodplain.	Three deep soil gas sampling locations proposed in Addendum No. 2 are located in the 100-year floodplain. Soil gas probe installation activities are not anticipated to impact the floodplain. Soil gas sampling in the 100-year flood plain will not impact the floodplain. Figure G1 (attached) shows the portion of the Facility located within the 100-year floodplain.
Protection of Wetlands Order (Well-Suited)		
40 CFR Part 6, Appendix A, Executive Order No. 11,990 Section 404(b)(1), 33 U.S.C. Section 1344(b)(1)	This requirement (40 CFR Part 6, Appendix A, Executive Order No. 11,990) mandates that federal agencies and potentially responsible parties avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands and to avoid support of new construction in wetlands if a practicable alternative exists. Section 404(b)(1), 33 U.S.C. § 1344(b)(1), also prohibits the discharge of dredged or fill material into waters of the United States. Together, these requirements create a "no net loss" of wetlands standard.	According to Montana's Natural Resource Information System (NRIS), no wetlands have been identified in the Livingston area. Activities proposed in the Addendum No. 2 will not impact wetlands.
STATE LOCATION SPECIFIC ERCLS		
Solid Waste Management Regulations (Applicable and Well-Suited)		
Solid Waste Management Act, Sections 75-10-201 et seq., MCA	Regulations promulgated under the Solid Waste Management Act, Sections 75-10-201 et seq., MCA, specify requirements that apply to the location of any solid waste management facility. Under the selected remedy, no solid or hazardous waste (other than media treated to cleanup levels) may be disposed on-site. The standards therefore are pertinent to the cinder pile (well-suited) and placement of ex situ soils treated to cleanup levels (applicable) and post-jurisdictional wastes (applicable).	Non-hazardous IDW (i.e., soil, water) will be generated during implementation of Addendum No. 2. Depending on the constituents and concentrations present and upon approval from DEQ, this soil or water may be landspread at the Livingston railyard, or treated, if feasible, and landspread at the Livingston railyard. Alternatively, non-hazardous IDW will be disposed offsite at an appropriate permitted disposal facility. Any solid waste (i.e., plastic wrapping, cardboard, non-indigenous waste that contain de minimus amounts of listed wastes, etc.) will be contained in a plastic bag (if necessary) [double-bagged (if necessary)], and placed in a garbage can for collection and appropriate disposal as solid waste. See Section 8.4 of the Facility-Wide SAP for additional information on how non-hazardous waste and solid waste will be managed to comply with these ERCLs. Activities proposed in Addendum No. 2 do not involve the cinder pile.
ARM 17.50.505(1)	Under ARM 17.50.505(1), a facility for the treatment, storage or disposal of solid wastes: (a) must be located where a sufficient acreage of suitable land is available for solid waste management; (b) may not be located in a 100-year floodplain; (c) may be located only in areas which will prevent the pollution of ground and surface waters and public and private water supply systems; (d) must be located to allow for reclamation and reuse of the land; (e) drainage structures must be installed where necessary to prevent surface runoff from entering waste management areas; and (f) where underlying geological formations contain rock fractures or fissures which may lead to pollution of the ground water or areas in which springs exist that are hydraulically connected to a proposed disposal facility, only Class III disposal facilities may be approved.	Activities proposed in the Addendum No. 2 do not involve the siting of a solid waste treatment, storage, or disposal facility. IDW (i.e., soil, water) generated during implementation of Addendum No.2 will be contained in 55-gallon drums or other appropriate containers and stored inside/near the Forest Products Building and/or the Former C&P Packing Building (see Section 8.4.4.1 of Facility-Wide SAP). The Forest Products Building and/or Former C&P Packing Building and surrounding areas represent sufficient acreage for IDW management. These buildings are not located in the 100-year floodplain. IDW will be stored in appropriate containers to prevent pollution of groundwater, surface water, and public supply systems. See Section 8.4 of the Facility-Wide SAP for additional information regarding the management of IDW.

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
Floodplain and Floodway Management Act and Regulations (Applicable)		
	A portion of the site is in a designated floodplain. The following standards are included here to indicate the restrictions on any related activities that might occur in or affect the floodway or floodplain.	Three deep soil gas sampling locations proposed in Addendum No. 2 are located in the 100-year floodplain. Soil gas probe installation activities are not anticipated to impact the floodplain. Soil gas sampling in the 100-year flood plain will not impact the floodplain. Figure G1 (attached) shows the portion of the Facility located within the 100-year floodplain. IDW generated during soil gas probe installations will be contained in 55-gallon drums or other appropriate containers and stored inside/near the Forest Products Building and/or the Former C&P Packing Building (see Section 8.4.4.1 of Facility-Wide SAP). The Forest Products Building and/or Former C&P Packing Building and surrounding areas represent sufficient acreage for IDW management. These buildings are not located in the 100-year floodplain.
Section 76-5-401, MCA and ARM 36.15.601	Residential, certain agricultural, industrial-commercial, recreational and other uses are permissible within the designated floodway, provided they do not require structures other than portable structures, fill or permanent storage of materials or equipment. Section 76-5-401, MCA; ARM 36.15.601.	
Section 76-5-402, MCA and ARM 36.15.701	In the flood fringe (i.e., within the floodplain but outside the floodway), residential, commercial, industrial, and other structures may be permitted subject to certain conditions relating to placement of fill, roads, and floodproofing. Section 76-5-402, MCA; ARM 36.15.701.	
ARM 36.15.602(6)	Domestic water supply wells may be permitted, even within the floodway, provided the well casing and well meets certain conditions. ARM 36.15.602(6).	
ARM 36.15.602(5), 36.15.605, and 36.15.703	Solid and hazardous waste disposal and storage of toxic, flammable, hazardous, or explosive materials are prohibited anywhere in floodways or floodplains. ARM 36.15.602(5), 36.15.605, and 36.15.703.	
Section 76-5-402, MCA	The following are prohibited in a floodway: buildings for living purposes or place of assembly or permanent use by human beings; any structure or excavation that will cause water to be diverted from the established floodway, cause erosion, obstruct the natural flow of water, or reduce the carrying capacity of the floodway; and the construction or permanent storage of an object subject to flotation or movement during flood level periods. Section 76-5-402, MCA.	
Section 76-5-406, MCA and ARM 36.15.216	Section 76-5-406, MCA and ARM 36.15.216 contain substantive factors which address obstruction or use within the floodway or floodplain.	
ARM 36.15.604, ARM 36.15.602(1), and ARM 36.15.603	Further conditions or restrictions that generally apply to specific activities within the floodway or floodplain can be found at ARM 36.15.604 (increase in upstream elevation or significantly increase flood velocities); ARM 36.15.602(1) (excavation of material from pits or pools); ARM 36.15.603 (water diversions or changes in place of diversion).	
ARM 36.15.701(3)(c)	ARM 36.15.701(3)(c) requires that roads, streets, highways and rail lines must be designed to minimize increases in flood heights.	
ARM 36.15.701(3)(d)	Structures and facilities for liquid or solid waste treatment and disposal must be floodproofed to ensure that no pollutants enter flood waters and may be allowed and approved only in accordance with DEQ regulations, which include certain additional prohibitions on such disposal. ARM 36.15.701(3)(d).	
ARM 36.15.702(2)	Standards applied to residential, commercial or industrial structures are found at ARM 36.15.702(2).	
ARM 36.15.606	Flood control works are subject to ARM 36.15.606, which requires compliance with safety standards for levees, floodwalls, and riprap.	
ARM 36.15.901	ARM 36.15.901 requires electrical systems to be flood-proofed.	
FEDERAL AND STATE ACTION SPECIFIC ERCLS		
Federal Hazardous Waste Management Regulations (Applicable)		
42 U.S.C. §§ 6901 et seq., and Montana Hazardous Waste Act, Sections 75-10-401 et seq., MCA	The Resource Conservation and Recovery Act (RCRA), 42 U.S.C. Sections 6901 et seq., and the Montana Hazardous Waste Act, Sections 75-10-401 et seq., MCA, and regulations under these acts establish a regulatory structure for the generation, transportation, treatment, storage and disposal of hazardous wastes. These requirements are applicable to substances and actions at the site which involve the active management of hazardous wastes. Burlington Northern operated the site and generated waste through 1986-7. Therefore, in certain instances, disposal was not pre-jurisdictional and the hazardous waste requirements are applicable now. However, DEQ does not have the documentation showing the dates of individual discharges, and therefore has, for purposes of this ROD, made a determination to treat all historic waste and media containing waste as pre-jurisdictional (in accord with the NCP and EPA guidance). Therefore, under this ROD, the historic waste which is characteristic or listed becomes hazardous upon excavation (generation).	Activities proposed in Addendum No. 2 are not expected to generate hazardous waste. If, however, any hazardous wastes are generated, they will be handled in compliance with the Facility-Wide SAP which accords with these ERCLs.

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
Identification and Listing of Hazardous Waste		
40 CFR 261 ARM 17.54.501-502	Wastes may be designated as hazardous by either of two methods: listing or demonstration of a hazardous characteristic. Listed wastes are the specific types of wastes determined by EPA to be hazardous as identified in 40 CFR Part 261, Subpart D (40 CFR 261.30 - 261.33). Listed wastes are designated hazardous by virtue of their origin or source, and must be managed as hazardous wastes regardless of the concentration of hazardous constituents. Characteristic wastes are those that by virtue of concentrations of hazardous constituents demonstrate the characteristic of ignitability, corrosivity, reactivity or toxicity, as described at 40 CFR Part 261, Subpart C. Certain of the wastes at the site demonstrate the characteristic of toxicity, and are therefore characteristic hazardous wastes upon excavation. The site also contains F001 and F002 which are listed hazardous wastes for chlorinated solvents. The various media and wastes at the site contaminated by the F001 and F002 wastes are also hazardous wastes pursuant to 40 CFR Part 261 upon excavation. The RCRA requirements specified below are applicable requirements for the treatment, storage and disposal of these wastes. See 40 CFR 261.31 (Hazardous Waste Numbers F001 and F002) and ARM 17.54.501. These ERCLs apply to remedial activities; on-going operations must comply with State and federal requirements and permits. EPA has advised EPA Regions and States that conservative, health-based levels derived from direct exposure pathways would clearly be acceptable as "contained-in" levels. [See memorandum from Sylvia K. Lowrance to Jeff Zelikson, Region IX, (January 24, 1989)]. EPA and many States specify conservative, risk-based levels calculated with standard conservative exposure assumptions (usually based on unrestricted access), or site-specific risk assessments. 61 FR at 18795 (April 29, 1996); 63 FR 28556 (May 26, 1998) [Part I of II]. For the BN Livingston Shop Complex, soils treated to below cleanup levels will be allowed to return to the site (from, for example, the electric shop) to an approved location in compliance with RCRA. For media which contain hazardous waste, all standards are applicable except for disposal requirements for "contained-out" soils. For all non-media wastes, the standards are applicable. However, no on-site disposal of hazardous waste is allowed under the selected remedy. Therefore, all hazardous wastes, including all media not treated to cleanup levels must be disposed off-site at a regulated subtitle C facility. These standards specifically apply to free product removed from within the solvent plume. For free product removed from outside the solvent plume 40 CFR Part 279 is applicable.	Activities proposed in Addendum No. 2 are not expected to generate hazardous waste. If, however, any hazardous wastes are generated, they will be handled in compliance with the Facility-Wide SAP which accords with these ERCLs.
ARM 17.53.111 and 112, MCA	Because of the presence of listed and characteristic hazardous waste, the permit requirements specified in ARM 17.53.112 are applicable. However, DEQ is exempting remedial actions involving hazardous waste from RCRA permit requirements pursuant to 75-10-721(3), MCA (1993) as long as substantive requirements are met. This does not, however, affect the requirement to comply with ARM 17.53.111, Registration and EPA Identification Numbers for Generators and Transporters. Workplans will require detailed information on compliance with all procedural and substantive standards (as well as all ERCLs). Set out below are the hazardous waste requirements that are applicable for the types of waste management units or the waste management practices anticipated in the remedial actions at the site.	
Standards for Transporters of Hazardous Waste		
40 CFR Part 263	The RCRA regulations at 40 CFR Part 263, establish standards that apply to transporters of hazardous waste. These standards include requirements for immediate action for hazardous waste discharges. These standards are applicable for any on-site transportation. These standards are independently applicable (see Other Laws section) for any off-site transportation.	Activities proposed in Addendum No. 2 are not expected to generate hazardous waste. If, however, any hazardous wastes are generated, they will be handled in compliance with the Facility Wide SAP which accords with these ERCLs.

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities		
40 CFR 264, Subpart B	General Facility Standards The regulations at 40 CFR 264, Subpart B, establish general facility requirements. These standards include requirements for general waste analysis, security and location standards.	Activities proposed in Addendum No. 2 are not expected to generate hazardous waste. If, however, any hazardous wastes are generated, they will be handled in compliance with the Facility-Wide SAP which accords with these ERCLs.
40 CFR 264, Subpart F	Releases from Solid Waste Management Units The regulations at 40 CFR 264, Subpart F, establish requirements for groundwater protection for RCRA-regulated solid waste management units (i.e., waste piles, surface impoundments, land treatment units, and landfills). The regulations at Subpart F establish monitoring requirements for RCRA-regulated solid waste management units (i.e., waste piles, surface impoundments, land treatment units, and landfills). Subpart F provides for three general types of groundwater monitoring: detection monitoring (40 CFR 264.98); compliance monitoring (40 CFR 264.99); and corrective action monitoring (40 CFR 264.100). Monitoring wells must be cased according to 264.97(c). Monitoring is required during the active life of a hazardous waste management unit. If hazardous waste remains, monitoring is required for a period necessary to protect human health and the environment.	
40 CFR Part 264, Subpart G	Closure and Post-Closure Monitoring and Maintenance of Waste Management or Disposal Facilities 40 CFR Part 264, Subpart G, establishes that hazardous waste management facilities must be closed in such a manner as to (a) minimize the need for further maintenance and (b) control, minimize or eliminate, to the extent necessary to protect public health and the environment, post-closure escape of hazardous wastes, hazardous constituents, leachate, contaminated runoff or hazardous waste decomposition products to the ground or surface waters or to the atmosphere. Requirements for facilities requiring post-closure care include the following: the facilities must undertake appropriate monitoring and maintenance actions, control public access, and control postclosure use of the property to ensure that the integrity of the final cover, liner, or containment system is not disturbed. In addition, all contaminated equipment, structures and soil must be properly disposed of or decontaminated unless exempt and free liquids must be removed or solidified, the wastes stabilized, and the waste management unit covered.	
40 CFR Part 264, Subparts I and J 40 CFR 261.7	Waste Containers and Tanks 40 CFR Part 264, Subparts I and J apply to owners and operators of facilities that store hazardous waste in containers, and store or treat hazardous waste in tanks, respectively. These regulations are applicable to any storage or treatment in these units at the site. The related provisions of 40 CFR 261.7, residues of hazardous waste in empty containers, are also applicable.	
40 CFR Part 264, Subpart L	Waste Piles 40 CFR Part 264, Subpart L, applies to owners and operators of facilities that store or treat hazardous waste in piles. The regulations include requirements for the use of run-on and run-off control systems and collection and holding systems to prevent the release of contaminants from waste piles. These regulations are applicable to any storage in waste piles at the site.	
40 CFR 264.554	Staging Piles 40 CFR 264.554 sets forth a new storage unit called the staging pile. A staging pile must be located within the contiguous property under the control of the owner/operator where the wastes to be managed in the staging pile originated. The staging pile must be designed so as to prevent or minimize releases of hazardous wastes and hazardous constituents into the environment, and minimize or adequately control cross-media transfer, as necessary to protect human health and the environment (for example, through the use of liners, covers, run-off/run-on controls, as appropriate). The staging pile must not operate for more than two years and cannot be used for treatment.	

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
40 CFR Part 268	RCRA Land Disposal Restrictions Since the wastes to be treated are listed and characteristic wastes, the RCRA Land Disposal Restrictions (LDRs) treatment levels set forth in 40 CFR Part 268 are applicable requirements including the treatment levels for F001 and F002 listed wastes for the disposal of hazardous wastes generated at the site. With the exception of treated soils, hazardous wastes are prohibited from disposal on-site.	Activities proposed in Addendum No. 2 are not expected to generate hazardous waste. If, however, any hazardous wastes are generated, they will be handled in compliance with the Facility-Wide SAP which accords with these ERCLs.
HWIR Media Rule (63 Fed. Reg. 65874)	The HWIR Media Rule, promulgated at 63 Fed. Reg. 65874 (November 30, 1998) allows listed waste treated to levels protective of human health and the environment to be disposed on-site without triggering land ban or minimum technology requirements for these disposal requirements. Treated soils containing hazardous waste will need to meet cleanup levels to avoid triggering land ban or minimum technology requirements for these disposal requirements.	
40 CFR 268.45	Hazardous debris Since on-site disposal of solid and hazardous wastes is prohibited at the site, any hazardous debris remaining on-site must comply with 40 CFR 268.45 prior to off-site disposal as a solid waste (all off-site disposal must also comply with LDR certification requirements, which apply to these wastes). If the debris does not fully comply with 40 CFR 268.45, it must be disposed off-site at a regulated subtitle C facility.	
40 CFR Part 270	Substantive Permit Requirements 40 CFR Part 270 sets forth the hazardous waste permit program. The substantive requirements set forth in 40 CFR Part 270, Subpart C (permit conditions), including the requirement to properly operate and maintain all facilities and systems of treatment and control are applicable requirements.	
40 CFR Part 279	Used Oil 40 CFR Part 279 sets forth the standards for the management of used oil. For product removed from outside the solvent plume, 40 CFR Part 279 is applicable.	Activities proposed in the Addendum No. 2 will not result in the generation of used oil.
State Hazardous Waste Management Regulations (Applicable)		
Sections 75-10-401 et seq., MCA	The Montana Hazardous Waste Act, Sections 75-10-401 et seq., MCA, and regulations under this act establishes a regulatory structure for the generation, transportation, treatment, storage and disposal of hazardous wastes. These requirements are applicable to substances and actions at the site which involve listed and characteristic hazardous wastes.	Activities proposed in Addendum No. 2 are not expected to generate hazardous waste. If, however, any hazardous wastes are generated, they will be handled in compliance with the Facility-Wide SAP which accords with these ERCLs.
ARM 17.53.501-502	ARM 17.53.501-502 adopts the equivalent of RCRA regulations at 40 CFR Part 261, establishing standards for the identification and listing of hazardous wastes, including standards for recyclable materials and standards for empty containers, with certain State exceptions and additions.	
ARM 17.53.601-604	ARM 17.53.601-604, adopts the equivalent to RCRA regulations at 40 CFR Part 262, establishing standards that apply to generators of hazardous waste, including standards pertaining to the accumulation of hazardous wastes, with certain State exceptions and additions.	
ARM 17.53.701-708	ARM 17.53.701-708, adopts the equivalent to RCRA regulations at 40 CFR Part 263, establishing standards that apply to transporters of hazardous waste, with certain State exceptions and additions.	
ARM 17.53.801-803	ARM 17.53.801-803, adopts the equivalent to RCRA regulations at 40 CFR Part 264, establishing standards that apply to hazardous waste treatment, storage and disposal facilities, with certain State exceptions and additions.	
ARM 17.53.1101-1102	ARM 17.53.1101-1102, adopts the equivalent to RCRA regulations at 40 CFR Part 268, establishing land disposal restrictions, with certain State exceptions and additions.	
Section 75-10-422 MCA	Section 75-10-422 MCA prohibits the unlawful disposal of hazardous wastes.	
ARM 17.53.1101-1102	ARM 17.53.1101-1102, adopts the equivalent to RCRA regulations at 40 CFR Part 270, which establish standards for permitted facilities, with certain State exceptions and additions.	
ARM 17.53.1401	ARM 17.53.1401, adopts the equivalent of RCRA regulations at 40 CFR Part 279 which set forth the standards for the management of used oil.	

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
National Emission Standards for Hazardous Air Pollutants (NESHAPs)		
ARM 17.8.341 (Incorporates by reference 40 CFR Part 61)	Asbestos (Well-Suited) The federal Clean Air Act requires the EPA to set emission standards for hazardous air pollutants. 42 U.S.C Section 7412. Implementation and enforcement of these standards in Montana has been delegated to the State. See 40 CFR 61.04(b)(BB). Federal standards for hazardous air pollutants (NESHAPs) at 40 CFR Part 61, are incorporated by reference by ARM 17.8.341. The NESHAPs for asbestos are well-suited to the cinder pile and are discussed in the Asbestos section below; however, the solid waste requirements are the more stringent of the ERCLs that must be complied with with respect to covering of the cinder pile.	Activities proposed in the Addendum No. 2 will not result in air emissions of asbestos or vinyl chloride.
40 CFR 61.145	40 CFR 61.145. (well-suited). Standard for demolition and renovation. This section contains standards for demolition or renovation of a facility. The standards are designed to reduce or eliminate asbestos emissions from such operations, and include provisions for notification regarding intended project, wetting of asbestos materials, use of exhaust systems, careful movement of asbestos materials, and presence on site of a trained asbestos removal person. This section applies to any demolition or renovation of a structure, installation, building, or waste disposal area at the site containing asbestos materials.	
40 CFR 61.151	40 CFR 61.151. (well-suited). Standard for inactive waste disposal sites for asbestos mills and manufacturing and fabricating operations. There must either be no discharge of visible emissions from the site to the outside air, or the specified covering or treatment methods must be followed. Warning signs must be posted and prior notice must be given to EPA or the State before the waste material is excavated or disturbed.	
40 CFR Part 61, Subpart F	Vinyl Chloride (Applicable) 40 CFR Part 61, Subpart F contains the national emission standard for vinyl chloride. 40 CFR 61.64(b) requires concentrations from vinyl chloride in each exhaust gas stream from each stripper not exceed 10 ppm.	
National Pollutant Discharge Elimination System (NPDES) and the Montana Pollutant Discharge Elimination System (MPDES) (Applicable)		
40 CFR Part 122, Subpart C and ARM 17.30.1342 -.1344	40 CFR Part 122, Subpart C and ARM 17.30.1342-1344 set forth the substantive requirements applicable to all MPDES and NPDES permits. Permits must be obtained for all surface and groundwater systems that are part of remedial actions, including proper operation and maintenance of all facilities and systems of treatment and control.	Activities proposed in the Addendum No. 2 will not result in any surface water discharge(s).
Technology-Based Treatment (Applicable)		
40 CFR Part 125 and ARM 17.30.1344	40 CFR Part 125 and ARM 17.30.1344 set forth criteria and standards for dischargers. Based on the source, the technology-based treatment standards include the best practicable control technology (BPT), best conventional pollutant control technology (BCT), or Best Available Technology Economically Achievable (BAT).	Activities proposed in the Addendum No. 2 will not result in any surface water discharge(s).
Underground Injection Control Program (Well-Suited)		
40 CFR 146	The Underground Injection Control Program set forth at 40 CFR 146, sets forth the standards and criteria for the injection of substances into aquifers. Wells are classified as Class I through V, depending on the location and the type of substance injected. For all classes, no owner may construct, operate or maintain an injection well in a manner that results in the contamination of an underground source of drinking water at levels that violate MCLs or otherwise adversely affect the health of persons. Each classification may also contain further specific standards, depending on the classification.	Activities proposed in the Addendum No. 2 do not involve the construction/operation of underground injection control wells.

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
Solid Waste Management Regulation (Applicable and Well-Suited)		
ARM 17.50.505	ARM 17.50.505(2) specifies standards for solid waste management facilities, including the requirements that: 1. Class II landfills must confine solid waste and leachate to the disposal facility. If there is the potential for leachate migration, it must be demonstrated that leachate will only migrate to underlying formations which have no hydraulic continuity with any state waters; 2. adequate separation of group II wastes from underlying or adjacent water must be provided; and 3. no new disposal units or lateral expansions may be located in wetlands. ARM 17.50.505 also specifies general soil and hydrogeological requirements pertaining to the location of any solid waste management facility.	Activities proposed in the Addendum No. 2 do not involve siting, construction, operation/maintenance, and closure of a solid waste management facility. IDW generated during implementation of Addendum No. 2 will be managed as outlined in Section 8.4 of the Facility-Wide SAP.
ARM 17.50.511	ARM 17.50.511 sets forth general operational and maintenance and design requirements for solid waste facilities using landfilling methods. Specific operational requirements, specified in ARM 17.14.511 are run-on and run-off control systems requirements, requirements that sites be fenced to prevent unauthorized access, and prohibitions of point source and nonpoint source discharges which would violate Clean Water Act requirements.	
ARM 17.50.530	ARM 17.50.530 sets forth the closure requirements for landfills. Class II landfills must meet the following criteria: 1. install a final cover that is designed to minimize infiltration and erosion. 2. design and construct the final cover system to minimize infiltration through the closed unit by the use of an infiltration layer that contains a minimum 18 inches of earthen material and has a permeability less than or equal to the permeability of any bottom liner, barrier layer, or natural subsoils or a permeability no greater than 1 X 10-5 cm/sec, whichever is less; 3. minimize erosion of the final cover by the use of a seed bed layer that contains a minimum of six inches of earthen material that is capable of sustaining native plant growth and protecting the infiltration layer from frost effects and rooting damage; 4. revegetate the final cover with native plant growth within one year of placement of the final cover.[5]	
ARM 17.50.531	ARM 17.50.531 sets forth post closure care requirements for Class II landfills. Post closure care must be conducted for a period sufficient to protect human health and the environment. Post closure care requires maintenance of the integrity and effectiveness of any final cover, including making repairs to the cover as necessary to correct the effects of settlement, subsidence, erosion, or other events, and preventing run-on and run-off from eroding or otherwise damaging the cover and comply with the groundwater monitoring requirements found at ARM Title 17, chapter 14, subchapter 7.	
Transportation of Solid Waste (Applicable)		
Section 75-10-212	For solid wastes, Section 75-10-212 prohibits dumping or leaving any debris or refuse upon or within 200 yards of any highway, road, street, or alley of the State or other public property, or on privately owned property where hunting, fishing, or other recreation is permitted.	Any solid waste generated during implementation of Addendum No. 2 will be handled in accordance with these ERCLs. The amount of solid waste likely to be generated during Addendum No. 2 is minimal. Boxes used to ship sample containers to Livingston will be used to ship the samples back to the analytical laboratory. Any other solid waste generated (i.e., tape removed from boxes, plastic bags and/or boxes containing supplies that are not reused, latex gloves, concrete drilling particulates, disposable tubing, paper towels, etc.) will be contained in a plastic garbage bag and placed in a garbage can for collection and appropriate disposal as solid waste. Refer to Section 8.4 of Facility-Wide SAP for additional information regarding management of IDW.
ARM 17.50.523	ARM 17.50.523 requires that such waste must be transported in such a manner as to prevent its discharge, dumping, spilling, or leaking from the transport vehicle.	

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
Underground Storage Tank (USTs) Regulations (Applicable)		
	These standards are applicable. To the extent certain UST systems were removed prior to the effective date of the regulations, diesel is found separate and distinct from an UST system, or UST regulations are not applicable, the UST requirements remain well-suited since they address situations or problems sufficiently similar to those at the site.	Activities proposed in the Addendum No. 2 do not involve USTs.
40 CFR Part 280, Subpart F	40 CFR Part 280, Subpart F sets forth requirements for Release Response and Corrective Action for UST Systems Containing Petroleum or Hazardous Substances. These include initial response, initial abatement measures, site characterization, free product removal, and investigations for soil and groundwater cleanup.	
40 CFR 280.64	40 CFR 280.64 provides that where investigations in connection with leaking underground storage tanks reveal the presence of free product, owners and operators must remove free product to the maximum extent practicable as determined by the implementing agency. This regulation also requires that the free product removal be conducted in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable local, State and Federal regulations.	
	40 CFR 280.64 provides that abatement of free product migration is a minimum objective for the design of the free product removal system provides that any flammable products must be handled in a safe and competent manner to prevent fires or explosions.	
40 CFR Part 280, Subpart D	40 CFR Part 280, Subpart D sets forth requirements for release detection.	
40 CFR 280.43	40 CFR 280.43 (well-suited) specifies groundwater monitoring requirements for underground storage tanks and requires continuous monitoring devices or manual methods used to detect the presence of at least 1/8 of an inch of free product on top of the groundwater in the monitoring wells.	
Title 17, Chapter 56, Sub-Chapter 4	The Montana regulations regarding underground storage tanks include similar requirements.	
	Title 17, Chapter 56, Sub-Chapter 4 specifies release detection.	
ARM 17.56.407	ARM 17.56.407 specifies groundwater monitoring requirements for underground storage tanks and requires continuous monitoring devices or manual methods used to detect the presence of at least 1/8 of an inch of free product on top of the groundwater in the monitoring wells.	
Title 17, Chapter 56, Sub-Chapter 6	Title 17, Chapter 56, Sub-Chapter 6 specifies release response and corrective action for tanks containing petroleum or hazardous substances.	
ARM 17.56.602 - 605	ARM 17.56.602 through 605 requires certain mitigation measures including removal of as much of the regulated substance from the system as is necessary to prevent further release into the environment and prevention of further migration of the released substance into surrounding soil and groundwater.	
Asbestos Regulation in Building Construction and Demolition (Well-Suited)		
Sections 50-64-101, et seq., MCA	Sections 50-64-101 et seq., MCA, regulate construction and demolition of structures that contain asbestos.	Activities proposed in the Addendum No. 2 do not involve construction or demolition of any asbestos-containing structures.
50-64-104, MCA	Section 50-64-104, MCA. provides for various safeguards to prevent release of asbestos into the air. The prescribed safeguards include notification of the local fire department, posting of warning signs, wetting of surfaces, dust emission control, covering and wetting during transport, and deposition at a landfill where materials are unlikely to be disturbed and where signs warn that asbestos-containing material is buried in the landfill. The listed safeguards are well-suited to the covering of the cinder pile.	

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
Well Drilling (Applicable)		
Section 85-2-505, MCA	Section 85-2-505, MCA, precludes the wasting of groundwater. Any well producing waters that contaminate other waters must be plugged or capped, and wells must be constructed and maintained so as to prevent waste, contamination, or pollution of groundwater.	Activities proposed in the Addendum No. 2 do not involve installation of wells.
Section 85-2-516, MCA	Section 85-2-516, MCA states that within 60 days after any well is completed a well log report must be filed by the driller with the Montana Department of Natural Resources and Conservation and the appropriate county clerk and recorder.	
ARM 17.30.641	ARM 17.30.641 provides standards for sampling and analysis of water to determine quality.	
ARM 17.30.646	ARM 17.30.646 requires that bioassay tolerance concentrations be determined in a specified manner.	
ARM 36.21.670-678 and 810	ARM 36.21.670-678 and 810 specifies certain requirements that must be fulfilled when abandoning monitoring wells.	
Reclamation Requirements (Well-Suited)		
	Certain portions of the Montana Strip and Underground Mining Reclamation Act and Montana Metal Mining Act are well-suited requirements for certain revegetation and construction activities at the site.	Activities proposed in the Addendum No. 2 do not involve any major land disturbances.
Section 82-4-231, MCA	Section 82-4-231, MCA: Requires operators to reclaim and revegetate affected lands using most modern technology available.	
Section 82-4-233, MCA	Section 82-4-233, MCA: Operators must plant vegetation that will yield a diverse, effective, and permanent vegetative cover of the same seasonal variety native to the area and capable of self-regeneration.	
Section 82-4-336, MCA	Section 82-4-336, MCA: Disturbed areas must be reclaimed to utility and stability comparable to areas adjacent.	
ARM 17.24.501	ARM 17.24.501: Provides general backfilling and grading requirements.	
ARM 17.24.519	ARM 17.24.519: Pertinent areas where excavation will occur will be regraded to minimize settlement.	
ARM 17.24.631	ARM 17.24.631: Disturbances to the prevailing hydrologic balance will be minimized. Changes in water quality and quantity, in the depth to groundwater and in the location of surface water drainage channels will be minimized, to the extent consistent with the selected response alternatives. Other pollution minimization devices must be used if appropriate, including stabilizing disturbed areas through land shaping, diverting runoff, planting quickly germinating and growing stands of temporary vegetation, mulching, and control of toxic-forming waste materials.	
ARM 17.24.633	ARM 17.24.633: Surface drainage from a disturbed area must be treated by the best technology currently available (BTCA). Treatment must continue until the area is stabilized.	
ARM 17.24.634	ARM 17.24.634: Disturbed drainages will be restored to the approximate pre-disturbance configuration, to the extent consistent with the selected response alternatives.	
ARM 17.24.638	ARM 17.24.638: Sediment control measures must be implemented during operations.	
ARM 17.24.639	ARM 17.24.639: Sets forth requirements for construction and maintenance of sedimentation ponds.	
ARM 17.24.640	ARM 17.24.640: Discharges from sedimentation ponds, permanent and temporary impoundments, must be controlled to reduce erosion and enlargement of stream channels, and to minimize disturbance of the hydrologic balance.	
ARM 17.24.643 - 646	ARM 17.24.643 through 17.24.646: Provisions for groundwater protection, groundwater recharge protection, and groundwater and surface water monitoring.	
ARM 17.24.701 and 702	ARM 17.24.701 and 702: Requirements for redistributing and stockpiling of soil for reclamation. Also outline practices to prevent compaction, slippage, erosion, and deterioration of biological properties of soil will be employed.	

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
ARM 17.24.711	ARM 17.24.711: Requires that a diverse, effective and permanent vegetative cover of the same seasonal variety and utility as the vegetation native to the area of land to be affected must be established. This provision would not be well-suited in certain instances, for example, where there is dedicated development.	Activities proposed in the Addendum No. 2 do not involve any major land disturbances.
ARM 17.24.713	ARM 17.24.713: Seeding and planting of disturbed areas must be conducted during the first appropriate period for favorable planting after final seedbed.	
ARM 17.24.714	ARM 17.24.714: Mulch or cover crop or both must be used until adequate permanent cover can be established.	
ARM 17.24.716	ARM 17.24.716: Establishes method of revegetation.	
ARM 17.24.718	ARM 17.24.718: Requires soil amendments, irrigation, management, fencing, or other measures, if necessary to establish a diverse and permanent vegetative cover.	
ARM 17.24.723	ARM 17.24.723: States that operators shall conduct approved periodic measurements of vegetation, soils, and water.	
ARM 17.24.724	ARM 17.24.724: Specifies that revegetation success must be measured by approved unmined reference areas. Required management for these reference areas is set forth.	
ARM 17.24.726	ARM 17.24.726: Sets the required methods for measuring productivity.	
ARM 17.24.728	ARM 17.24.728: Sets requirements for measurements of the composition of vegetation on reclaimed areas.	
ARM 17.24.761	ARM 17.24.761: This specifies fugitive dust control measures which will be employed during excavation and construction activities to minimize the emission of fugitive dust.	
Noxious Weeds (Applicable)		
ARM 4.5.201 through .204 Section 7-22-2109(2)(b) Section 7-22-2152 Section 7-22-2101(7)(a), MCA	§ 7-22-2101(7)(a), MCA defines "noxious weeds" as any exotic plant species established or that may be introduced in the state which may render land unfit for agriculture, forestry, livestock, wildlife, or other beneficial uses or that may harm native plant communities and that is designated: (i) as a statewide noxious weed by rule of the department; or (ii) as a district noxious weed by a board, following public notice of intent and a public hearing. Designated noxious weeds are listed in ARM 4.5.201 through 4.5.204 and must be managed consistent with weed management criteria developed under MCA § 7-22-2109(2)(b). Notification and plan must occur as set forth in § 7-22-2152, MCA, as amended.	Activities proposed in the Addendum No. 2 do not involve the introduction or planting of plants.
OTHER LAWS		
	These laws are laws which are independently applicable rather than ERCLs for the site.	
Section 85-2-101, MCA	Surface Water and Groundwater Act Section 85-2-101, MCA, declares that all waters within the state are the state's property, and may be appropriated for beneficial uses. The wise use of water resources is encouraged for the maximum benefit to the people and with minimum degradation of natural aquatic ecosystems.	Activities proposed in the Addendum No. 2 will not require any surface water or groundwater to be appropriated.
Parts 3 and 4 of Title 85, Chapter 2, MCA	Groundwater and Surface Water Appropriation Parts 3 and 4 of Title 85, Chapter 2, MCA, set out requirements for obtaining water rights and appropriating and utilizing water. All requirements of these parts are laws which must be complied with in any action using or affecting waters of the state.	Activities proposed in the Addendum No. 2 will not require any water rights to be obtained.

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
Section 85-2-507, MCA Section 85-2-506, MCA	Controlled Ground Water Area Pursuant to Section 85-2-507 MCA, the Department of Natural Resources and Conservation may grant either a permanent or a temporary controlled ground water area. The maximum allowable time for a temporary area is four years.[6] Pursuant to 85-2-506 MCA, designation of a controlled groundwater area may be proposed if (a) that ground water withdrawals are in excess of recharge to the aquifer or aquifers within the ground water area; (b) that excessive ground water withdrawals are very likely to occur in the near future because of consistent and significant increases in withdrawals from within the ground water area; (c) that significant disputes regarding priority of rights, amounts of ground water in use by appropriators, or priority of type of use are in progress within the ground water area; (d) that ground water levels or pressures in the area in question are declining or have declined excessively; (e) that excessive ground water withdrawals would cause contaminant migration; (f) that ground water withdrawals adversely affecting ground water quality within the ground water area are occurring or are likely to occur; or (g) that water quality within the ground water area is not suited for a specific beneficial use defined by 85-2-102(2)(a).	Activities proposed in the Addendum No. 2 will not require a controlled groundwater area.
29 CFR Part 1910	Occupational Safety and Health Act The federal Occupational Safety and Health Act regulations found at 29 CFR 1910 are applicable to worker protection during conduct of RI/FS or remedial activities.	Field activities associated with Task I will be conducted in accordance with the Facility-Wide Health and Safety Plan (HASP) and the task-specific HASP addendum.
ARM 17.74.101 ARM 17.74.102	Montana Occupational Health Act ARM Section 17.74.101, along with the similar federal standard in 29 CFR 1910.95, addresses occupational noise. ARM Section 17.74.102, along with the similar federal standard in 29 CFR 1910.1000 addresses occupational air contaminants.	
Sections 50-71-201, 202, and 203, MCA	Montana Safety Act Sections 50-71-201, 202 and 203, MCA, state that every employer must provide and maintain a safe place of employment, provide and require use of safety devices and safeguards, and ensure that operations and processes are reasonably adequate to render the place of employment safe.	Kennedy/Jenks Consultants has a comprehensive Injury and Illness Prevention Program designed to help ensure the health and safety of its employees and provide a safe and healthful work environment. In addition, Kennedy/Jenks Consultants has a Corporate Health and Safety Program and Hazardous Communication Program.
Section 50-78-201, 202, and 204, MCA	Employee and Community Hazardous Chemical Information Act Sections 50-78-201, 202, and 204, MCA, state that each employer must post notice of employee rights, maintain at the work place a list of chemical names of each chemical in the work place, and indicate the work area where the chemical is stored or used. Employees must be informed of the chemicals at the work place and trained in the proper handling of the chemicals.	
40 CFR Part 262 and ARM 17.53.601-604	Standards for Generators of Hazardous Waste The RCRA regulations at 40 CFR Part 262 and ARM 17.53.601-604 establish standards that apply to generators of hazardous waste. These standards include requirements for obtaining an EPA identification number and maintaining certain records and filing certain reports. These standards are applicable for any waste which will transported off-site.	Activities proposed in Addendum No. 2 are not expected to generate hazardous waste. If, however, any hazardous wastes are generated, they will be handled in compliance with the Facility Wide SAP which accords with these ERCLs.
40 CFR Part 263 and ARM 17.53.701-708	Standards for Transporters of Hazardous Waste The RCRA regulations at 40 CFR Part 263 and ARM 17.53.701-708 establish standards that apply to transporters of hazardous waste. These standards include requirements for immediate action for hazardous waste discharges. These standards are applicable for any off-site transportation.	Activities proposed in Addendum No. 2 are not expected to generate hazardous waste. If, however, any hazardous wastes are generated, they will be handled in compliance with the Facility Wide SAP which accords with these ERCLs.

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[a] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Federal or State ERCL Citation	Description	Compliance[b]
40 CFR 268 and ARM 17.53.1101-1102	RCRA Land Disposal Restrictions Since the wastes to be treated are listed and characteristic wastes, the RCRA Land Disposal Restrictions (LDRs) treatment levels set forth in 40 CFR Part 268 and ARM 17.53.1101-1102 are applicable requirements including the treatment levels for F001 and F002 listed wastes for the disposal of hazardous wastes generated at the site.	Activities proposed in Addendum No. 2 are not expected to generate hazardous waste. If, however, any hazardous wastes are generated, they will be handled in compliance with the Facility Wide SAP which accords with these ERCLs.
49 CFR Chapter I, Subchapters B and C and ARM 23.5.101	Oil Transportation 49 CFR Chapter I, Subchapter B (Oil Transportation) and Subchapter C (Hazardous Materials) and ARM. 23.5.101 apply to transporters of oil and hazardous materials. These standards are applicable for any off-site transportation of oil meeting the quantity requirements set forth in Subchapter B or for the transportation of hazardous materials such as the transportation of asbestos-containing waste material.	Activities proposed in the Addendum No. 2 do not involve the use of oil and will not generate used oil.
Sections 75-2-501 et seq., MCA	Montana Asbestos Control Act The Montana Asbestos Control Act, Sections 75-2-501 et seq., MCA, and implementing rules establish standards and procedures for accreditation of asbestos-related occupations and control of the work performed by persons in asbestos-related occupations.	Activities proposed in the Addendum No. 2 do not involve asbestos work.
Sections 75-2-502(4) and -511, MCA, and ARM 17.74.302(3)	A permit from DEQ is required before any person can conduct an asbestos project. The definition of "asbestos project" includes the encapsulation, enclosure, removal, transportation, or disposal of asbestos-containing waste. Section 75-2-502(4), MCA; ARM 17.74.302(3). In addition, a person who inspects, plans, designs, supervises, contracts for or works on an asbestos project must meet DEQ training and accreditation requirements. See also Section 75-2-511, MCA.	
ARM 17.74.314	ARM 17.74.314 states that no person may engage in an asbestos-type occupation unless accredited in that occupation or may employ or subcontract with nonaccredited individuals or contractors. No person may conduct an asbestos abatement project without a permit.	
ARM 17.74.335 29 CFR 1926.58 40 CFR 763.120-121 40 CFR Part 61, Subpart M	ARM 17.74.335 states that asbestos abatement projects require a DEQ permit. The permit conditions include but are not limited to: a. a requirement that all work performed be in accordance with 29 CFR 1926.58 (asbestos standards for the construction industry); and 40 CFR 763.120, 121 (requirements for asbestos abatement projects); b. a requirement that all asbestos be properly disposed in an approved asbestos disposal facility. "Approved asbestos disposal facility" is defined at ARM 17.54.302(1) as a properly operated and licensed class II landfill as described in ARM 17.50.504; c. a requirement that asbestos be disposed in accordance with 40 CFR Part 61, Subpart M. (National Emission Standard for Asbestos). See discussion above on National Emission Standard for Asbestos.	
ARM 17.74.338	ARM 17.74.338 requires an accredited asbestos abatement supervisor be physically present at all times at the work-site where a permitted asbestos abatement project is being performed and must be accessible to all workers. On-site air monitoring must be conducted by an accredited asbestos contractor/supervisor, an engineer or industrial hygienist.	
ARM 17.74.341	ARM 17.74.341 requires records of each asbestos abatement project be retained for a minimum of 30 years and must be made available to DEQ at any reasonable time. This section provides a noninclusive list of the records to be retained.	
40 CFR Part 92	Locomotive Emissions 40 CFR Part 92 establishes control of air pollution from locomotives and locomotive engines.	Activities proposed in the Addendum No. 2 do not involve the use of locomotives.

ATTACHMENT G

ANALYSIS OF ENVIRONMENTAL REQUIREMENTS, CRITERIA, AND LIMITATIONS (ERCLS)[(a)] FOR TASK I - ADDENDUM No. 2
Burlington Northern Livingston Shop Complex

Notes:

(a) These ERCLs were developed by the Montana Department of Environmental Quality and were included in Appendix A of the *Record of Decision* (ROD) (DEQ 2001). ERCLs pertinent to *Addendum No. 2 to Task I Supplemental Investigation Work Plan for Indoor Air* are shaded.

(b) Field activities associated with Task I will not impact groundwater, surface water, or air and are not expected to generate hazardous waste or air emissions. A small amount of solid and non will be generated that will be managed in accordance with solid and non-hazardous waste regulations. If hazardous waste is generated, it will be managed inaccordance with the Facility-Wide Sampling and Analysis Plan (Kennedy/Jenks Consultants 2006) which accords with these ERCLs.

[1] *Montana Maximum Contaminant Levels:*
Pursuant to the Public Water Safety Act, 75-6-101 et. seq., MCA and ARM 17.38.204, the MCLs specified in 40 CFR Part 141 (Primary Drinking Water Standards) are incorporated.

[2] *Montana Department of Environmental Quality, Planning, Prevention and Assistance Division, Circular WQB-7, Montana Numeric Water Quality Standards (September, 1999).*

[3] *For vinyl chloride, the WQB-7 standard is 0.15 ug/l; the MCL is 2 ug/l.*

[4] *Each of the ambient air quality standards includes in its terms specific requirements and methodologies for monitoring and determining levels. Such requirements are also applicable requirements. In addition, ARM 17.8.204 and 17.8.206, Ambient Air Monitoring; Methods and Data, respectively (Applicable), require that all ambient air monitoring, sampling and data collection, recording, analysis and transmittal shall be in compliance with the Montana Quality Assurance Manual except when more stringent requirements are determined by DEQ to be necessary.*

[5] *ARM 17.50.530(1)(b) allows the department to approve an alternative final cover design if it achieves the reduction in infiltration and protection from erosion to a level at least as equivalent as the stated criteria.*

[6] *If a temporary controlled ground water area is granted, the statute requires DNRC to commence studies to determine the designation or modification of a permanent controlled ground water area.*

LOCOMOTIVE SHOP
TRUCK & PAINT SHOPS
CAR SHOP
FORMER CHURCH UNIVERSAL & TRIUMPHANT BUILDING
ELECTRICAL SHOP
WAREHOUSE
BOILER HOUSE
ROUND HOUSE FOUNDATION
WHEEL SHOP
FORMER FREIGHT TRAIN REFUELING AREA
FORMER DEPOT REFUELING AREA
FOREST PRODUCTS BUILDING
CINDER PILE
WWTP SUMP
CINDER PILE LAGOONS
WASTEWATER TREATMENT PLANT (WWTP)
LIVESTOCK CAR CLEANOUT PILE
TURNTABLE
OIL RECLAMATION PLANT
MRL SHOPS
FORMER PASSENGER DEPOT
JUDSON (ROTARY) PARK
APPROXIMATE LIVINGSTON RAILYARD BOUNDARY(a)
APPROXIMATE FORMER C & P PACKING PROPERTY BOUNDARY(b)
CITY OF LIVINGSTON WASTEWATER TREATMENT PLANT (POTW)
OVERFLOW POND
API SEPARATOR POND
YELLOWSTONE RIVER

NOTES:

(a) DENOTES BOUNDARY OF LIVINGSTON RAILYARD AND DOES NOT REPRESENT THE FACILITY BOUNDARY AS DEFINED UNDER MONTANA'S COMPREHENSIVE ENVIRONMENTAL CLEANUP AND RESPONSIBILITY ACT (CECRA).

(b) APPROXIMATE BOUNDARY TAKEN FROM 2ND DRAFT C & P PACKING INVESTIGATION WORK PLAN, LIVINGSTON, MT. PREPARED BY ENVIROCON, INC., MISSOULA, MT, DATED 14 JUNE 2001

LEGEND:

APPROXIMATE 100 – YEAR FLOOD HAZARD AREA (FEMA 1987)

N

0 300 600

APPROXIMATE SCALE IN FEET

BASEMAP SOURCE:

HORIZONS, INC. RAPID CITY, SD (1989)

Kennedy/Jenks Consultants

BURLINGTON NORTHERN LIVINGSTON SHOP COMPLEX – LIVINGSTON, MT

100 - YEAR FLOOD HAZARD AREA

0696021.16/TASK I/SGWP-2/P06SK0G1

10/06

FIGURE G1

Attachment H

H&P Standard Operating Procedures (SOPs)
Vapor Monitoring Wells/Implants

Vapor Monitoring Wells/Implants Standard Operating Procedures

(For Vapor Intrusion Applications)

Revised August 2006

Prepared by:

H&P Mobile Geochemistry

Carlsbad, California

760-804-9678

Soil Gas Probe Materials/Construction

Materials: nylon tubing

Diameter: nominally 1/8" OD or ¼" OD

Tip: SS, Al, ceramic, plastic (choice depends upon project specs).

Surface termination on tubing: Swagelok fittings or valve

Surface termination on ground: Options include flush mounts on floor/surface, below ground level with or without locking cover, variable above ground-level completions.

Refer to Photo 1 for picture of probe materials.

Notes:

- Nylon tubing is preferred over Teflon due to lower adsorption. Nylon tubing is more flexible and easier to work with than stainless steel tubing. 1/8" OD nylon easier to work with than ¼" OD tubing.

Probe Installation Protocol

Tubing can be installed down a variety of boreholes ranging in diameter from 1" to 8". Boreholes may be created with hand equipment (hand-augering) or direct-push systems. Installation of several tubes in the same borehole at varying depths (hereafter referred to as nested vapor wells) are easier in boreholes >1.5" ID. In the following SOP, it is assumed that utilities have been cleared and an open borehole exists. In situations where the borehole collapses; the same protocol can be followed down the probe rods, keeping care to not pull the tubing out when the rods are retracted and to add grouting materials as the rod is removed.

1. Measure depth to bottom of borehole.
2. Cut probe tubing to appropriate length to reach base of slab and to give enough surface length for required type of surface termination (flush, recessed, protruding).
3. Add about 2 inches of sand to bottom of borehole (calculate required volume based upon borehole ID).
4. Insert nylon tube with tip down borehole. If hole deep and borehole narrow, adding a small weight (e.g., nut) can facilitate tube reaching bottom. Cover tip with 4 to 6 inches of sand.

5. If a single depth vapor well, grout to the surface using bentonite for semi-permanent (<48 hour) well. If permanent installation, bentonite to near surface and complete with cement per local regulatory requirements (Figure 2).
6. For nested wells, add bentonite grout, hydrating periodically, to the next sample depth. Repeat steps 3, 4, and 6 until all sample depths are completed.
7. Cut the protruding lengths of tubing successfully shorter so the deepest sample tube is the longest length and the others progressively shorter. This is helpful if the labels on each tube are lost or illegible upon resampling.
8. Label each tube BEFORE installing the next tube.
9. Terminate surface ends of tubes with swagelok caps, valves, or other desired terminations.
10. Wait 30 to 60 minutes prior to sampling.

Refer to Figures 1 & 2 for schematics and surface completion details and photos 2 through 4 for pictures of completed nested wells.

Soil Gas Sample Collection

For upward vapor intrusion applications, it is assumed that the vapor wells are at relatively shallow depths (<5' bgs) so minimum purge volumes and low volume samples are preferred to minimize potential breakthrough from the surface or between sampling intervals. Tracer/leak gas is necessary to ensure breakthrough does not occur.

Materials: 1/8" or ¼" OD nylon or Teflon tubing.

Sample Canister: syringe, tedlar bag, SS canister, gas-tight glass.

Plastic or stainless 3-way valve.

Vacuum gauge and sampling train as necessary.

1. Connect fresh tubing to top of probe and to a 60 cc syringe using a 3-way valve (Photo 5). Purge out 4 tubing dead-volumes (~ 4 cc/ft for 1/8"OD tubing and ~20 cc/ft for ¼" OD tubing). Note, if sampling is done the same day as installation, 4 dead volumes of the sand pack should also be purged (~100 cc for 2" ID borehole, 30% sand porosity). Collect sample.
2. If canister samples are being collected, connect 60 cc syringe to sampling train (if one is used) and purge out 4 dead-volumes of the connecting tubing plus the sampling train (Photo 6).
3. For canister samples, check canister vacuum immediately before use. Ensure any flow chokes & filters have been flushed between samples and all connections/fittings are tight.
4. For canisters with valves (not mini-cans with quick-disconnects), connect canister to sampling train or connecting tubing. Do not connect mini-cans with quick-disconnects until step 6.
5. Place tracer/leak compound, typically iso-propanol, butane, or difluoroethane, around the probe at the ground surface and at connections in the sampling system. Liquid tracers are easily emplaced by wetting a paper towel and wrapping around the test locations. Vapor tracers require either multiple canisters for each test location or a device to hold the vapor near the test location (such as a cover at the surface).
6. Once leak compound in place, open 3-way valve and collect soil gas sample in syringe. For canister samples with valves, open valve. For mini-cans with quick-disconnects, remove purging syringe and connect mini-can to sampling train (Photos 7 & 8).

7. If measurements with a portable meter to be made (e.g. oxygen), conduct measurements after collection of the soil gas sample(s) for VOC analysis.

Notes:

- For larger canisters (> 1 liter), sample flow rates are not to exceed 500 ml/min (200 ml/min for CA-EPA) to minimize potential for vacuum extraction of contaminants from the soil phase.
- The presence of the tracer compound in the analysis confirms a leak and another sample is collected until no leak is detected (if on-site analysis exists).
- If large volume canisters used (3 or more liters), a purge volume test may be required to ensure sample dilution from other zones is not occurring.

Field Records

The field technician maintains a log sheet summarizing:

- Sample identification
- Probe location
- Date and time of sample collection
- Sampling depth
- Identity of samplers
- Weather conditions
- Sampling methods and devices
- Soil gas purge volumes
- Volume of soil gas extracted
- Vacuum of canisters before and after samples collected.
- Apparent moisture content (dry, moist or saturated etc.) of the sampling zone
- Chain of custody protocols and records used to track samples from sampling point to analysis.

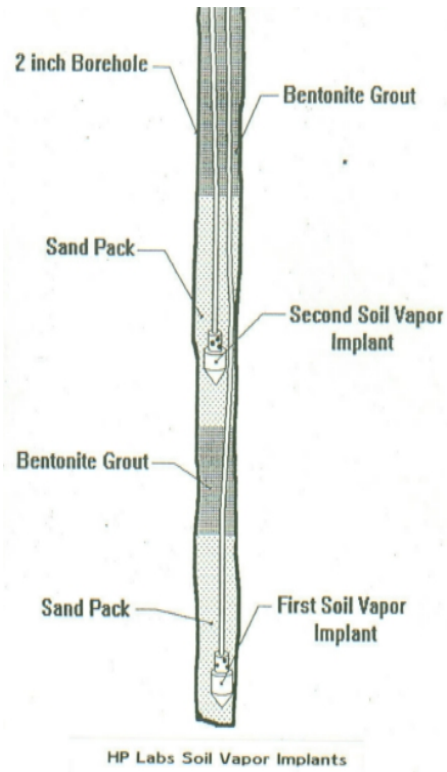


Figure 1 – Schematic of nested well

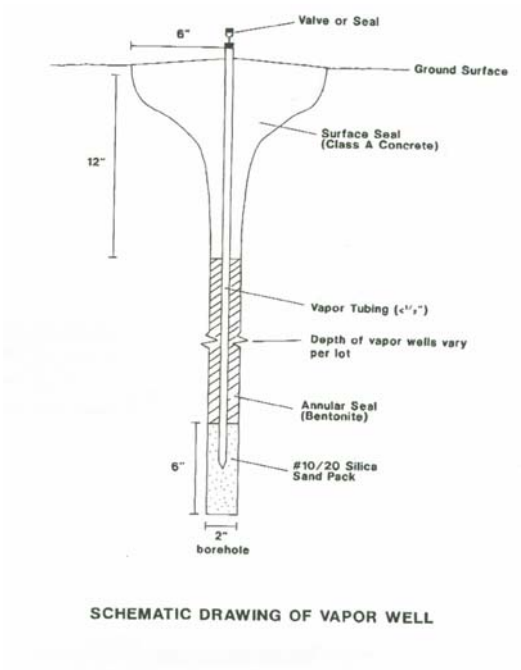


Figure 2 – Surface completion for vapor well per San Diego County guidance.

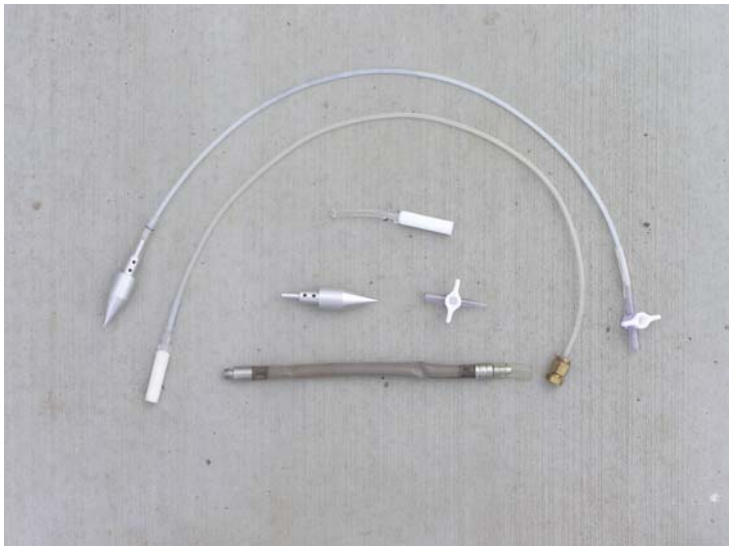


Photo 1 – Vapor probe materials, including various tips, and two types of terminations on the tubes.

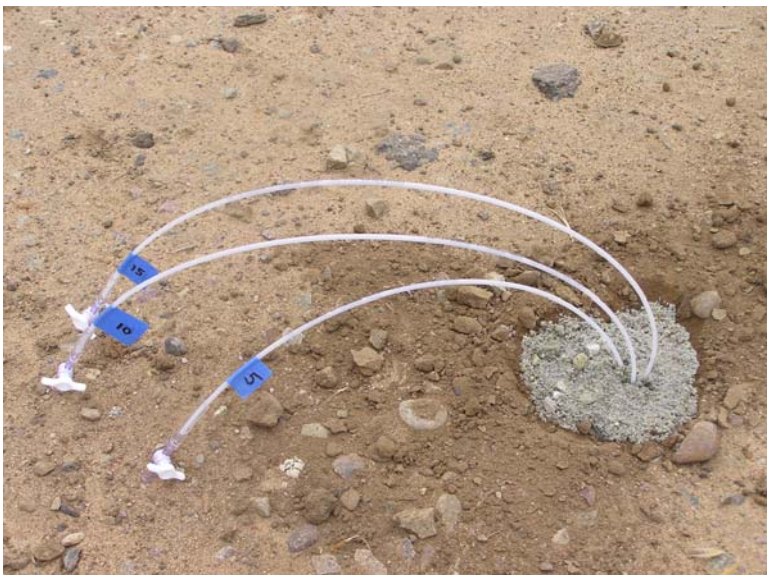


Photo 2 – Completed nested vapor well (3 depths). No surface completion required for well.

Photo 3 – Nested vapor well with surface completion and locking well cap.

Photo 4 – Nested vapor well with flush surface completion and locking well cap

Photo 5 – Collecting sample with 60 cc syringe. Note small dead-volume of tubing connecting syringe to implant.

Photo 6 – Purging implant & sampling train with 60 cc syringe. Note small dead-volume of tubing connecting syringe to implant.

Photo 7 – Collecting soil gas sample in mini-can (400 cc).

Photo 8 – Collecting sample in larger canister (6 liter). No sampling train is required since the canister is already equipped with valve, vacuum gauge, and flow choke.

Attachment I

Laboratory Analyte Lists and Reporting Limits

MOBILE GEOCHEMISTRY

H&P

EPA Method TO-15 Full List

	Vapor µg/m^3
1,1,1-Trichloroethane	5.0
1,1,2,2-Tetrachloroethane	6.0
1,1,2-Trichloroethane	6.0
1,1-Dichloroethane	5.0
1,1-Dichloroethene	5.0
1,1,2-Trichlorotrifluoroethane	5.0
1,2,4-Trichlorobenzene	20
1,2,4-Trimethylbenzene	5.0
1,2-Dibromoethane (EDB)	5.0
1,2-Dichlorobenzene	10
1,2-Dichloroethane	5.0
1,2-Dichloropropane	5.0
1,3-Butadiene	5.0
1,3-Dichlorobenzene	10
1,3,5-Trimethylbenzene	5.0
1,4-Dichlorobenzene	10
1,4-Dioxane	5.5
2,2,4-Trimethylpentane	5.0
4-Ethyltoluene	5.0
Allyl Chloride	5.0
Benzene	5.0
Benzyl Chloride	10
Bromoethene	5.0
Bromoform	5.0
Bromodichloromethane	5.0
Bromomethane	5.0
Carbon Disulfide	5.0
Carbon Tetrachloride	5.5
Chlorobenzene	5.0
Chloroethane	5.0
Chloroform	5.0
Chloromethane	5.0
cis-1,2-Dichloroethene	5.0
cis-1,3-Dichloropropene	5.0
Cyclohexane	5.0
Dibromochloromethane	6.5

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MOBILE GEOCHEMISTRY
H&P

	Vapor µg/m^3
Dichlorodifluoromethane	5.5
Dichlorotetrafluoroethane	5.5
Ethyl Acetate	5.0
Ethylbenzene	5.0
Hexachlorobutadiene	11
m,p-Xylene	5.0
Methylene Chloride	5.0
Methyl Butyl Ketone (2-Hexanone)	5.0
Methyl Ethyl Ketone (2-Butanone)	5.0
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	5.0
N-Hexane	5.0
N-Heptane	5.0
o-Xylene	5.0
Propylene	10
Styrene	5.0
Tetrachloroethene	5.0
Tetrahydrofuran	5.0
Toluene	5.0
trans-1,2-Dichloroethene	5.0
trans-1,3-Dichloropropene	5.0
Trichloroethene	5.0
Trichlorofluoromethane	5.0
Vinyl Acetate	5.0
Vinyl Chloride	5.0
MTBE	5.0
Leak Check Compond	
1,1-Difluorooethane	10 ug/L

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MOBILE GEOCHEMISTRY

H&P

EPA Method TO-15 Mobile Lab List of Compounds

	Vapor ug/m3
1,1,1-Trichloroethane	10
1,1,2,2-Tetrachloroethane	14
1,1,2-Trichloroethane	10
1,1-Dichloroethane	8
1,1-Dichloroethene	8
1,1,2-Trichlorotrifluoroethane	15
1,2,4-Trichlorobenzene	15
1,2,4-Trimethylbenzene	10
1,2-Dibromoethane (EDB)	15
1,2-Dichlorobenzene	12
1,2-Dichloroethane	8
1,2-Dichloropropane	9
1,3-Dichlorobenzene	12
1,3,5-Trimethylbenzene	10
1,4-Dichlorobenzene	12
4-Ethyltoluene	10
Benzene	6
Bromomethane	8
Carbon Tetrachloride	13
Chlorobenzene	9
Chloroethane	5
Chloroform	10
Chloromethane	4
cis-1,2-Dichloroethene	8
cis-1,3-Dichloropropene	9
Dibromochloromethane	17
Dichlorodifluoromethane	10
Dichlorotetrafluoroethane	14
Ethylbenzene	9
Hexachlorobutadiene	21
m,p-Xylene	9
Methylene Chloride	7
o-Xylene	9
Styrene	8
Tetrachloroethene	13
Toluene	7
trans-1,2-Dichloroethene	8
trans-1,3-Dichloropropene	9
Trichloroethene	10
Trichlorofluoromethane	11
Vinyl Chloride	5

Leak Check Compond

1,1-Difluorooethane 10 ug/L

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AIR TOXICS LTD.

Method : Modified TO-15-LL

Compound	Rpt. Limit (uG/m3)
Freon 12	0.50
Freon 114	0.71
Chloromethane	0.21
Vinyl Chloride	0.26
1,3-Butadiene	0.22
Bromomethane	0.39
Chloroethane	0.27
Freon 11	0.57
Ethanol	0.96
Freon 113	0.78
1,1-Dichloroethene	0.40
Acetone	1.2
2-Propanol	1.2
Carbon Disulfide	1.6
Methylene Chloride	0.71
Methyl tert-butyl ether	0.37
trans-1,2-Dichloroethene	0.40
Hexane	0.36
1,1-Dichloroethane	0.41
2-Butanone (Methyl Ethyl Ketone)	0.30
cis-1,2-Dichloroethene	0.40
Tetrahydrofuran	1.5
Chloroform	0.50
1,1,1-Trichloroethane	0.55
Cyclohexane	0.35
Carbon Tetrachloride	0.64
Benzene	0.32
1,2-Dichloroethane	0.41
Heptane	0.42
Trichloroethene	0.55
1,2-Dichloropropane	0.47
1,4-Dioxane	0.37
Bromodichloromethane	0.68
cis-1,3-Dichloropropene	0.46
4-Methyl-2-pentanone	0.42
Toluene	0.38
trans-1,3-Dichloropropene	0.46
1,1,2-Trichloroethane	0.55
Tetrachloroethene	0.69
2-Hexanone	2.1
Dibromochloromethane	0.86
1,2-Dibromoethane (EDB)	0.78
Chlorobenzene	0.47

Reporting Limits cited do not take into account sample dilution due to canister pressurization.

AIR TOXICS LTD.

Method : Modified TO-15-LL

Compound	Rpt. Limit (uG/m3)
Ethyl Benzene	0.44
m,p-Xylene	0.44
o-Xylene	0.44
Styrene	0.43
Bromoform	1.0
Cumene	0.50
1,1,2,2-Tetrachloroethane	0.70
Propylbenzene	0.50
4-Ethyltoluene	0.50
1,3,5-Trimethylbenzene	0.50
1,2,4-Trimethylbenzene	0.50
1,3-Dichlorobenzene	0.61
1,4-Dichlorobenzene	0.61
alpha-Chlorotoluene	0.53
1,2-Dichlorobenzene	0.61
1,2,4-Trichlorobenzene	3.8
Hexachlorobutadiene	5.4

Surrogate	Method Limits
1,2-Dichloroethane-d4	70-130
Toluene-d8	70-130
4-Bromofluorobenzene	70-130

Reporting Limits cited do not take into account sample dilution due to canister pressurization.

Air Toxics LTD.

Method : Modified TO-15 SIM (Sp)-Livingston

Compound	Rpt. Limit (uG/m3)
Trichloroethene	0.11
1,3-Butadiene	0.22
Chloroform	0.099
Carbon Tetrachloride	0.13
Benzene	0.16
1,2-Dichloroethane	0.082
Bromodichloromethane	0.68
1,1,2-Trichloroethane	0.11
Dibromochloromethane	0.86
1,2-Dibromoethane (EDB)	0.16
1,1,2,2-Tetrachloroethane	0.14
Hexachlorobutadiene	1.1

Surrogate	Method Limits
1,2-Dichloroethane-d4	70-130
Toluene-d8	70-130
4-Bromofluorobenzene	70-130

Reporting Limits cited do not take into account sample dilution due to canister pressurization.