Earth Tech

A tyco International Ltd. Company

AIR SAMPLING RESULTS
NATIONAL TUBE/SUNDSTRAND HEAT TRANSFER PLANT
DOWAGIAC, MICHIGAN

MID 005 068 507

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EXECUTIVE SUMMARY

The objective of this evaluation is to determine the extent to which residents in the vicinity of the National Copper products plant might be exposed to and subsequently at risk from chemicals in air derived from contaminated groundwater. Consistent with a work plan developed in cooperation with USEPA, locations for sampling indoor air, ambient air and soil gas samples were identified. Residents were interviewed and advised of the sampling protocol and objectives of the investigation and samples were collected during February 2006. Samples were analyzed by STL, Inc. laboratories using TO-15 methodology.

As per requests of USEPA, resulting soil gas data were screened against Region 6 soil gas screening levels. Indoor air and ambient air data were screened against Region 9 preliminary remediation goals (PRGs) for ambient air (e.g., residential air). TCE and 1,3 –dichlorobenzene in soil gas exceeded their Region 6 screening criteria suggesting a potential for intrusion into indoor air. Only TCE was detected in both indoor air and soil gas,. Thus, TCE was selected to further characterize risk from potential indoor air exposure to groundwater derived chemicals. The only residence with indoor air requiring such further evaluation exists at 404 Louise Street.

The risk characterization for potential exposure to indoor air chemicals derived from groundwater at 404 Louise Street indicates that the excess cancer risk is less than 1×10^{-5}. Non-cancer hazard, typically expressed as the hazard index, was not evaluated because the cancer risk evaluation, based on the use of USEPA Region 9 preliminary remediation goals, is most restrictive and protective of residential exposure for chemicals detected .

Based on this evaluation, it can be concluded that the risk of residential exposure to chemicals in indoor air derived from contaminated groundwater is less than the benchmark cancer risk promulgated by the Michigan Department of Environmental Quality (MDEQ) under Part 201 of the Michigan Natural Resources Environmental Protection Act. The excess cancer risk is also within the risk range (1×10^{-6} to 1×10^{-4}) defined by USEPA under the National Contingency Plan as acceptable and warranting no further action. These results therefore indicate that no further action is required.

1. BACKGROUND AND OBJECTIVE

National Copper Products Inc. (NC) operates a copper tube casting and re-draw mill at 415 East Prairie Ronde Street in Dowagiac, Michigan (the facility). The real property is owned by Prairie Ronde Realty Company (PRR). The groundwater at the facility is contaminated with volatile organic compounds (VOCs), primarily trichloroethene (TCE). A remediation purge well system has been operating since 1984 under the terms of a consent judgment between the State of Michigan and Sundstrand Heat Transfer. Supplemental remediation systems including a soil vapor extraction (SVE) system and two air sparging systems were installed in the 1990s. These various remedial systems have been effective at removing TCE from the soil and groundwater and the extent of the impacted groundwater plume has decreased and continues to decrease. However concentrations of TCE remain in the groundwater in some areas.

As part of its remedial activities, NC had collected soil gas samples at various locations on and in the vicinity of the National Copper site (Site). The results of the soil gas sampling indicated that chemicals existed in the vapor phase at concentration levels that might intrude into indoor air at concentrations in excess of risk based criteria.

In response to these results, NC was requested by the United States Environmental Protection Agency (USEPA) to collect a series of paired indoor air and soil gas samples to further evaluate the potential for site related vapors to occur in indoor air. In cooperation with USEPA, NC prepared a work plan to sample indoor air, soil gas and ambient air.[a] Figure 1-1 shows the locations of the indoor air samples, soil gas samples and the ambient air sample for this effort. It should be noted that in some cases for gas collection, sampling did not extend to eight hours as described in the work plan. However, the duration of sample collection was greater than six hours and sufficient to obtain an adequate volume of air for detection of chemicals using the defined analytical methodology.

This report documents the approach used and the results obtained in completion of this study.

2. APPROACH

Earth Tech developed an approach that would best assist in understanding the actual risk to potential residential receptors. This approach involved indoor air and soil gas sampling at selected residences and an ambient air sample at the National Copper property. Details of the sampling methodology and analytical methodology are included in the following sections.

2.1 FIELD METHODOLOGY

With minor variations, sampling was performed in accordance with the methodology detailed in the Sampling Work plan. The differences in the sampling and rationale for deviations are listed below:

- Soil Gas Purge Testing: The work plan called for use of a field photo ionization detector (PID) to determine leakage of total VOCs in the soil gas sampling train before and after purging. However, it was determined that the use of the PID would not have provided sufficient detection capabilities to determine the presence of leakage. Therefore, a smoke tube testing protocol was used to determine the potential for leaks at the annulus of the soil gas tube/bentonite grout intersection. Such a method facilitated the direct visual assessment of leaks intruding into the soil gas collection tube at the base of the benonite seal. No leakage was detected at any soil gas sampling location.

- Residual vacuum determination: The work plan called for residual vacuum to be less than 1 inch of mercury after sampling. While the residual vacuum did not reach 1 inch of mercury, it was measured after each sample collection in the field and at the laboratory in order to both determine if leakage had occurred and measure sample volumes.

Sampling methods were consistent with USEPA protocols for the collection of air samples using TO-15 Summa™ canister sampling and analysis methodology (USEPA 1999). Sampling for each air sampling type is discussed below. Each canister was certified cleaned by STL, Inc., Los Angeles laboratory according to its Quality Assurance Project Plan (QAPP).

Pertinent field sampling data are provided in Appendix A. The samples consisted of one indoor air sample and one soil gas sample for each location. Two of the five locations included duplicate sampling for the indoor air. As a control, an ambient air sample was also collected at the National Copper property.

2.1.1 Soil Gas

Near slab samples for soil gas entailed two steps: probe installation and sample collection. Each of these components is discussed below.

Probe Installation for Sub- or Near Slab Vapor Monitoring Points (VMPs)

VMPs were constructed of ¼-inch PVC tubing with 6-inch long, ½-inch diameter implants with woven stainless steel screens. Probes were installed to a depth of 10 feet bgs via a direct push (DP) machine. The installation consisted of attaching the screen to a sacrificial steel point, threading the tubing though the hollow DPT rods, and pushing the point with attached screen and tubing into the ground. Soil type in the general vicinity of the site was almost entirely sand. Soil boring logs representative of soil in the area of VMP locations are presented in Appendix B.

Sample Collection

Each soil gas sample was collected using a 6-liter Summa™ canister fitted with a flow orifice pre-calibrated to collect a 6-liter sample over an eight-hour period. In all instances, sample collection vacuum was determined in the field and the laboratory to ensure an accurate assessment of sample volume. Sample canisters were boxed and shipped to the laboratory for analyses of TO-15 analytes. A brief outline of the sampling protocol is provided.

- Soil vapor probes were purged prior to sampling using a peristaltic sampling pump with low flow capabilities. Flow rates were less than 200 mL/min and purging continued until a volume of approximately two probe volumes were purged.

- At the start and end of the purging period, smoke tubes were used to check for leaks in the sampling tube rather than use of the PID methodology. This modification was made due to a concern that the PID method would not sufficiently detect potential sampling train leakage and associated short circuiting. Rather, leakage was determined using the guidelines of 40 CFR 51, Appendix M, Reference Method 204. Briefly, this approach used a visual assessment of smoke leakage at the base of the sampling tube/bentonite intersection. No leaks were noted during the sampling.

- Initial and final vacuum readings were recorded for the 6-liter Summa™ canister. These readings gave the initial vacuum (pre-sample) and final vacuum (post-sample) for determination of the sampling volume for each location. These data are presented in Appendix A.

- The 6-liter Summa™ canister fitted with an eight-hour calibrated orifice was connected to the tubing for collection of soil gas. Samples were collected over an approximately six-hour period which yielded flow rates of between 8-10 minutes and still allowed collection of sufficient volume for analysis. It should be noted that collection over an eight-hour period ensured that the flow rate was not greater than 200 mL/min (in fact it was less than 100 mL/min), which is the flow threshold above which VOC stripping from soil might occur.

The residual vacuum was verified and the safety cap was tightened.

All data documenting sample collection were entered on field sheets and the canisters were shipped to the laboratory under chain of custody.

2.1.2 Ambient and Indoor Air Sampling

2.1.2.1 Ambient Air Sampling

An ambient air sample was collected using the Summa™ canister methodology. The sample was collected from a location approximately sidegradient (relative to the predominant wind direction) and approximately 250 yards from the API separator and removed from obvious potential emission sources such as automobiles, sewer vents, furnace vents. Wind velocity was moderately high (i.e., 20-30 mph) during the collection period. Specifically, the location of the sample was just north of the Northeast corner of the plant building and south of the API separator. The ambient air sample was taken during the soil vapor sampling activities with a canister placed at a suitable location at about one meter above grade. The ambient air sample was collected as a grab sample with the Summa™ canister intake valve fitted with a 24-hour calibrated orifice. It was opened for a period of approximately 24 hours. Beginning and final pressures were measured to obtain a precise sampling volume. The sample container was closed and shipped to the laboratory under chain of custody.

2.1.2.2 Indoor Air Sampling

A physical survey of the buildings to be sampled was conducted, in conjunction with an interview of the occupants of the buildings. The purpose of the physical survey was to obtain data to allow a qualitative assessment of factors that potentially could influence indoor air quality. The physical survey included collecting information on aspects of the building configuration such as building layout, attached garages, utility entrances into the building, ventilation system design, foundation conditions, presence of foundation sump, building material types (e.g., recent carpeting/linoleum and/or painting), presence of fireplace, location of laundry facilities, etc. The physical survey also included collecting data related to indoor air quality such as use of cleaning products, dry-cleaner use, indoor storage of paints and/or petroleum hydrocarbon products, use of aerosol consumer products, smoking, hobby crafts, etc.

The indoor air samples were collected using a Summa™ canister (6-liter capacity) equipped with a critical orifice flow regulation device sized to allow the collection of an air sample over a 24-hour sampling period. Samples were collected from areas believed to constitute exposure areas for residents of the buildings. Care was taken to deploy the Summa™ canisters away from the direct influence of any forced air emanating from air conditioning units, central air conditioning vents, furnaces or heaters.

The indoor air sampling procedure is described as follows:

- Building spaces were examined to determine a location for deployment of the Summa™ sample canister as close as practical to the center of the space. In the case of a basement deployment, the location was representative of the breathing zone or approximately two meters above the floor level. An attempt was made not to deploy the canister in areas that would have been subject to disturbances, or locations interfering with the occupant's normal activities.

Specific information collected during sampling is discussed below. Field data are summarized on Table A-1 of Appendix A.

- Appendix A provides schematic diagrams of the indoor air sampling locations.
- Air sample canisters were labeled with a unique sample designation number. Both the sample number and the sample location information were recorded.
- The Summa™ canister initial vacuum was measured using an integrated vacuum gauge immediately prior to canister deployment and recorded on field data sheets provided in Appendix A.
- The critical orifice flow controller was installed, as supplied by the laboratory, on the canister and the canister was opened fully at the beginning of the sample collection period (Appendix A).
- The canister valve was fully closed at the end of the sample period (after 24 hours) and the end time recorded on the field data sheet.

2.2 ANALYTICAL METHODOLOGY

All canisters were individually cleaned and certified according to the laboratory QAPP (STL 2006)[b]. The sample canisters were analyzed following the guidelines of TO-15 methodology, including the laboratory specific quality assurance and control (QA/QC) guidelines of the testing laboratory. All Summa™ canister samples were analyzed by STL, Inc. located in Los Angeles, CA using the TO 15 Method in the selective ion monitoring mode.

All chlorinated organics that were analyzed via the use of TO-15 were reported.

2.3 DATA EVALUATION

The analytical data were evaluated for compliance with laboratory specific quality assurance and quality control parameters by STL, Inc. Los Angeles, CA according to the QAPP submitted as a part of the work plan (Earth Tech 2006).

Soil Gas and Indoor Air Evaluation

Subsequent to the evaluation of the QA/QC data, the soil gas and analytical data were evaluated in a sequential process to determine if further evaluation was warranted. Figure 2-1 schematically presents the process that was used to make this evaluation.

USEPA Region 6 publishes concentrations of chemicals in soil gas that can be used to determine the potential for intrusion into indoor air. These levels were provided by USEPA Region 5 as screening levels for the assessment of site specific vapor intrusion. Chemicals detected in soil gas at levels exceeding their respective USEPA Region 6 soil gas screening levels were retained for further evaluation as chemicals that might lead to intrusion into indoor air and potentially result in exposure to residents.

Those chemicals that were identified as a potential indoor air intrusion concern were then selected from the indoor air data for each residence whereupon the indoor air data were compared to USEPA Region 9 preliminary remediation goals (PRGs) for the protection of ambient residential air to determine those constituents requiring further evaluation. It should be noted that the Region 9 PRGs are based on the most sensitive effect (i.e., cancer or non-cancer) for each chemical. Because the chemicals detected in indoor and ambient air at levels above their Region 9 criteria were carcinogens, only the excess lifetime cancer risk was further evaluated.

Excess lifetime cancer risk (ELCR) was calculated for each chemical whose concentration in indoor air was greater than its USEPA Region 9 PRG for ambient air. The ELCR represents the probability that an individual might experience cancer when exposed to site related chemicals under the assumptions specified. In general, such assumptions included relatively long exposures durations (e.g., 30 yrs), continuous daily exposures (e.g., 24 hours) and a chemical dose averaged over a life time (e.g., 70 years).

The numerical expression of an ELCR 1E-05 therefore means that the probability of experiencing cancer is 1 in 100,000 or 0.00001 over and above cancer rates that are due to other lifestyle factors.

Further evaluation was performed if the ELCR or the non-cancer hazard exceeded 1E-05, respectively, in accordance with the Michigan Department of Environmental Quality Part 201 regulations.

Ambient Air Evaluation

Data from the single ambient air sample were compared directly to the USEPA Region 9 PRG for ambient air. Any chemical concentrations exceeding their respective Region 9 criteria were then evaluated against published levels for background chemicals in ambient urban air.

Levels exceeding ambient urban background concentrations were deemed to require further evaluation.

Indoor Air Risk Evaluation

For chemicals that were detected in indoor air and found in soil gas at concentrations exceeding the soil gas screening level, the ELCR was calculated as per Equation 1:

$$ELCR = (C / PRG) \times 1E-06 \times CSF_{R9} / CSF_N \qquad \text{Equation 1.}$$

where,

C	=	the detected concentration of chemical in the indoor air sample (ug/m^3),
PRG	=	the USEPA Region 9 PRG for residential ambient air (ug/m^3),
1E-06	=	the target ELCR upon which the Region 9 PRG is based (unitless),
CSF_{R9}	=	the upper level cancer slope factor from the 2001 draft TCE risk characterization (mg/kg/day)$^{-1c}$, and
CSF_N	=	cancer slope factors from the withdrawn Integrated Risk InformationSystem entry, CalEPA, or the lower level CSF from the 2001 draft TCE risk characterization (mg/kg/day)$^{-1}$.

3. RESULTS

The results section includes the field activities, the analytical data results, and the data evaluation. These sections are detailed below.

3.1 SOIL GAS SAMPLING

It was determined, based upon the length of the sample tubing, that a ten-minute purge duration was adequate to obtain two purge volumes. During this time, a smoke tube testing protocol was utilized in the location where the soils and bentonite met the Teflon tubing. Briefly, a leak could be detected by visually observing smoke collecting in the tube via the negative pressure created by the peristaltic pump. This was performed following the guidelines of 40 CFR 51, Appendix M, Reference Method 204. However, in this sampling event the smoke tubes were deemed as adequate in determination of leakage of the sample train. No smoke was noted on the outlet side of the tubing and no disappearance of the smoke into the tube was observed (out of the monitoring well cavity). It was concluded that the sampling train was intact and did not contain any leaks and the monitoring well screen was sealed off from the surface.

No signs of tampering were noted regarding the sampling apparatus. No problems or issues were noted during sampling of the soil gas samples.

3.1.1 Ambient and Indoor Air Sampling

The ambient air and indoor air samples were collected as detailed in Section 2.1.2. The indoor air samples were collected and diagrams drawn for the areas where the samples were collected (Appendix A). Two duplicate samples for the indoor air sampling were collected at 303 Louise and 404 Louise Street locations.

No obvious signs of tampering were noted regarding the sampling apparatus. No problems or issues were noted that are believed to potentially impact the analytical data or the collection of the sample during sampling of the soil gas samples.

The analytical data generated by STL, Inc. were reviewed in accordance with the QAPP.

No laboratory specific quality assurance and quality control parameters were noted as being of concern. Thus all data were judged to be acceptable for further evaluation. All analytical data are provided in Appendix C.

3.2 SOIL GAS AND INDOOR AIR EVALUATION

Table 3-1 shows those chemicals (as noted in bold font) whose concentrations in soil gas exceeded the USEPA Region 6 screening criteria for the assessment of potential indoor air vapor intrusion concern. Two chemicals, trichloroethene and 1,3 –dichlorobenzene, exceeded their Region 6 screening criteria.

Trichloroethene (TCE) in soil gas collected at 404 Louise Street and 1,3-dichlorobenzene in soil gas collected at 601 Louise Street exceeded the Region 6 soil gas screening levels. No other chemicals detected in soil gas exceeded their respective soil gas screening levels.

Table 3-2 compares the concentrations of chemicals detected in indoor air to the USEPA Region 9 PRG for ambient residential air. When grouped on a medium specific basis (i.e., for all indoor air samples collected and tested) At least one of chemicals listed below were detected.

1,1,1-Trichloroethane
1,2-Dichloroethane
Bromodichloromethane
Carbon tetrachloride
Chloroform
Chloromethane
Methylene chloride
Tetrachloroethene
Trichloroethene
Vinyl chloride

However, of these chemicals, only TCE was detected in soil gas suggesting that the occurrence of other chemicals in indoor air is unrelated to intrusion of chemical vapors from soil gas.

While several chemicals were detected at levels exceeding the Region 9 PRGs, only TCE (noted in Table 3-1 in bold font) detected in the indoor air of 404 Louise Street was found at levels exceeding both the Region 9 PRG and the Region 6 soil gas screening levels.

3.2.1 Ambient Air Evaluation

Data from the single ambient air sample were compared directly to the USEPA Region 9 PRG for ambient air. The six chemicals listed below were detected in ambient air:

1,2-Dichloroethane

Carbon tetrachloride

Chloroform

Trichloroethene

1,1,1-Trichloroethane

Chloromethane

Only TCE and carbon tetrachloride were detected at levels exceeding USEPA Region 9 PRGs for ambient air (Table 3-3). TCE was detected at a concentration of 0.26 ug/m^3 while carbon tetrachloride was detected at a concentration of 0.72 ug/m^3. Background levels of TCE in ambient air however, have been reported as ranging from 0 to 3.0 ug/m^3, indicating that the level detected in the ambient air sample is within the range noted for typical urban air. It should be noted that the indoor air TCE concentrations were 0.11, 0.17, 0.27, 0.49, and 4.6 ug/m^3. All but one of the values is within a factor of 2 of the ambient concentration. For carbon tetrachloride, indoor air concentrations were 0.63, 0.67, 0.68, 0.68 and 0.69 ug/m^3. All of these values are below the ambient air concentration. As for carbon tetrachloride detected in ambient air, the Agency for Toxic Substances and Disease Registry (ATSDR), in its recent update of the toxicological profile for that chemical has noted that "Outdoor measurements in several areas of the United States have reported average concentrations of carbon tetrachloride in air between 0.6 and 1.0 ug/m3."[d]. These data indicate that the concentration of carbon tetrachloride in ambient air near the site is within the range of that determined to be background levels across the United States.

3.2.2 Indoor Air Risk Evaluation

For evaluative purposes, the ELCRs have been calculated using a variety of cancer slope factors (CSFs) that have been widely published and used by both USEPA and California EPA. The ELCR was calculated as 1E-6 times the ratio of sample concentration to the USEPA Region 9 PRG scaled to the relevant CSF.

Table 3-4 summarizes the ELCRs for 404 Louise Street assuming potential daily residential exposure to TCE in indoor air. ELCR ranges from 2E-07 (for ambient air) to 3E-04 (for indoor air) depending on the CSF that is used to make the calculation. Due to the wide variation in calculated risk due to the use of varying TCE slope factors, the median value (calculated using the Windows Excel function) was calculated to better quantify a more representative excess lifetime cancer risk level. The median ELCR value for potential exposure to TCE in indoor air at 404 Louise Street (9E-06) is marginally greater than that assuming exposure to background ambient air (5E-07) but less than 1E-05. This value, 1E-05, is the ELCR level published by MDEQ as acceptable under Part 201 of the Michigan Natural Resources Environmental Protection Act.

4. SUMMARY

Indoor air and soil gas samples were collected from residences located in the vicinity of the National Copper plant in Dowagiac, Michigan. Soil gas data were evaluated relative to USEPA Region 6 screening levels intended to determine the potential for vapors to intrude into indoor air at levels that might pose a risk to residential receptors.

With the exception of TCE detected in soil gas collected from 404 Louise Street, no chemicals were detected at levels exceeding the Region 6 soil screening levels that were also detected in indoor air samples.

The risk characterization for potential exposure to indoor air chemicals derived from groundwater at 404 Louise Streeet indicates that the excess cancer risk is less than 1×10^{-5}. Non-cancer hazard, typically expressed as the hazard index, was not evaluated because the cancer risk evaluation, based on the use of USEPA Region 9 preliminary remediation goals, is most restrictive and protective of residential exposure for chemicals detected .

Neither the State of Michigan nor the USEPA have published permissible levels of TCE in indoor air. However, based on this evaluation, the risk of residential exposure to chemicals in indoor air derived from contaminated groundwater is less than the benchmark cancer risk promulgated by the Michigan Department of Environmental Quality (MDEQ) under Part 201 of the Michigan Natural Resources Environmental Protection Act. The excess cancer risk is also within the risk range (1×10^{-6} to 1×10^{-4}) defined by USEPA under the National Contingency Plan as acceptable and warranting no further action. These results indicate that no further action is required.

5. REFERENCES

[a] Earth Tech 2006. Air Sampling Work plan. January 2006

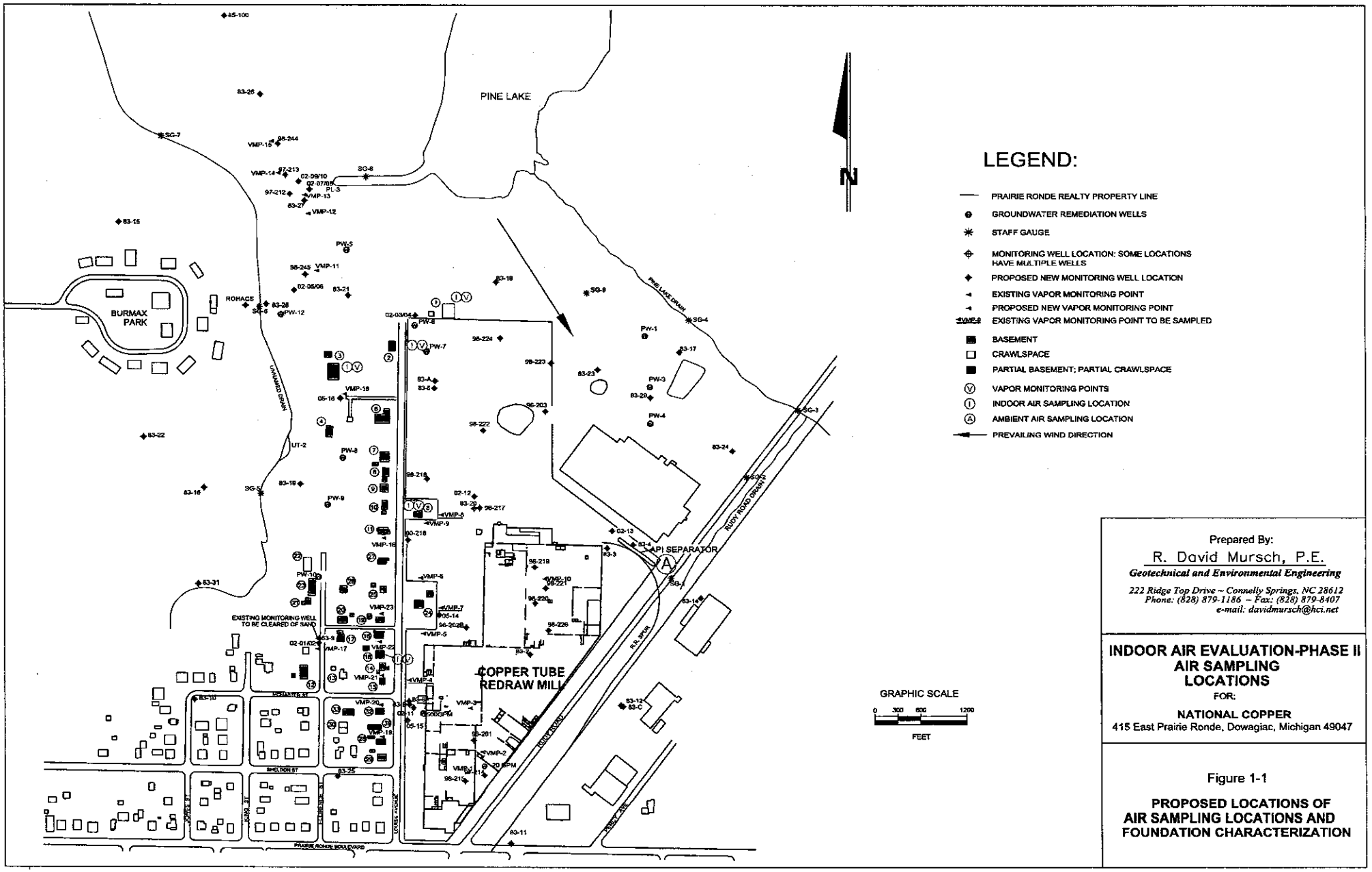
USEPA 1999, TO-15 Summa ™ Canister Sampling and Analyses Methodology

[b] STL 2006. Quality Assurance Project Plan. Submitted with Approved Work plan.

[c] USEPA 2001. Trichloroethylene Health Risk Assessment: Synthesis and Characterization. National Center for Environmental Assessment –Washington Office-Office of Research and Development

U.S.Environmental Protection Agency Washington, DC., DRAFT –DO NOT CITE OR QUOTE EPA/600/P-01/002A. External Review Draft August 2001

[d]ATSDR 2005. Toxicological Profile for Carbon Tetrachloride. Agency for Toxic Substances and Disease Registry, US. Department of Health and Human Services. Atlanta, GA.



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INDOOR AIR EVALUATION-PHASE II AIR SAMPLING LOCATIONS

FOR:

NATIONAL COPPER
415 East Prairie Ronde, Dowagiac, Michigan 49047

Figure 1-1

PROPOSED LOCATIONS OF AIR SAMPLING LOCATIONS AND FOUNDATION CHARACTERIZATION

H:\baskel\Bill Frez\91695.01 4-06\Air Sampling locations-Figure 1.DWG, 5/15/2006 10:59:27 AM, Adobe PDF, 11 x 17, 1:2.058

Figure 2-1

Data Evaluation Process

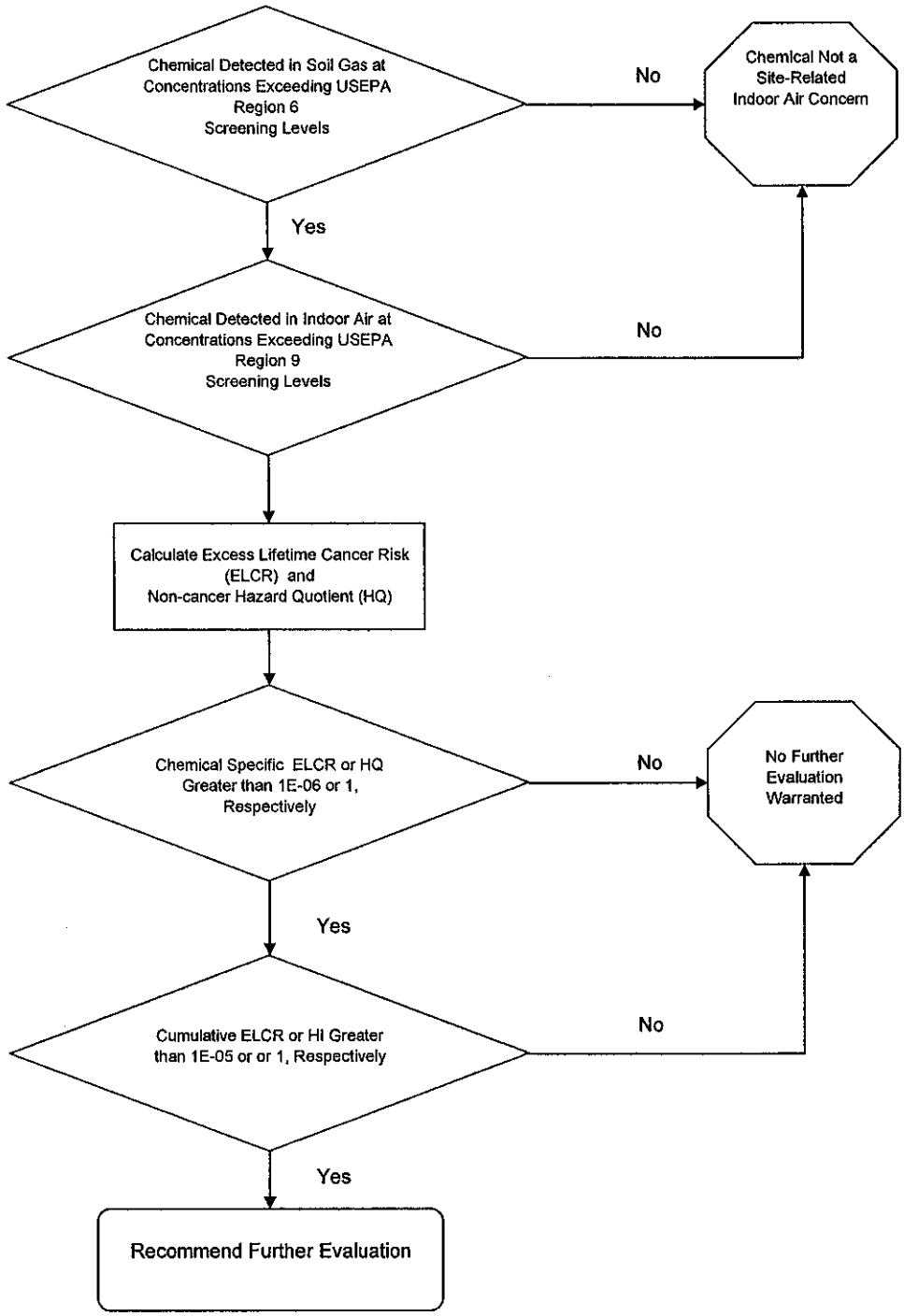


Table 3-1

Soil Gas Screening Evaluation

National Copper
Dowagiac, MI

Residence-Sample ID	Component	CAS No.	Result (ug/m3)	USEPA R6 Soil Gas Screening Level (ug/m^3)	COPC
305 LOUISE-SG	1,2-Dichloroethane	107062	3.3E-02	9.4E-01	No
305 LOUISE-SG	1,4-Dichlorobenzene	106467	2.8E+00	8.0E+02	No
305 LOUISE-SG	Bromodichloromethane	75274	2.5E-01	2.2E+01	No
305 LOUISE-SG	Carbon tetrachloride	56235	3.6E-01	1.6E+00	No
305 LOUISE-SG	Chloroform	67663	8.2E-01	1.1E+00	No
305 LOUISE-SG	Trichloroethene	79016	3.7E-02	2.2E-01	No
305 LOUISE-SG	Vinyl chloride	75014	2.1E-01	2.8E+00	No
305 LOUISE-SG	1,3-Dichlorobenzene	541731	8.9E+00	1.1E+02	No
305 LOUISE-SG	Chloromethane	74873	1.7E+00	2.4E+01	No
404 LOUISE-SG(3417)	1,2-Dichloroethane	107062	3.1E-02	9.4E-01	No
404 LOUISE-SG(3417)	1,4-Dichlorobenzene	106467	6.6E+00	8.0E+02	No
404 LOUISE-SG(3417)	Bromodichloromethane	75274	8.2E-02	2.2E+01	No
404 LOUISE-SG(3417)	Carbon tetrachloride	56235	4.2E-01	1.6E+00	No
404 LOUISE-SG(3417)	Chloroform	67663	5.2E-01	1.1E+00	No
404 LOUISE-SG(3417)	Tetrachloroethene	127184	4.4E-01	8.1E+00	No
404 LOUISE-SG(3417)	**Trichloroethene**	79016	3.2E+02	2.2E-01	Yes
404 LOUISE-SG(3417)	Vinyl chloride	75014	3.5E-01	2.8E+00	No
404 LOUISE-SG(3417)	1,1,1-Trichloroethane	71556	3.0E+01	2.2E+03	No
404 LOUISE-SG(3417)	1,1-Dichloroethane	75343	5.2E+00	5.0E+02	No
404 LOUISE-SG(3417)	1,3-Dichlorobenzene	541731	2.1E+01	1.1E+02	No
404 LOUISE-SG(3417)	Chloromethane	74873	2.5E+00	2.4E+01	No
404 LOUISE-SG(3417)	cis-1,2-Dichloroethene	156592	5.6E+00	3.5E+01	No
404 LOUISE-SG(3417)	trans-1,2-Dichloroethene	156605	3.4E+00	7.0E+01	No
504 LOUISE-SG(2350)	1,2-Dichloroethane	107062	2.9E-02	9.4E-01	No
504 LOUISE-SG(2350)	1,4-Dichlorobenzene	106467	7.4E+00	8.0E+02	No
504 LOUISE-SG(2350)	Bromodichloromethane	75274	8.5E-02	2.2E+01	No
504 LOUISE-SG(2350)	Carbon tetrachloride	56235	3.8E-01	1.6E+00	No
504 LOUISE-SG(2350)	Chloroform	67663	2.5E-01	1.1E+00	No
504 LOUISE-SG(2350)	Tetrachloroethene	127184	4.0E-01	8.1E+00	No
504 LOUISE-SG(2350)	Trichloroethene	79016	8.8E-02	2.2E-01	No
504 LOUISE-SG(2350)	Vinyl chloride	75014	2.6E-01	2.8E+00	No
504 LOUISE-SG(2350)	1,1,1-Trichloroethane	71556	1.3E-01	2.2E+03	No
504 LOUISE-SG(2350)	1,3-Dichlorobenzene	541731	2.8E+01	1.1E+02	No
504 LOUISE-SG(2350)	Chloromethane	74873	2.6E+00	2.4E+01	No
601 LOUISE-SG(2656)	1,2-Dichloroethane	107062	2.6E-02	9.4E-01	No
601 LOUISE-SG(2656)	1,4-Dichlorobenzene	106467	3.8E+00	8.0E+02	No
601 LOUISE-SG(2656)	Carbon tetrachloride	56235	3.3E-01	2.2E+01	No
601 LOUISE-SG(2656)	Chloroform	67663	2.1E-01	1.6E+00	No
601 LOUISE-SG(2656)	Tetrachloroethene	127184	2.4E-01	1.1E+00	No
601 LOUISE-SG(2656)	Trichloroethene	79016	4.3E-02	8.1E+00	No
601 LOUISE-SG(2656)	Vinyl chloride	75014	2.2E-01	2.2E-01	No
601 LOUISE-SG(2656)	**1,3-Dichlorobenzene**	541731	1.5E+01	2.8E+00	Yes
601 LOUISE-SG(2656)	Chloromethane	74873	1.8E+00	2.4E+01	No
700 LOUISE-SG(3456)	1,2-Dichloroethane	107062	2.8E-02	9.4E-01	No
700 LOUISE-SG(3456)	1,4-Dichlorobenzene	106467	5.2E+00	8.0E+02	No
700 LOUISE-SG(3456)	Bromodichloromethane	75274	9.0E-02	2.2E+01	No
700 LOUISE-SG(3456)	Carbon tetrachloride	56235	3.6E-01	1.6E+00	No
700 LOUISE-SG(3456)	Chloroform	67663	2.6E-01	1.1E+00	No
700 LOUISE-SG(3456)	Tetrachloroethene	127184	3.2E-01	8.1E+00	No

Table 3-1

Soil Gas Screening Evaluation

National Copper
Dowagiac, MI

Residence-Sample ID	Component	CAS No.	Result (ug/m3)	USEPA R6 Soil Gas Screening Level (ug/m^3)	COPC
700 LOUISE-SG(3456)	Trichloroethene	79016	5.0E-02	2.2E-01	No
700 LOUISE-SG(3456)	Vinyl chloride	75014	1.8E-01	2.8E+00	No
700 LOUISE-SG(3456)	1,3-Dichlorobenzene	541731	1.8E+01	1.1E+02	No
700 LOUISE-SG(3456)	Chloromethane	74873	1.8E+00	2.4E+01	No

Table 3-2

Indoor Air Screening Evaluation

National Copper
Dowagiac, MI

Residence-Sample ID	Component	CAS No.	Result (ug/m3)	USEPA R9 Ambient Air PRG (ug/m^3)
305 LOUISE-IA-1	Carbon tetrachloride	56235	6.6E-01	1.3E-01
305 LOUISE-IA-1	Methylene chloride	75092	4.9E+00	4.1E+00
305 LOUISE-IA-1	Chloromethane	74873	3.6E+00	9.5E+01
305 LOUISE-IA-2	1,2-Dichloroethane	107062	4.8E-02	7.4E-02
305 LOUISE-IA-2	Bromodichloromethane	75274	4.5E-01	1.1E-01
305 LOUISE-IA-2	Carbon tetrachloride	56235	6.8E-01	1.3E-01
305 LOUISE-IA-2	Chloroform	67663	3.8E-01	8.3E-02
305 LOUISE-IA-2	Methylene chloride	75092	2.6E+00	4.1E+00
305 LOUISE-IA-2	Trichloroethene	79016	1.7E-01	1.7E-02
305 LOUISE-IA-2	1,1,1-Trichloroethane	71556	1.1E-01	2.3E+03
305 LOUISE-IA-2	Chloromethane	74873	1.6E+00	9.5E+01
404 LOUISE-IA-1(2676)	1,2-Dichloroethane	107062	5.2E-02	7.4E-02
404 LOUISE-IA-1(2676)	Bromodichloromethane	75274	8.6E-02	1.1E-01
404 LOUISE-IA-1(2676)	Carbon tetrachloride	56235	6.8E-01	1.3E-01
404 LOUISE-IA-1(2676)	Chloroform	67663	2.3E-01	8.3E-02
404 LOUISE-IA-1(2676)	Tetrachloroethene	127184	2.1E-01	3.2E-01
404 LOUISE-IA-1(2676)	**Trichloroethene**	79016	4.5E+00	1.7E-02
404 LOUISE-IA-1(2676)	Vinyl chloride	75014	1.8E-02	1.1E-01
404 LOUISE-IA-1(2676)	1,1,1-Trichloroethane	71556	2.8E-01	2.3E+03
404 LOUISE-IA-1(2676)	Chloromethane	74873	5.9E+00	9.5E+01
404 LOUISE-IA-2(3143)	1,2-Dichloroethane	107062	4.6E-02	7.4E-02
404 LOUISE-IA-2(3143)	Bromodichloromethane	75274	9.3E-02	1.1E-01
404 LOUISE-IA-2(3143)	Carbon tetrachloride	56235	5.5E-01	1.3E-01
404 LOUISE-IA-2(3143)	Chloroform	67663	2.3E-01	8.3E-02
404 LOUISE-IA-2(3143)	Tetrachloroethene	127184	2.3E-01	3.2E-01
404 LOUISE-IA-2(3143)	**Trichloroethene**	79016	4.6E+00	1.7E-02
404 LOUISE-IA-2(3143)	Vinyl chloride	75014	1.9E-02	1.1E-01
404 LOUISE-IA-2(3143)	1,1,1-Trichloroethane	71556	2.6E-01	2.3E+03
404 LOUISE-IA-2(3143)	Chloromethane	74873	5.6E+00	9.5E+01
504 LOUISE-IA(3061)	1,2-Dichloroethane	107062	6.1E-02	7.4E-02
504 LOUISE-IA(3061)	Carbon tetrachloride	56235	6.7E-01	1.3E-01
504 LOUISE-IA(3061)	Chloroform	67663	9.0E-02	8.3E-02
504 LOUISE-IA(3061)	Methylene chloride	75092	1.6E+00	4.1E+00
504 LOUISE-IA(3061)	Tetrachloroethene	127184	5.5E-01	3.2E-01
504 LOUISE-IA(3061)	Trichloroethene	79016	2.7E-01	1.7E-02
504 LOUISE-IA(3061)	1,1,1-Trichloroethane	71556	1.5E-01	2.3E+03
504 LOUISE-IA(3061)	Chloromethane	74873	1.2E+00	9.5E+01
601 LOUISE-IA(1279)	1,2-Dichloroethane	107062	5.7E-02	7.4E-02
601 LOUISE-IA(1279)	Bromodichloromethane	75274	9.7E-02	1.1E-01
601 LOUISE-IA(1279)	Carbon tetrachloride	56235	6.9E-01	1.3E-01
601 LOUISE-IA(1279)	Chloroform	67663	2.2E-01	8.3E-02
601 LOUISE-IA(1279)	Methylene chloride	75092	1.4E+00	4.1E+00

Table 3-2

Indoor Air Screening Evaluation

National Copper
Dowagiac, MI

Residence-Sample ID	Component	CAS No.	Result (ug/m3)	USEPA R9 Ambient Air PRG (ug/m^3)
601 LOUISE-IA(1279)	Trichloroethene	79016	4.9E-01	1.7E-02
601 LOUISE-IA(1279)	Vinyl chloride	75014	1.5E-02	1.1E-01
601 LOUISE-IA(1279)	1,1,1-Trichloroethane	71556	3.5E-01	2.3E+03
601 LOUISE-IA(1279)	Chloromethane	74873	9.9E-01	9.5E+01
700 LOUISE-IA(2761)	1,2-Dichloroethane	107062	7.9E-02	7.4E-02
700 LOUISE-IA(2761)	Bromodichloromethane	75274	2.0E-01	1.1E-01
700 LOUISE-IA(2761)	Carbon tetrachloride	56235	6.3E-01	1.3E-01
700 LOUISE-IA(2761)	Chloroform	67663	2.3E-01	8.3E-02
700 LOUISE-IA(2761)	Trichloroethene	79016	1.1E-01	1.7E-02
700 LOUISE-IA(2761)	1,1,1-Trichloroethane	71556	1.1E-01	2.3E+03
700 LOUISE-IA(2761)	Chloromethane	74873	1.3E+00	9.5E+01

Table 3-3

Ambient Air Screening Evaluation

National Copper, Inc.
Dowagiac, MI

Residence-Sample ID	Component	CAS No.	Result (ug/m3)	USEPA R9 Ambient Air PRG (ug/m^3)
AMBIENT(2257)	1,2-Dichloroethane	107062	4.1E-02	7.4E-02
AMBIENT(2257)	**Carbon tetrachloride**	56235	7.2E-01	1.3E-01
AMBIENT(2257)	Chloroform	67663	8.1E-02	8.3E-02
AMBIENT(2257)	**Trichloroethene**	79016	2.6E-01	1.7E-02
AMBIENT(2257)	1,1,1-Trichloroethane	71556	1.1E-01	2.3E+03
AMBIENT(2257)	Chloromethane	74873	1.1E+00	9.5E+01

Table 3-4

Risk Evaluation for 404 Louise St.

National Copper, Inc.
Dowagiac, MI.

Address	Owner	TCE Concentration in Indoor Air (ug/m3)	Ratio to Ambient	Estimated ELCR for TCE[1]	Estimated ELCR for TCE[2]	Estimated ELCR for TCE[3]	Estimated ELCR for TCE[4]	Median ELCR for TCE
404 Louise-1	Ferrel	4.5	17	3.E-04	1.E-05	4.E-06	5.E-06	9.E-06
404 Louise-2	Ferrel	4.6	18	3.E-04	1.E-05	4.E-06	5.E-06	9.E-06
Ambient	National Copper	0.26	1	2.E-05	8.E-07	2.E-07	3.E-07	5.E-07

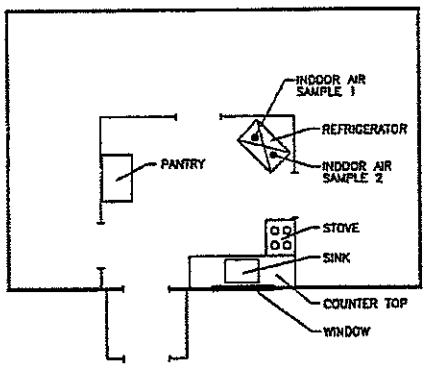
1 CSF USEPA 2001 NEW PROVISIONAL MORE CONSERVATIVE VALUE	4.00E-01	$(mg/kg/day)^{-1}$
2 CSF USEPA 2001 NEW PROVISIONAL LESS CONSERVATIVE VALUE	2.00E-02	$(mg/kg/day)^{-1}$
3 CSF USEPA IRIS 1989	6.00E-03	$(mg/kg/day)^{-1}$
4 CSF CalEPA 2002 AIR TOXICS PROGRAM	7.00E-03	$(mg/kg/day)^{-1}$

Table A-1

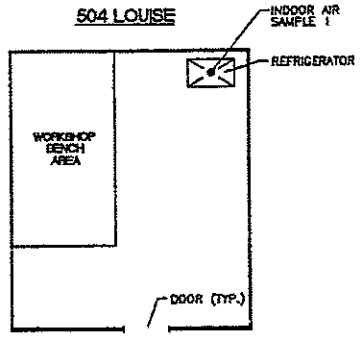
Air Sampling Summary

Location	Sample Type	Cannister	Purge Time	Sample Time Start	Sample Time End	Leak Check (Smoke Tubes)	Final Pressures ("Hg)
305 Louise	Soil Gas	2764	2/10/2006 700 - 730	2/10/2006 @ 730	2/10/2006 @ 1530	Pass	2.5
	Indoor Air - 1	2761	Not Applicable	2/10/2006 @ 715	2/11/2006 @ 715	Not Applicable	3.0
	Indoor Air - 2	3009	Not Applicable	2/10/2006 @ 715	2/11/2006 @ 715	Not Applicable	0.5
404 Louise	Soil Gas	3417	2/9/2006 1150 - 1200	2/9/2006 @ 1203	2/9/2006 @ 1803	Pass	6.0
	Indoor Air - 1	2676	Not Applicable	2/9/2006 @ 1027	2/10/2006 @ 1027	Not Applicable	2.0
	Indoor Air - 2	3143	Not Applicable	2/9/2006 @ 1027	2/10/2006 @ 1027	Not Applicable	2.0
504 Louise	Soil Gas	2350	2/9/2006 1245 - 1300	2/9/2006 @ 1300	2/9/2006 @ 1900	Pass	8.0
	Indoor Air	3061	Not Applicable	2/9/2006 @ 1101	2/10/2006 @ 1104	Not Applicable	0.5
601 Louise	Soil Gas	2656	2/9/2006 1209 -1219	2/9/2006 @ 1222	2/9/2006 @ 1822	Pass	10.0
	Indoor Air	1279	Not Applicable	2/9/2006 @ 1042	2/10/2006 @ 1042	Not Applicable	0.5
700 Louise	Soil Gas	3456	2/9/2006 1229 -1239	2/9/2006 @ 1241	2/9/2006 @ 1841	Pass	8.0
	Indoor Air	2761	Not Applicable	2/9/2006 @ 1050	2/10/2006 @ 1055	Not Applicable	1.0
Site	Ambient Air	2257	Not Applicable	2/9/2006 @ 1124	2/10/2006 @ 1125	Not Applicable	0.5

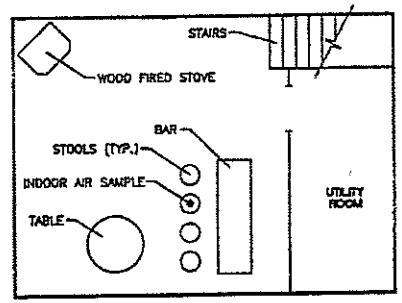
404 LOUISE



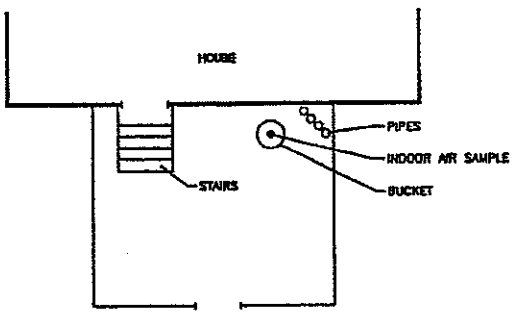
504 LOUISE



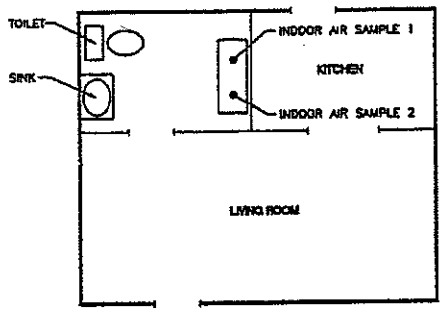
601 LOUISE



700 LOUISE



305 LOUISE



EarthTech

A tyco International Ltd. Company

DRAWN BY: RW	DATE: MARCH 2006
CHECKED BY: SS	EDITED BY: RW032406
FILE NAME: 91898 Fig 1.dwg	

INDOOR AIR SAMPLING SCHEMATIC

NATIONAL COPPER PRODUCTS
DOWAGIAC, MICHIGAN

PROJECT NUMBER 91898	SCALE: NOT TO SCALE

700 LOUISE

DEVERN WALKER

(269) 782 - 6095

RESIDENT QUESTIONNAIRE

National Copper, in cooperation with the U.S. Environmental Protection Agency, will collect indoor air samples from residences in an area near the National Copper Plant, Dowagiac, MI. These samples will be analyzed to detect volatile organic compounds (VOC) vapors inside the residences.

VOCs are found in outside air and in the air inside of buildings. VOCs can be found in solvents and other household items, such as pesticides, insecticides, adhesives, aerosols, paints, coatings, dry cleaning, carpet and drapery cleaning fluids, and household spot removers. Other common VOC sources may include telephone and computer cables, plastic items, vinyl cove molding, PVC plumbing, linoleum, concrete blocks, latex paint, carpet padding, foam rubber, lubricants, and cosmetics.

Your answer to the following questions will help us determine if sources of VOCs exist in your home. Please answer each question to the best of your knowledge.

1. When was the last time dry-cleaned clothes were brought into the house?

   ☐ 0 to 5 days ago ☐ 6 to 10 days ago ☑ More than 10 days ago

2. When was your carpet installed?

   ☐ In the last six months ☑ More than six months ago

3. When was the last time your carpet was cleaned?

   ☐ In the last six months ☑ More than six months ago

4. Do you have any spot removers in the house?

   ☐ Yes ☑ No BUT AMMONIA

5. Do your hobbies include model buildings, arts and crafts, model railroading metal cleaning, or others that require paints, thinners, solvents, or glue?

   ☐ Yes ☑ No

6. Do you perform automotive or other vehicle maintenance or repair at home?

   ☐ Yes ☑ No

7. Are any of the following list in your home.

   ☐ Latex caulk

   ☑ Latex paint WATER BASED NOT OPEN

☐ Vinyl cove molding

☑ Linoleum tile

8. Do you have pesticides in your home?

☐ Yes ☑ No ☐ Unsure

9. Do you have any spray insecticides in your home?

☐ Yes ☑ No ☐ Unsure

10. Have you painted the interior of your home in the last 12 months?

☐ Yes ☑ No

11. Have you painted the exterior of your home in the last 12 months?

☐ Yes ☑ No

12. If you have answered yes to questions 10 or 11, please indicate what paint you used.

☐ Enamel

☐ Vinyl

☐ Latex

☐ Other

13. Where do you store your paint, thinner, pesticides, insecticides?

☑ Garage

☑ Basement

☐ Storage shed

☐ Other

☐ I don't store these items at home.

14. Do you have pets?

☐ Yes ☑ No

601 LOUISE
ABBY HEIDENREICH
JESSE MILLER
(RENTERS)

D. WALKER PROPERTY
(269) 782-6035

RESIDENT QUESTIONNAIRE

National Copper, in cooperation with the U.S. Environmental Protection Agency, will collect indoor air samples from residences in an area near the National Copper Plant, Dowagiac, MI. These samples will be analyzed to detect volatile organic compounds (VOC) vapors inside the residences.

VOCs are found in outside air and in the air inside of buildings. VOCs can be found in solvents and other household items, such as pesticides, insecticides, adhesives, aerosols, paints, coatings, dry cleaning, carpet and drapery cleaning fluids, and household spot removers. Other common VOC sources may include telephone and computer cables, plastic items, vinyl cove molding, PVC plumbing, linoleum, concrete blocks, latex paint, carpet padding, foam rubber, lubricants, and cosmetics.

Your answer to the following questions will help us determine if sources of VOCs exist in your home. Please answer each question to the best of your knowledge.

1. When was the last time dry-cleaned clothes were brought into the house?

   ☐ 0 to 5 days ago ☐ 6 to 10 days ago ☑ More than 10 days ago

2. When was your carpet installed? NA BERBER RUGS

   ☐ In the last six months ☐ More than six months ago

3. When was the last time your carpet was cleaned? NA

   ☐ In the last six months ☐ More than six months ago

4. Do you have any spot removers in the house? NO

   ☐ Yes ☑ No

5. Do your hobbies include model buildings, arts and crafts, model railroading metal cleaning, or others that require paints, thinners, solvents, or glue?

   ☐ Yes ☑ No

6. Do you perform automotive or other vehicle maintenance or repair at home?

   ☐ Yes ☑ No

7. Are any of the following list in your home.

   ☐ Latex caulk

   ☐ Latex paint

☐ Vinyl cove molding

☑ Linoleum tile KITCHEN

☐

8. Do you have pesticides in your home?

☐ Yes ☑ No ☑ Unsure

9. Do you have any spray insecticides in your home?

☐ Yes ☑ No ☑ Unsure

10. Have you painted the interior of your home in the last 12 months?

☐ Yes ☑ No

11. Have you painted the exterior of your home in the last 12 months?

☐ Yes ☑ No

12. If you have answered yes to questions 10 or 11, please indicate what paint you used.

☐ Enamel

☐ Vinyl

☐ Latex

☐ Other

13. Where do you store your paint, thinner, pesticides, insecticides?

☐ Garage

☐ Basement

☐ Storage shed

☐ Other

☑ I don't store these items at home.

14. Do you have pets?

☐ Yes ☑ No

7:30 am — 4:30 works
305 LOUISE
SHELLY MAGGERT
CELL (269) 591-1778

RESIDENT QUESTIONNAIRE

National Copper, in cooperation with the U.S. Environmental Protection Agency, will collect indoor air samples from residences in an area near the National Copper Plant, Dowagiac, MI. These samples will be analyzed to detect volatile organic compounds (VOC) vapors inside the residences.

VOCs are found in outside air and in the air inside of buildings. VOCs can be found in solvents and other household items, such as pesticides, insecticides, adhesives, aerosols, paints, coatings, dry cleaning, carpet and drapery cleaning fluids, and household spot removers. Other common VOC sources may include telephone and computer cables, plastic items, vinyl cove molding, PVC plumbing, linoleum, concrete blocks, latex paint, carpet padding, foam rubber, lubricants, and cosmetics.

Your answer to the following questions will help us determine if sources of VOCs exist in your home. Please answer each question to the best of your knowledge.

1. When was the last time dry-cleaned clothes were brought into the house?

   ☐ 0 to 5 days ago ☐ 6 to 10 days ago ☑ More than 10 days ago

2. When was your carpet installed?

   ☐ In the last six months ☑ More than six months ago

3. When was the last time your carpet was cleaned?

   ☑ In the last six months (OCTOBER) ☐ More than six months ago

4. Do you have any spot removers in the house?

   ☐ Yes ☑ No

5. Do your hobbies include model buildings, arts and crafts, model railroading metal cleaning, or others that require paints, thinners, solvents, or glue?

   ☐ Yes ☑ No

6. Do you perform automotive or other vehicle maintenance or repair at home?

   ☐ Yes ☑ No

7. Are any of the following list in your home.

   ☐ Latex caulk

   ☐ Latex paint

☐ Vinyl cove molding

☐ Linoleum tile

8. Do you have pesticides in your home?

☐ Yes ☑ No ☐ Unsure

9. Do you have any spray insecticides in your home?

☐ Yes ☑ No ☐ Unsure

10. Have you painted the interior of your home in the last 12 months?

☐ Yes ☑ No

11. Have you painted the exterior of your home in the last 12 months?

☐ Yes ☑ No

12. If you have answered yes to questions 10 or 11, please indicate what paint you used.

☐ Enamel

☐ Vinyl

☐ Latex

☐ Other

13. Where do you store your paint, thinner, pesticides, insecticides?

☑ Garage

☐ Basement

☐ Storage shed

☐ Other

☐ I don't store these items at home.

14 Do you have pets?

☐ Yes ☑ No

504 LOUISE
ROCKY MENGEL

269 782-5963
9:00am

RESIDENT QUESTIONNAIRE

National Copper, in cooperation with the U.S. Environmental Protection Agency, will collect indoor air samples from residences in an area near the National Copper Plant, Dowagiac, MI. These samples will be analyzed to detect volatile organic compounds (VOC) vapors inside the residences.

VOCs are found in outside air and in the air inside of buildings. VOCs can be found in solvents and other household items, such as pesticides, insecticides, adhesives, aerosols, paints, coatings, dry cleaning, carpet and drapery cleaning fluids, and household spot removers. Other common VOC sources may include telephone and computer cables, plastic items, vinyl cove molding, PVC plumbing, linoleum, concrete blocks, latex paint, carpet padding, foam rubber, lubricants, and cosmetics.

Your answer to the following questions will help us determine if sources of VOCs exist in your home. Please answer each question to the best of your knowledge.

1. When was the last time dry-cleaned clothes were brought into the house?

   ☐ 0 to 5 days ago ☐ 6 to 10 days ago ☑ More than 10 days ago

2. When was your carpet installed? NA

   ☐ In the last six months ☐ More than six months ago

3. When was the last time your carpet was cleaned? NA

   ☐ In the last six months ☐ More than six months ago

4. Do you have any spot removers in the house?

   ☐ Yes ☑ No

5. Do your hobbies include model buildings, arts and crafts, model railroading metal cleaning, or others that require paints, thinners, solvents, or glue?

   ☐ Yes ☑ No Just some spray paint

6. Do you perform automotive or other vehicle maintenance or repair at home?

   ☐ Yes ☑ No

7. Are any of the following list in your home.

   ☐ Latex caulk

   ☐ Latex paint

☐ Vinyl cove molding

☐ Linoleum tile

8. Do you have pesticides in your home?

☐ Yes ☑ No ☐ Unsure

9. Do you have any spray insecticides in your home?

☐ Yes ☑ No ☐ Unsure

10. Have you painted the interior of your home in the last 12 months?

☐ Yes ☑ No

11. Have you painted the exterior of your home in the last 12 months?

☐ Yes ☑ No

12. If you have answered yes to questions 10 or 11, please indicate what paint you used.

☐ Enamel

☐ Vinyl

☐ Latex

☐ Other

13. Where do you store your paint, thinner, pesticides, insecticides?

☑ Garage Work Shop

☐ Basement

☐ Storage shed

☐ Other

☐ I don't store these items at home.

14. Do you have pets?

☑ Yes ☐ No

FOR LOUISE

BETH BAUER (NIECE) RESIDENT
CELL (269) 876-1531

AUNT (OWNER):
CAROL FERREL - BRISKE
(269) 782-4537

RESIDENT QUESTIONNAIRE

National Copper, in cooperation with the U.S. Environmental Protection Agency, will collect indoor air samples from residences in an area near the National Copper Plant, Dowagiac, MI. These samples will be analyzed to detect volatile organic compounds (VOC) vapors inside the residences.

VOCs are found in outside air and in the air inside of buildings. VOCs can be found in solvents and other household items, such as pesticides, insecticides, adhesives, aerosols, paints, coatings, dry cleaning, carpet and drapery cleaning fluids, and household spot removers. Other common VOC sources may include telephone and computer cables, plastic items, vinyl cove molding, PVC plumbing, linoleum, concrete blocks, latex paint, carpet padding, foam rubber, lubricants, and cosmetics.

Your answer to the following questions will help us determine if sources of VOCs exist in your home. Please answer each question to the best of your knowledge.

1. When was the last time dry-cleaned clothes were brought into the house?

   ☐ 0 to 5 days ago ☐ 6 to 10 days ago ☑ More than 10 days ago

2. When was your carpet installed?

   ☐ In the last six months ☑ More than six months ago

3. When was the last time your carpet was cleaned?

   ☐ In the last six months ☑ More than six months ago

4. Do you have any spot removers in the house?

   ☐ Yes ☑ No

5. Do your hobbies include model buildings, arts and crafts, model railroading metal cleaning, or others that require paints, thinners, solvents, or glue?

   ☐ Yes ☑ No

6. Do you perform automotive or other vehicle maintenance or repair at home?

   ☑ Yes OCCASIONALLY ON BOYFRIEND'S CLOTHES ☐ No

7. Are any of the following list in your home.

   ☐ Latex caulk

   ☐ Latex paint

☐ Vinyl cove molding

☑ Linoleum tile

8. Do you have pesticides in your home?

☐ Yes ☑ No ☐ Unsure

9. Do you have any spray insecticides in your home?

☐ Yes ☑ No ☐ Unsure

10. Have you painted the interior of your home in the last 12 months?

☑ Yes living room last 1-2 months ☐ No

11. Have you painted the exterior of your home in the last 12 months?

☐ Yes ☑ No

12. If you have answered yes to questions 10 or 11, please indicate what paint you used.

☐ Enamel

☐ Vinyl

☐ Latex

☐ Other Unknown

13. Where do you store your paint, thinner, pesticides, insecticides?

☐ Garage

☐ Basement

☐ Storage shed

☐ Other

☑ I don't store these items at home.

14. Do you have pets?

☑ Yes ☐ No

1 dog
1 cat

CANISTER DATA FORM

I. GENERAL INFORMATION Ambient

Company Name: National Copper Products, Inc.
Canister ID No.: 2257

Company Contact: Mr. Rick Smith
Sampler ID No.: NA

Company Address: 415 East Prairie Rhonde Street, Dowagiac MI
Vacuum Controller ID No.: _____

Flow Controller ID No.: 24227

Telephone No.: _____
Canister Leak Check Date: 1/31/2016

Facsimile No.: NA
Shipping Date: Fee CDC

II. SAMPLING INFORMATION

Sampling Date: 2/09/2016

Sampling Address: Ambient Air Sample

Location of Canister is Place: /

Use of Room Where Canister is Place: NA

Room Furnishings: NA

Materials Stored in Room: NA

Weather Conditions During Test: Cold clear day wind out of NW

TEMPERATURE:
BAROMETRIC PRESSURE

	INTERIOR	AMBIENT	MAXIMUM	MINIMUM
START				
STOP				

Canister VACUUM on OPENING Valve: _____

DATE Canister Valve OPENED: _____ TIME Canister Valve OPENED: _____

DATE Canister Valve CLOSED: _____ TIME Canister Valve CLOSED: _____

Signature [signature] 2/10/2016 Date

CANISTER DATA FORM

I. GENERAL INFORMATION Indoor Air

Company Name: National Copper Products, Inc.
Canister ID No.: A 3005 B 2627

Company Contact: Mr. Rick Smith
Sampler ID No.: NA

Company Address: 415 East Prairie Rhonde Street, Dowagiac MI
Vacuum Controller ID No.: _____

Flow Controller ID No.: A-24209 B 24211

Telephone No.: NA
Canister Leak Check Date: 1/31/2008

Facsimile No.: NA
Shipping Date: See COC

II. SAMPLING INFORMATION

Sampling Date: 2/10/2008

Sampling Address: 305 Linise

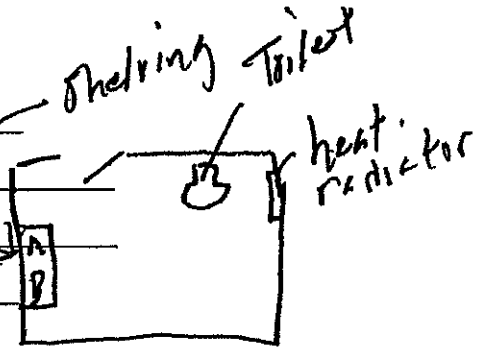
Location of Canister is Place: Bedroom

Use of Room Where Canister is Place: _____

Room Furnishings: See Sketch

Materials Stored in Room: _____

Weather Conditions During Test: Cold, Snow 1"



TEMPERATURE:
BAROMETRIC PRESSURE

	INTERIOR	AMBIENT	MAXIMUM	MINIMUM
START	65°F	24°F		
STOP				

Canister VACUUM on OPENING Valve: _____

DATE Canister Valve OPENED: 2/10/2008 TIME Canister Valve OPENED: 7:10 AM

DATE Canister Valve CLOSED: 2/11/2008 TIME Canister Valve CLOSED: 7:15 AM

Signature (50-55)

2/10/2008
Date

3 of Course

INDOOR (24 hrs)

1- 2-

Start @ 7:15 AM 2/10/06

END @ 7:15 AM 2/11/06

1- 2761 Cam / 24216 Controller

2- 3009 / 24229 Controller

OutDoor (8 hrs)

2764 Camera / 8214 Controller

Start @ 7:30 AM 2/10/06

END @ 3:30 pm 2/10/06

Notes rec'd for assistance by

J. Maggert.

CANISTER DATA FORM

I. GENERAL INFORMATION Indoor

Company Name: National Copper Products, Inc.
Canister ID No.: # 2676 B 3143

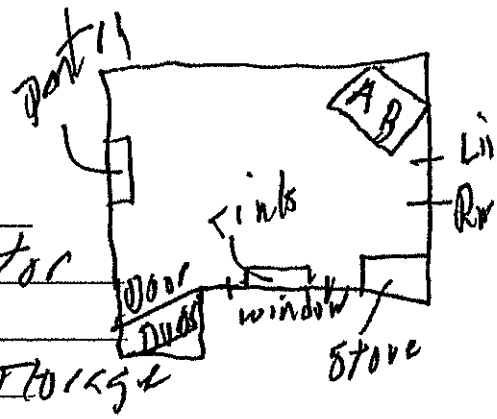
Company Contact: Mr. Rick Smith
Sampler ID No.: _____

Company Address: 415 East Prairie Rhonde Street, Dowagiac MI
Vacuum Controller ID No.: _____

Flow Controller ID No. A24211 B 24226

Telephone No.: NA
Canister Leak Check Date: 1/31/2006

Facsimile No.: NA
Shipping Date: Fee CUC



II. SAMPLING INFORMATION

Sampling Date: 2/09/2006

Sampling Address: 404 Louise

Location of Canister is Place: on top of refrigerator

Use of Room Where Canister is Place: Kitchen

Room Furnishings: Stove, electric, refrig., storage

Materials Stored in Room: Typical for kitchen

Weather Conditions During Test: cool, 20°F,

TEMPERATURE:
BAROMETRIC PRESSURE

	INTERIOR	AMBIENT	MAXIMUM	MINIMUM
START	67°F	29°F		
STOP	68°F	20°F		

Canister VACUUM on OPENING Valve: _____

DATE Canister Valve OPENED: 2/09/2006 TIME Canister Valve OPENED: 1027

DATE Canister Valve CLOSED: 2/10/2006 TIME Canister Valve CLOSED: 1025

[signature] (for JS) 2/10/2006
Signature Date

CANISTER DATA FORM

I. GENERAL INFORMATION Indoor Air

Company Name: National Copper Products, Inc.
Canister ID No.: 2761

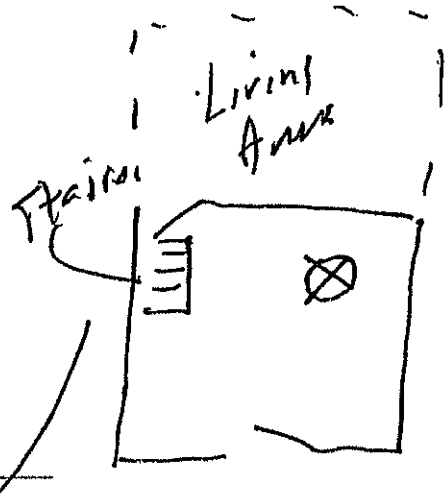
Company Contact: Mr. Rick Smith
Sampler ID No.: NA

Company Address: 415 East Prairie Rhonde Street, Dowagiac MI
Vacuum Controller ID No.: NA

Flow Controller ID No.: 2413

Telephone No.: NA
Canister Leak Check Date: 1/31/2016

Facsimile No.: NA
Shipping Date: See COC



II. SAMPLING INFORMATION

Sampling Date: 2/09/2016

Sampling Address: 700 Louise - rental

Location of Canister is Place: Entry area back door on bracket

Use of Room Where Canister is Place: Mud room, semi interior

Room Furnishings: _____

Materials Stored in Room: Misc. cleaners, empty bottles

Weather Conditions During Test: _____

TEMPERATURE:
BAROMETRIC PRESSURE

	INTERIOR	AMBIENT	MAXIMUM	MINIMUM
START	65°F			
STOP				

Canister VACUUM on OPENING Valve: _____

DATE Canister Valve OPENED: 2/9/2016 TIME Canister Valve OPENED: 1050

DATE Canister Valve CLOSED: 2/10/2016 TIME Canister Valve CLOSED: 1050

Signature

2/10/2016
Date

CANISTER DATA FORM

I. GENERAL INFORMATION Indoor Air

Company Name: National Copper Products, Inc.
Canister ID No.: 3061

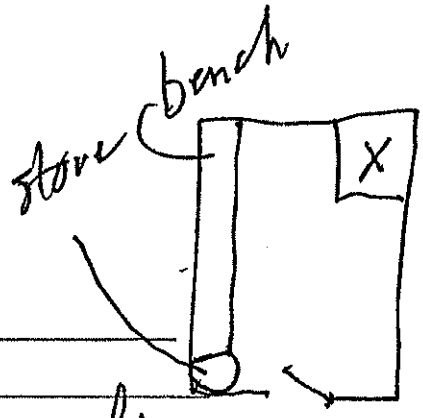
Company Contact: Mr. Rick Smith
Sampler ID No.: N4

Company Address: 415 East Prairie Rhonde Street, Dowagiac MI
Vacuum Controller ID No.: _____

Flow Controller ID No.: ~~0497~~ 2431

Telephone No.: _____
Canister Leak Check Date: 1/31/2008

Facsimile No.: _____
Shipping Date: _____



II. SAMPLING INFORMATION

Sampling Date: 2/9/2016
Sampling Address: 504 Lodge
Location of Canister is Place: work shed on refin
Use of Room Where Canister is Place: Recreation, work, through day
Room Furnishings: Bench, wood stove,
Materials Stored in Room: Misc. supplies paint
Weather Conditions During Test: Clear cold.

TEMPERATURE:
BAROMETRIC PRESSURE

	INTERIOR	AMBIENT	MAXIMUM	MINIMUM
START	65°F			
STOP				

Canister VACUUM on OPENING Valve: _____

DATE Canister Valve OPENED: 2/9/2016 TIME Canister Valve OPENED: 1101
DATE Canister Valve CLOSED: 2/10/2016 TIME Canister Valve CLOSED: 1104

Signature

2/10/2016
Date

CANISTER DATA FORM

I. GENERAL INFORMATION Indoor Air

Company Name: National Copper Products, Inc.
Canister ID No.: 1079

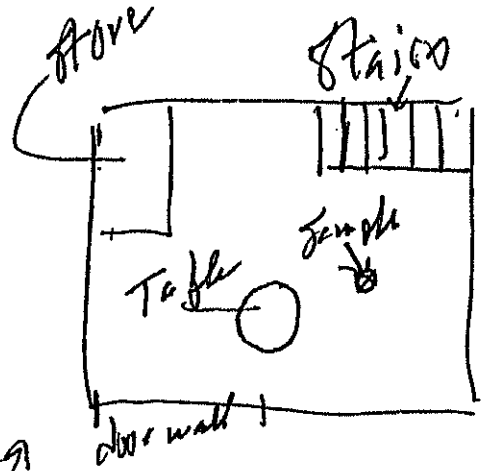
Company Contact: Mr. Rick Smith
Sampler ID No.: NA

Company Address: 415 East Prairie Rhonde Street, Dowagiac MI
Vacuum Controller ID No.: 24205

Flow Controller ID No.: 24205

Telephone No.: NA
Canister Leak Check Date: 1/31/2008

Facsimile No.: NA
Shipping Date: See COC



II. SAMPLING INFORMATION

Sampling Date: 2/9/2008

Sampling Address: 601 Lovers

Location of Canister is Place: Basement - finished - on floor

Use of Room Where Canister is Place: Living Space

Room Furnishings: sofa, chairs, typical for living room. wood flo.

Materials Stored in Room: misc cleaners.

Weather Conditions During Test: _____

TEMPERATURE:
BAROMETRIC PRESSURE

	INTERIOR	AMBIENT	MAXIMUM	MINIMUM
START	77°C			
STOP				

Canister VACUUM on OPENING Valve: _____

DATE Canister Valve OPENED: 2/9/2008 TIME Canister Valve OPENED: 1042

DATE Canister Valve CLOSED: 2/11/2008 TIME Canister Valve CLOSED: 1043

Signature

2/10/2008
Date

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2350
DATE CLEANED: ~~12/23/05A~~ 1/24/06B ~~1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: SV4 Lowe + SG

VFR ID: STL 804
Duration of comp. : 8 (hrs) / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

0832 Fan Style

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0915	28"	2/9/2006	SMS
FINAL FIELD READING	1903	8"	2/9/2006	SMS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: Normal Coffee Protocol

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2656
DATE CLEANED: ~~12/23/05A 1/24/06B~~ 1/26/06A
CLIENT SAMPLE #:
SITE LOCATION: 601 Lowse - SG

VFR ID: STL 0812
Duration of comp. : 8 (hrs) / ~~mins.~~
Flow setting: 9.9-10.4 ml/min
Initials: CA

0804 For SAMPLE

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	1/31/06	CA
INITIAL FIELD VACUUM	0900 AM	29"	2/9/2006	SWS
FINAL FIELD READING	1847	10"	2/9/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: Normal Upton Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 3417

DATE CLEANED: 12/23/05A ~~1/24/06B 1/26/06A~~

CLIENT SAMPLE #:

SITE LOCATION: 404 Louse - SG

VFR ID: STL 8213

Duration of comp. : 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

0829 For Sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0945	28"	2/9/06	SWS
FINAL FIELD READING	1847	6"	2/9/06	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: Normal Office Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 3456
DATE CLEANED: 12/23/05A ~~1/24/06B 1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: 700 Louise

VFR ID: STL 0844
Duration of comp. : 8 hrs / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

0827 For Sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0920	29	2/9/2006	SVS
FINAL FIELD READING	1853	8"	2/9/2006	SVS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: National Copper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 3009
DATE CLEANED: ~~12/23/05A~~ 1/24/06B ~~1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: 305 Course IA-2
IA-1 (D)

VFR ID: STL 0829
Duration of comp.: 8 (hrs) / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

24229
24hr
Controller
For
Sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0915 AM	29"	[illegible]	[illegible]
FINAL FIELD READING	8:00 AM	→ A NEEDLE WIDTH / BETWEEN 0 AND -.5 INHg VAC	2/14/06	RS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	14.20	2/21/06	[illegible]
FINAL PRESSURE (PSIA)	25.05	2/21/06	[illegible]

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 2761

DATE CLEANED: ~~12/23/05A~~ 1/24/06B ~~1/26/06A~~

CLIENT SAMPLE #:

SITE LOCATION: ~~700 Louise~~ – IA-1
305 Louise IA-2

VFR ID: STL 8214 24@06

Duration of comp.: 8 (hrs) / mins. 24 hrs

Flow setting: 9.9-10.4 ml/min

Initials: CA

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0945	29"	2/9/06	SLS
FINAL FIELD READING	8:05 AM	-3 in Hg (VAC)	2/14/06	RS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.79	2/21/06	ET
FINAL PRESSURE (PSIA)	25.00	2/21/06	ET

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2764
DATE CLEANED: 12/23/05A ~~1/20/06B 1/26/06A~~
CLIENT SAMPLE #: SS
SITE LOCATION: 305 Lowe ~~#1~~ SG

VFR ID: STL 8217
Duration of comp.: 8 (hrs) / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

8/14 used for Surr

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0930	28"	2/9/2006	SMS
FINAL FIELD READING	7:45 AM	-2.5 INHg (VAC)	2/14/06	R.S.

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.96	2/21/06	[illegible]
FINAL PRESSURE (PSIA)	25.20	2/21/06	[illegible]

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 2676

DATE CLEANED: 12/23/05A 1/24/06B ~~1/26/06A~~

CLIENT SAMPLE #:

SITE LOCATION: 404 Course - IA-1

VFR ID: STL 8202

Duration of comp.: 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

24 hrs for Sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0950	29"	2/9/2006	SLS
FINAL FIELD READING	~~0~~ 1128	2"	2/10/2006	SLS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: National Copper Product

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 343

DATE CLEANED: ~~12/23/05A 1/24/06B~~ 1/26/06A

CLIENT SAMPLE #:

SITE LOCATION: 404 Louise - IA-2

VFR ID: STL 0827

Duration of comp. : 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

24226 For SAMPLE 24 hrs

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	9 AM	29"	2/9/2006	SWS
FINAL FIELD READING	1129	2"	2/10/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: National Cooper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 1279

DATE CLEANED: 12/23/05A 1/24/06B ~~1/26/06A~~

CLIENT SAMPLE #: _____

SITE LOCATION: 601 Louse IA

VFR ID: STL 0848

Duration of comp.: 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

24 hrs For Sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0940	29"	2/9/06	SWS
FINAL FIELD READING	1132	0.5"	2/10/06	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: National Guard Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: ~~2671~~ SWS 2761

DATE CLEANED: ~~12/23/05A~~ 1/24/06B ~~1/26/06A~~

CLIENT SAMPLE #:

SITE LOCATION: Tow Louse IA

VFR ID: STL 0832 2423

Duration of comp. : 8 hrs / mins. 24hr sample

Flow setting: 9.9-10.4 ml/min

Initials: CA

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0948	29"	2/9/2006	SWS
FINAL FIELD READING	1136	1"	2/10/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: Natural Copper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 3061

DATE CLEANED: ~~12/23/05A~~ ~~1/24/06B~~ ~~1/26/06A~~

CLIENT SAMPLE #:

SITE LOCATION: 504 Louise - IA

VFR ID: STL 0834

Duration of comp. : 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

0431
24 hrs
For
Sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0935	29"	2/9/2006	SWS
FINAL FIELD READING	1138	0.5"	2/10/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: National Copper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2257
DATE CLEANED: ~~12/23/05A~~ 1/24/06B ~~1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: Ambient Air

VFR ID: STL 0802
Duration of comp. : 8 (hrs) / mins
Flow setting: 9.9-10.4 ml/min
Initials: CA

54227
4800
PUT
SAMPLE
24 hr

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0922	29"	2/9/2006	SWS
FINAL FIELD READING	1140	0.5"	2/10/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: Northwest Copper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 6094

DATE CLEANED: 12/23/05A ~~1/24/06B~~ 1/26/06A

CLIENT SAMPLE #:

SITE LOCATION: Trip Blank-1

VFR ID: STL 8210

Duration of comp. : 8 (hrs) / ~~mins.~~

Flow setting: 9.9-10.4 ml/min

Initials: CA

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	1/31/06	CA
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: Natural Caffeine Process

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 2915

DATE CLEANED: ~~1/23/05A~~ ~~1/24/06B~~ 1/26/06A

CLIENT SAMPLE #:

SITE LOCATION: TRIP BLANK-2

VFR ID: STL 0821

Duration of comp. : 8 (hrs) / ~~mins.~~

Flow setting: 9.9-10.4 ml/min

Initials: CA

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)			
FINAL PRESSURE (PSIA)			

Pressurization Gas: _____

COMMENTS: normal Copper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

TEST BORING RECORD

R. David Mursch, P.E.
Geotechnical and Environmental Engineer
222 Ridge Top Drive ~ Connelly Springs, North Carolina 28612
Phone (828) 879-1186 ~ Fax (828) 879-8407
davidmursch@earthlink.net

ABBREVIATIONS:

NA = Not applicable
– = Not measured
SPT = Standard Penetration Test (ASTM D-1586)
N = Standard Penetration Resistance, blows per foot
UD = 3-inch Undisturbed Sample (ASTM D-1587)

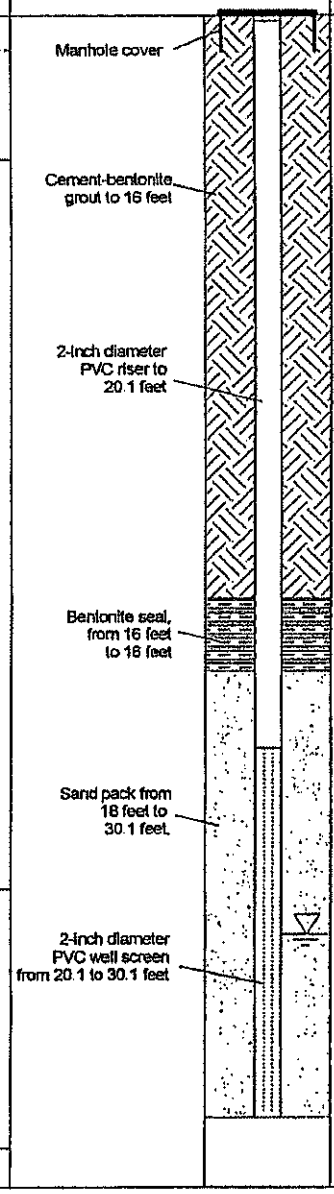
▽ = Water level after well completion

Boring / Monitoring Well I.D.: **05-14**

Page 1 of 1

G.S. Elev.:	Pavement Surface	Job No.:	96-01 Prairie Ronde Realty
Date Drilled:	February 22, 2005	Job Name:	Current Conditions Report
Total Depth:	30.1 Feet (top of riser)	Location:	Dowagiac, Michigan
Well Material:	PVC riser and screen	Logged By:	David Mursch
Screen Size:	0.010 slot / Length: 10 Feet	Driller:	Stearns Drilling Company
Well Diameter:	2 Inches	Drilling Method:	Hollow-stem augers
Sand:	No. 7 / #Bentonite: – / #Grout: –	Borehole Diameter:	8 Inches
Top of Casing Elev.:	771.15 Feet NGVD	Depth to Water After Well Completion:	25.02 Feet

SAMPLE TYPE AND INTERVAL	N VALUE	DEPTH, Feet	SOIL DESCRIPTION
		0	Dark brown silty fine SAND (SM)
			Loose reddish brown silty fine SAND (SM)
SPT	7	5	
			Loose brown medium to fine SAND (SP)
UD		10	
		15	
SPT	6		
		20	
SPT	10		
		25	Very firm brown medium to fine SAND (SP)
SPT	27		
		30	
			BORING TERMINATED AT 31 FEET



TEST BORING RECORD

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davidmursch@earthlink.net

Boring / Monitoring Well I.D.: **05-15**

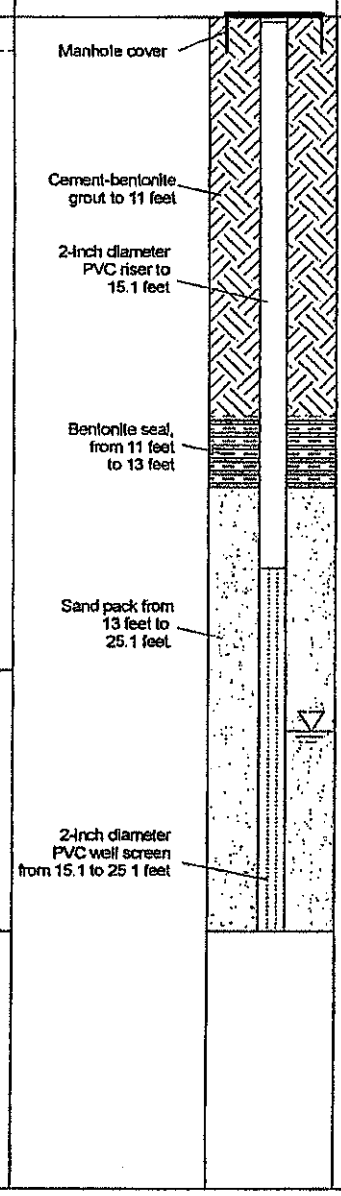
ABBREVIATIONS:

NA = Not applicable
– = Not measured
SPT = Standard Penetration Test (ASTM D-1586)
N = Standard Penetration Resistance, blows per foot
UD = 3-inch Undisturbed Sample (ASTM D-1587)

▽ = Water level after well completion

G.S. Elev.:	Pavement Surface	Job No.:	96-01 Prairie Ronde Realty
Date Drilled:	February 21, 2005	Job Name:	Current Conditions Report
Total Depth:	25.1 Feet (top of riser)	Location:	Dowagiac, Michigan
Well Material:	PVC riser and screen	Logged By:	David Mursch
Screen Size: 0.010 slot	Length: 10 Feet	Driller:	Stearns Drilling Company
Well Diameter:	2 Inches	Drilling Method:	Hollow-stem augers
Sand: No. 7 #Bentonite: –	#Grout: –	Borehole Diameter:	8 inches
Top of Casing Elev.: 766.20 Feet NGVD		Depth to Water After Well Completion:	19.72 Feet

SAMPLE TYPE AND INTERVAL	N VALUE	DEPTH, Feet	SOIL DESCRIPTION
		0	Dark brown silty fine SAND (SM)
		5	Loose brown medium to fine SAND (SP)
SPT	6		
		10	
UD			
		15	
SPT	6		
		20	Dense brown medium to fine SAND (SP)
SPT	33		
		25	BORING TERMINATED AT 25.1 FEET
		30	



TEST BORING RECORD

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Boring / Monitoring Well I.D.: 05-16

Page 1 of 1

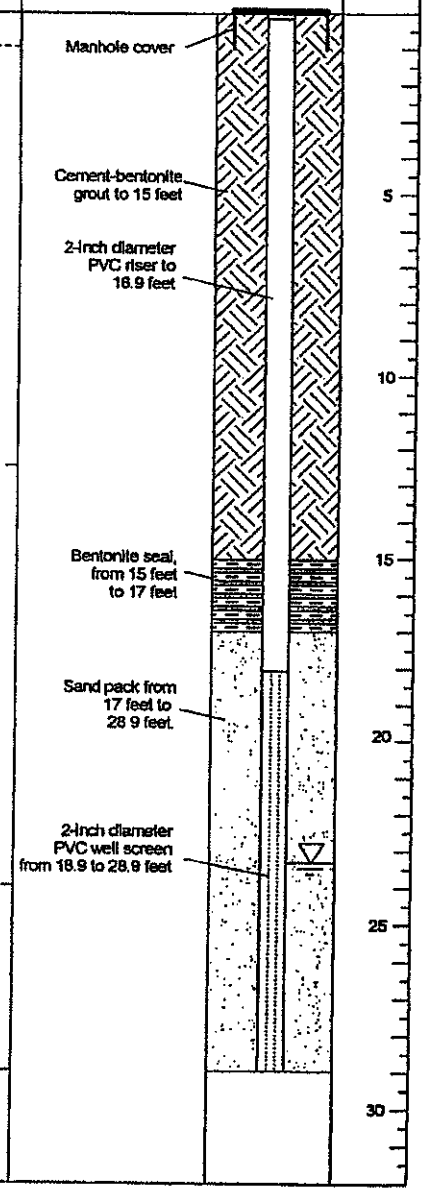
ABBREVIATIONS:

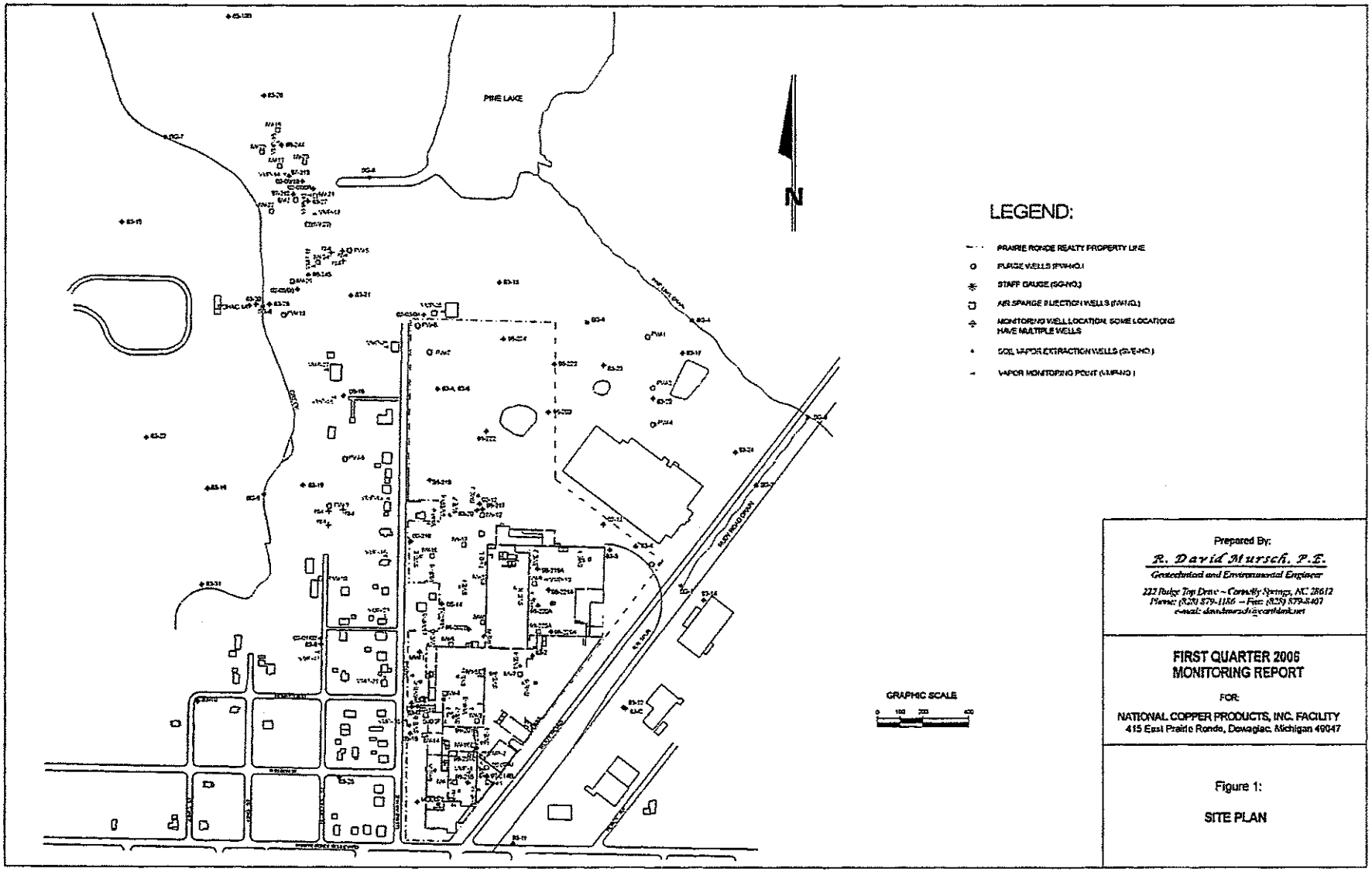
NA = Not applicable
-- = Not measured
SPT = Standard Penetration Test (ASTM D-1586)
N = Standard Penetration Resistance, blows per foot
UD = 3-Inch Undisturbed Sample (ASTM D-1587)

▽ = Water level after well completion

G.S. Elev.:	Pavement Surface	Job No.:	96-01 Prairie Ronde Realty
Date Drilled:	February 21, 2005	Job Name:	Current Conditions Report
Total Depth:	28.9 feet (top of riser)	Location:	Dowagiac, Michigan
Well Material:	PVC riser and screen	Logged By:	David Mursch
Screen Size:	0.010 slot; Length: 10 feet	Driller:	Stearns Drilling Company
Well Diameter:	2 Inches	Drilling Method:	Hollow-stem augers
Sand:	No. 7 #Bentonite: -- #Grout: --	Borehole Diameter:	8 Inches
Top of Casing Elev.:	768.20 Feet NGVD	Depth to Water After Well Completion:	23.31 feet

SAMPLE TYPE AND INTERVAL	N VALUE	DEPTH Feet	SOIL DESCRIPTION
		0	Dark brown silty fine SAND (SM)
			Very loose brown medium to fine SAND, trace silt (SP-SM)
SPT	4	5	
UD		10	
			Loose brown medium to fine SAND (SP)
SPT	6	15	
		20	
		25	Firm brown medium to fine SAND (SP)
		30	BORING TERMINATED AT 29 FEET





Prepared By:
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FIRST QUARTER 2005 MONITORING REPORT

FOR:

NATIONAL COPPER PRODUCTS, INC. FACILITY
415 East Prairie Ronde, Dewagiac, Michigan 49047

Figure 1:

SITE PLAN

SEVERN TRENT STL

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921
www.stl-inc.com

February 28, 2006

STL LOT NUMBER: **E6B150119**
PO/CONTRACT: 70990.01

WILLIAM A. FREZ, Ph.D
Earth Tech, Inc.
36133 Schoolcraft Rd
Livonia, MI 48150

Dear WILLIAM A. FREZ, F

This report contains the a ... under chain of custody by STL Los Angeles on Febr ... ed with your NATIONAL COPPER PROD.- AIR pr ... uary 28, 2006.

STL Los Angeles certifies ... meet all the requirements for parameters for which ... ceptions to NELAP requirements are noted i ... n integral part of the report. NELAP Certificat ... VE87652.

This report shall not be r ... approval of the laboratory.

This report ...

CASE NARRATIVE

Historical control limits for the LCS are used to define the estimate of uncertainty for a method.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

If you have any questions, please feel free to call me at 714.258.8610.

Sincerely,

Sabina Sudoko
Project Manager
CC: Project File

LOT NUMBER E6B150119

Nonconformance 05-15737

Affected Samples:
E6B150119 (7): 601 LOUISE-IA(1279)
E6B150119 (8): 700 LOUISE-IA(2761)
E6B150119 (9): 504 LOUISE-IA(3061)
E6B150119 (10): AMBIENT(2257)
E6B150119 (11): TRIP BLANK-1(6094)
E6B150119 (12): TRIP BLANK-2(2915)

Affected Methods:
TO-15 SIM

Details:
The percent deviation of all the three dichlorobenzene (1,2-dichlorobenzene, 1,3-dichlorobenzene and 1,4-dichlorobenzene) exceeded the +30% in the daily continuing calibration verification (CCV). The three dichlorobenzene were not detected in the above samples. The data was reported, "as is."

Chain of Custody Record

SEVERN TRENT **STL**®

Severn Trent Laboratories, Inc.

STL-4124 (0901)

Client: EARTH TECH	Project Manager: ERIC STRANG	Date: 2/10/2006	Chain of Custody Number: 277181
Address: 36133 Schoolcraft Rd	Telephone Number (Area Code)/Fax Number: 616-942-9600	Lab Number: E6B150119	Page ____ of ____
City: Livonia; State: MI; Zip Code: 48150	Site Contact: —	Lab Contact: —	
Project Name and Location (State): National Copper - Michigan	Carrier/Waybill Number: —		
Contract/Purchase Order/Quote No.: National Copper - 79990			

Analysis (Attach list if more space is needed)

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed	Soil	Containers & Preservatives: Unpres	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	VOC	Special Instructions/ Conditions of Receipt
504 Louise - SG (2350)	2/9/06	1900	X										X	
601 Louise - SG (2656)	2/9/06	1830	X										X	
404 Louise - SG (3417)	2/9/06	1823	X										X	
700 Louise - SG (3456)	2/9/06	1841	X										X	
404 Louise - IA-1 (2676)	2/10/06	1027	X										X	
404 Louise - IA-2 (3143)	2/10/06	1027	X										X	
601 Louise - IA (1279)	2/10/06	1042	X										X	
700 Louise - IA (2761)	2/10/06	1055	X										X	
504 Louise - IA (3061)	2/10/06	1104	X										X	
AMBIENT (2257)	2/10/06	1125	X										X	
TRIP Blank-1 (6094)	2/10/06	—	X										X	
TRIP Blank-2 (2918)	2/10/06	—	X										X	

000004

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

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

Turn Around Time Required: ☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☒ 14 Days ☐ 21 Days ☐ Other ____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: Scott Stang [signature]	2/10/06	1600	1. Received By: [signature]	2/14/06	11:00
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

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

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2350
DATE CLEANED: ~~12/23/05A~~ 1/24/06B ~~1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: 504 Lorse Rd

VFR ID: STL 804
Duration of comp.: 8 (hrs) / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

0832 Fan Style

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0915	28"	2/9/2006	SMS
FINAL FIELD READING	1903	8"	2/9/2006	SMS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	10.67	2/15/06	07
FINAL PRESSURE (PSIA)	24.44	2/15/06	07

Pressurization Gas: N2

COMMENTS: Normal Coffee Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2656
DATE CLEANED: ~~12/23/05A 1/24/06B~~ 1/26/06A
CLIENT SAMPLE #:
SITE LOCATION: 601 Lowse Rd

VFR ID: STL 0812
Duration of comp.: 8 (hrs) / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

0804 For sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0900 hr	29"	2/9/2006	SWS
FINAL FIELD READING	1847	10"	2/9/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	9.80	2/15/06	[illegible]
FINAL PRESSURE (PSIA)	24.23	2/15/06	[illegible]

Pressurization Gas: N_2

COMMENTS: Normal Lyon Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 3417
DATE CLEANED: 12/23/05A ~~1/24/06B~~ ~~1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: 404 Louise - SG

VFR ID: STL 8213
Duration of comp.: 8 (hrs) / mins.
Flow setting: 9.9 - 10.4 ml/min
Initials: CA

0829 For Simple

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	1/31/06	CA
INITIAL FIELD VACUUM	0905	28"	2/9/2006	SWS
FINAL FIELD READING	1847	6"	2/9/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	11.53	2/15/06	ET
FINAL PRESSURE (PSIA)	24.03	2/15/06	ET

Pressurization Gas: N_2

COMMENTS: Normal Liffe Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 3456
DATE CLEANED: 12/23/05A ~~1/24/06B 1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: 700 Louise

VFR ID: STL 0844
Duration of comp. : 8 hrs / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

0827 For Sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0920	29	2/9/2006	Sus
FINAL FIELD READING	1853	8"	2/9/2006	Sus

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	10.77	2/15/06	[illegible]
FINAL PRESSURE (PSIA)	23.05	2/15/06	[illegible]

Pressurization Gas: N_2

COMMENTS: National Copper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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B

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 2676

DATE CLEANED: 12/23/05A - 1/24/06B H26T06A

CLIENT SAMPLE #:

SITE LOCATION: 404 Louise - IA-1

VFR ID: STL 8202

Duration of comp.: 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

24 hrs For Sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0950	29"	2/9/2006	SLS
FINAL FIELD READING	0928	2"	2/10/2006	SLS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.74	2/15/06	EI
FINAL PRESSURE (PSIA)	24.37	2/15/06	EI

Pressurization Gas: N_2

COMMENTS: National Copper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 343

DATE CLEANED: ~~12/25/05A 1/24/06B~~ 1/26/06A

CLIENT SAMPLE #:

SITE LOCATION: 404 Louse - IA-2

VFR ID: STL 0827

Duration of comp : 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

24726 For SAMPLE 24 hrs

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	9 AM	29"	2/9/2006	Sms
FINAL FIELD READING	1129	2"	2/10/2006	Sms

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.84	2/15/06	[illegible]
FINAL PRESSURE (PSIA)	24.53	2/15/06	[illegible]

Pressurization Gas: N_2

COMMENTS: National Grid Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 1279

DATE CLEANED: 12/23/05A 1/24/06B 7/26/06A

CLIENT SAMPLE #:

SITE LOCATION: 601 Lowe. TA

VFR ID: STL 0848

Duration of comp. : 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

24/05 24 hrs For Sample

READING	TIME	Vac (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0940	29"	2/9/06	[illegible]
FINAL FIELD READING	1132	0.5"	2/10/06	SW

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	14.34	2/15/06	ET
FINAL PRESSURE (PSIA)	24.20	2/15/06	ET

Pressurization Gas: N_2

COMMENTS: National Grid Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: ~~2671~~ 2761
DATE CLEANED: ~~12/23/05A~~ 1/24/06B ~~1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: Toolouse IA

VFR ID: STL 0832
Duration of comp.: 8 hrs / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

2423
24hr
sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0948	29"	2/9/2006	SWS
FINAL FIELD READING	1136	1"	2/10/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	13.32	2/15/06	[illegible]
FINAL PRESSURE (PSIA)	24.32	2/15/06	[illegible]

Pressurization Gas: N_2

COMMENTS: [illegible] Copper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 3061

DATE CLEANED: 12/23/05A 1/24/06B ~~1/26/06A~~

CLIENT SAMPLE #:

SITE LOCATION: 504 Louise - LA

VFR ID: STL 0834

Duration of comp.: 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

24 hrs For Sampler

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0935	29"	2/9/2006	SWS
FINAL FIELD READING	1138	0.5"	2/10/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	13.87	2/15/06	D
FINAL PRESSURE (PSIA)	24.30	2/15/06	D

Pressurization Gas: N_2

COMMENTS: Natural Copper ProSect

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2257
DATE CLEANED: ~~12/25/05A~~ 1/24/06B ~~1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: AM Brent AIR

VFR ID: STL 0802
Duration of comp.: 8 hrs / mins
Flow setting: 9.9-10.4 ml/min
Initials: CA

24227 used for sample 24 hrs

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0922	29"	2/9/2006	SWS
FINAL FIELD READING	1140	0.5"	2/10/2006	SWS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	14.49	2/15/06	[illegible]
FINAL PRESSURE (PSIA)	24.26	2/15/06	[illegible]

Pressurization Gas: N_2

COMMENTS: National Copper Project

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech

CANISTER SERIAL #: 6094

DATE CLEANED: ~~12/25/05A 1/25/06B~~ 1/26/06A

CLIENT SAMPLE #:

SITE LOCATION: Trip Blank-1

VFR ID: STL 8210

Duration of comp. : 8 (hrs) / mins.

Flow setting: 9.9-10.4 ml/min

Initials: CA

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	1/31/06	CA
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	0.17	2/15/06	ES
FINAL PRESSURE (PSIA)	25.06	2/15/06	ES

Pressurization Gas: N_2

COMMENTS: Normal Canister Process

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2915
DATE CLEANED: ~~12/23/05A 1/24/06B~~ 1/26/06A
CLIENT SAMPLE #:
SITE LOCATION: TRIP BLANK-2

VFR ID: STL 0821
Duration of comp. : 8 (hrs) / ~~mins.~~
Flow setting: 9.9-10.4 ml/min
Initials: CA

READING	TIME	Vac. (Inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK		30"	1/31/06	CA
INITIAL FIELD VACUUM				
FINAL FIELD READING				

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	0.14	2/15/06	
FINAL PRESSURE (PSIA)	24.33	2/15/06	

Pressurization Gas: N_2

COMMENTS: Normal Certain Product

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012406 B

Date of QC: 1/26/06

Data File Number: MB01269

Canister ID Numbers

2350	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

AA
Reviewed By:

01/27/06
Date:

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060126.B\MB01269.D
Lab Smp Id: BLANK Client Smp ID: 2350
Inj Date : 27-JAN-2006 07:26
Operator : AA Inst ID: gcmsd.i
Smp Info : BLANK,2350,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060126.B\SIM34.m
Meth Date : 26-Jan-2006 11:13 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 2 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

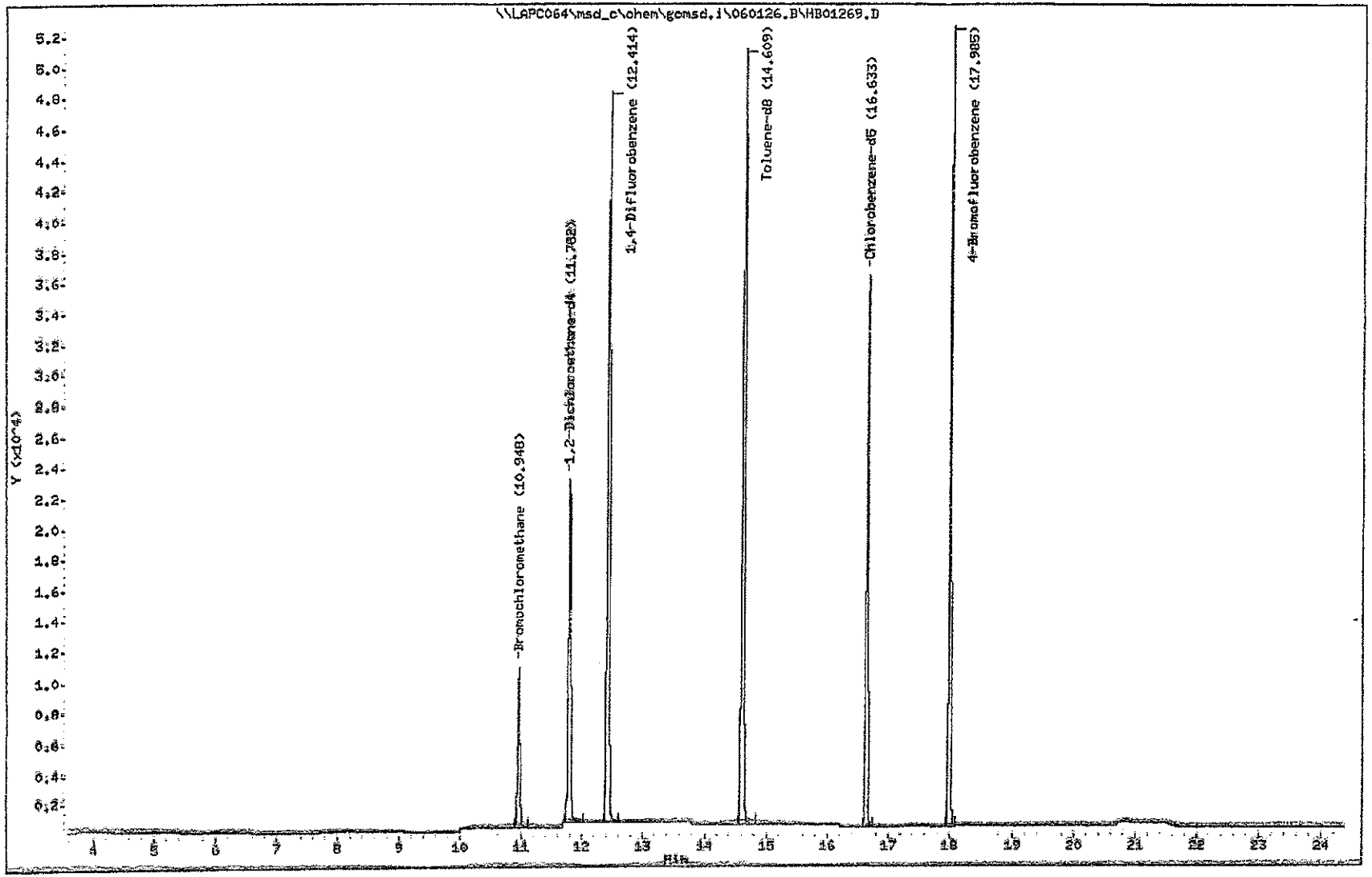
Compounds	QUANT SIG MASS	RT	EXP RT	RBL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	CONCENTRATIONS FINAL (pptv)
* 11 Bromochloromethane	130	10.947	10.947	(1.000)	28195	2000.00	
$ 13 1,2-Dichloroethane-d4	65	11.781	11.781	(1.076)	55492	1940.55	1940
* 17 1,4-Difluorobenzene	114	12.413	12.413	(1.000)	77137	2000.00	
$ 23 Toluene-d8	98	14.609	14.609	(0.878)	64174	1942.46	1942
* 28 Chlorobenzene-d5	117	16.632	16.632	(1.000)	71396	2000.00	
$ 35 4-Bromofluorobenzene	95	17.984	17.984	(1.081)	45520	1715.84	1716

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060126.B\HB01269.D
Date : 27-JAN-2006 07:26
Client ID: 2350
Sample Info: BLANK,2350,,SCREEN BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: AA
Column diameter: 0.53



CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012606A

Date of QC: 01-31-06

Data File Number: MB013117 (MSD)

Canister ID Numbers

* 2656	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

Reviewed By: [signature]

Date: 1-31-06

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060131.B\MB01317.D
Lab Smp Id: BLANK Client Smp ID: 2656
Inj Date : 31-JAN-2006 14:40
Operator : DLK Inst ID: gcmsd.i
Smp Info : BLANK,2656,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060131.B\SIM34.m
Meth Date : 31-Jan-2006 12:05 rongl Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 8 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.SUB
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

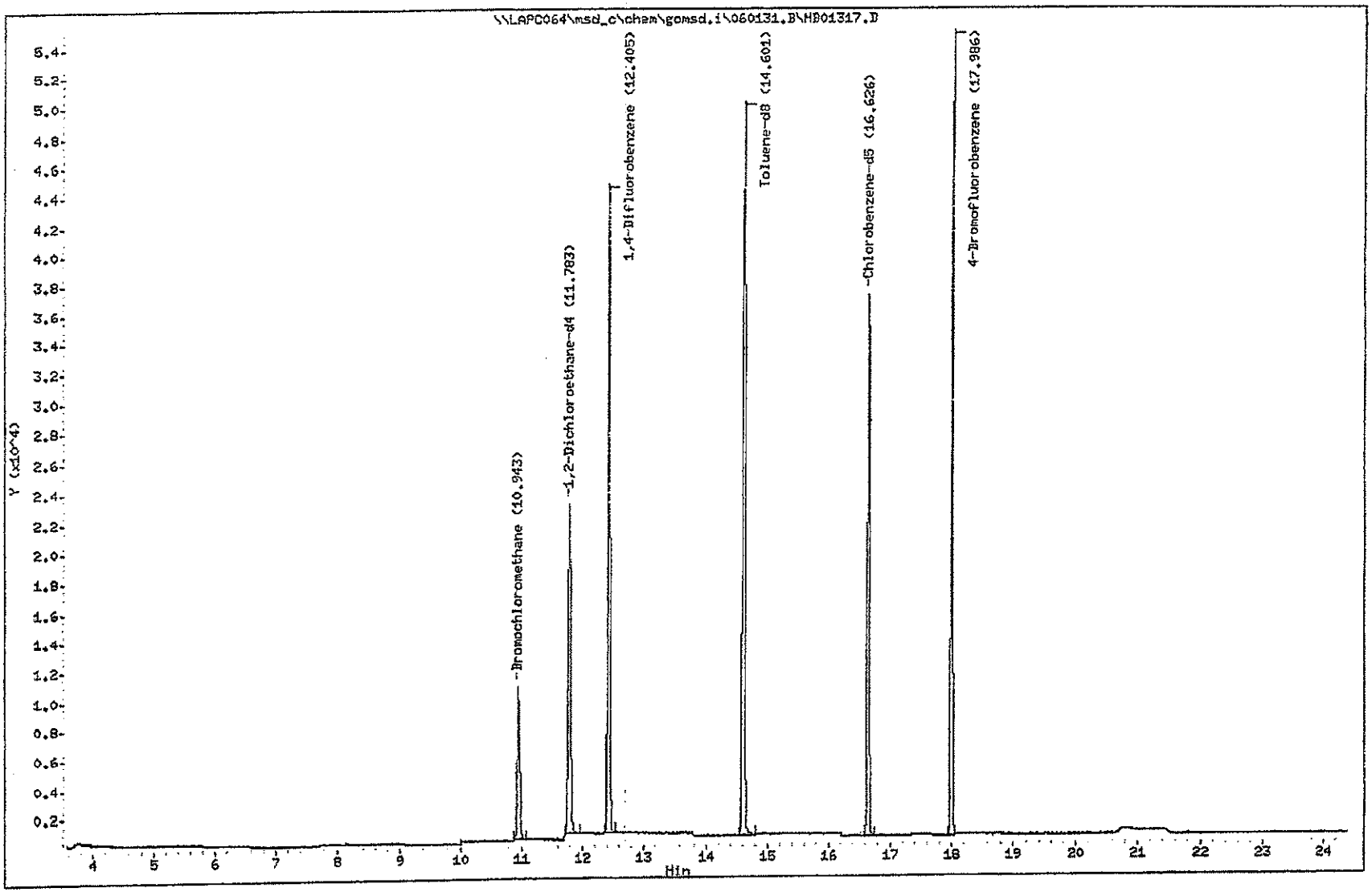
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
* 11 Bromochloromethane	130	10.943	10.947	(1.000)	27396	2000.00	
$ 13 1,2-Dichloroethane-d4	65	11.783	11.781	(1.077)	55977	2014.60	2015
* 17 1,4-Difluorobenzene	114	12.415	12.413	(1.000)	76163	2000.00	
$ 23 Toluene-d8	98	14.601	14.609	(0.878)	63636	1931.92	1932
* 28 Chlorobenzene-d5	117	16.626	16.632	(1.000)	71184	2000.00	
$ 35 4-Bromofluorobenzene	95	17.986	17.984	(1.082)	47626	1800.57	1800

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060131.B\HB01317.D
Date : 31-JAN-2006 14:40
Client ID: 2656
Sample Info: BLANK,2656,,SCREEN BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: DLK
Column diameter: 0.53



E6B150119

CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 122306A

Date of QC: 01-04-06

Data File Number: m301041 (MSD)

Canister ID Numbers

* 3417	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

Reviewed By: [signature]

Date: 1-31-06

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060104.B\MB01041.D
Lab Smp Id: BLANK Client Smp ID: 3417
Inj Date : 04-JAN-2006 12:00
Operator : DLK Inst ID: gcmsd.i
Smp Info : BLANK,3417,,METHOD BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060104.B\SIM34.m
Meth Date : 04-Jan-2006 14:28 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 10 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

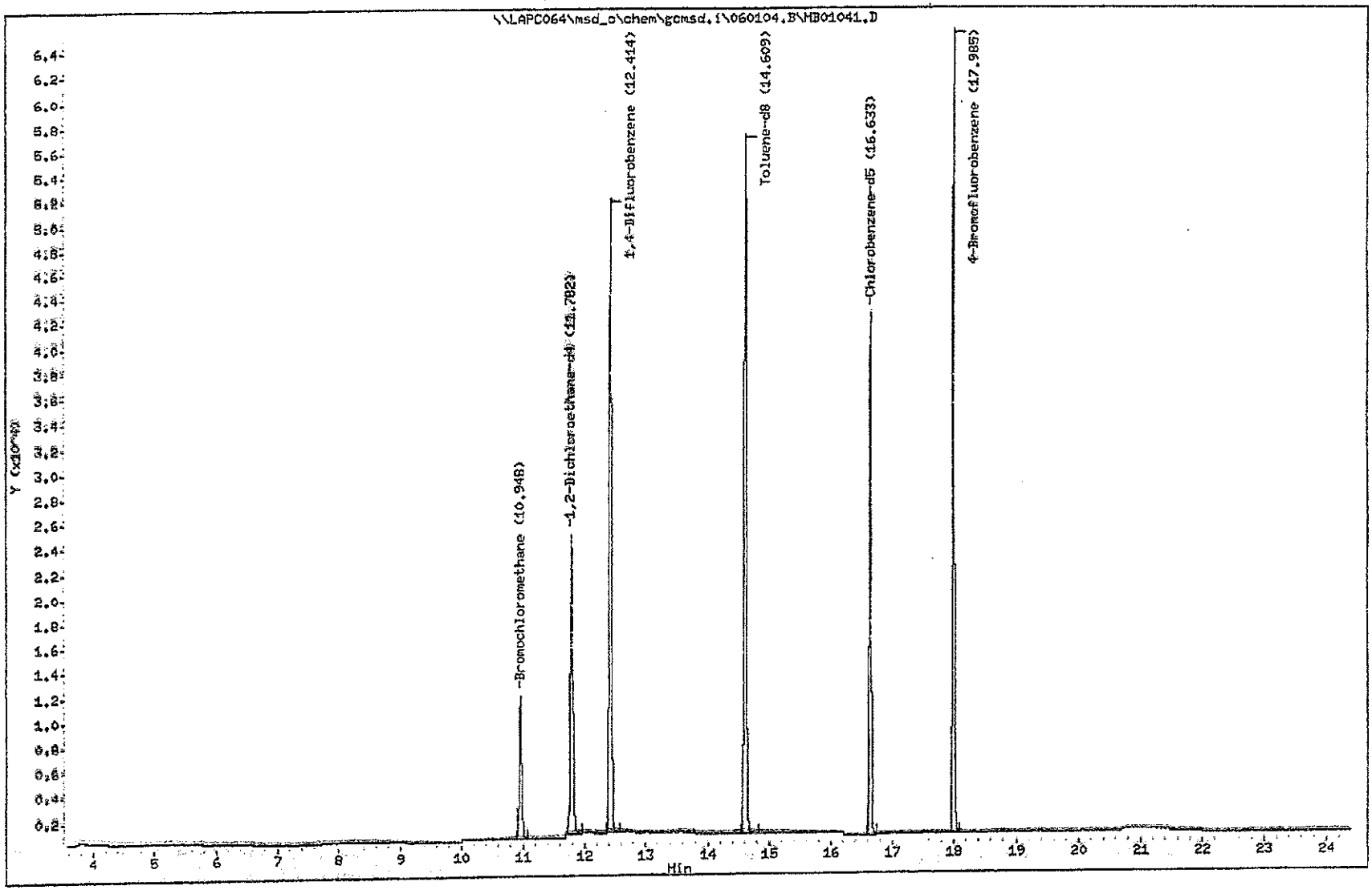
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
*	11 Bromochloromethane	130	10.948	10.943	(1.000)	29986	2000.00	
$	13 1,2-Dichloroethane-d4	65	11.781	11.789	(1.076)	57875	1896.42	1896
*	17 1,4-Difluorobenzene	114	12.413	12.415	(1.000)	81315	2000.00	
$	23 Toluene-d8	98	14.609	14.601	(0.878)	71248	1913.88	1914
*	28 Chlorobenzene-d5	117	16.633	16.634	(1.000)	80450	2000.00	
$	35 4-Bromofluorobenzene	95	17.984	17.986	(1.081)	61721	2064.36	2064

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060104.B\MB01041.D
Date : 04-JAN-2006 12:00
Client ID: 3417
Sample Info: BLANK,3417,,METHOD BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: DLK
Column diameter: 0.53



CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 122305A

Date of QC: 01-05-06

Data File Number: MB01049 (MSD)

Canister ID Numbers

*3456	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

Reviewed By: _____ Date: 1-31-06

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060104.B\MB01049.D
Lab Smp Id: BLANK Client Smp ID: 3456
Inj Date : 05-JAN-2006 05:30
Operator : DLK Inst ID: gcmsd.i
Smp Info : BLANK,3456,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060104.B\SIM34.m
Meth Date : 04-Jan-2006 14:28 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 8 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres) * (CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

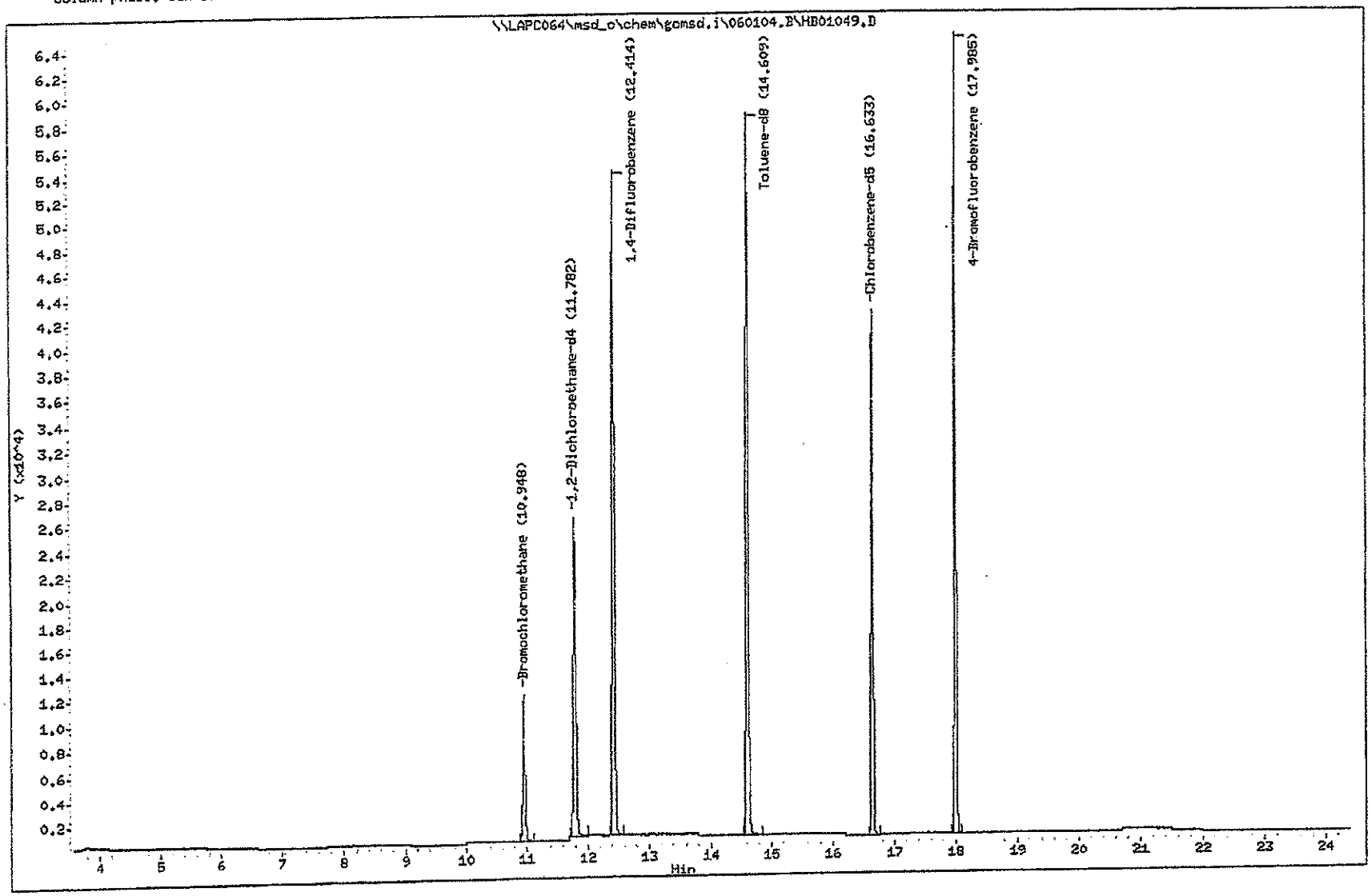
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
* 22 Bromochloromethane	130	10.947	10.943	(1.000)	30227	2000.00	
$ 23 1,2-Dichloroethane-d4	65	11.781	11.783	(1.076)	59724	1948.14	1948
* 27 1,4-Difluorobenzene	114	12.413	12.415	(1.000)	84329	2000.00	
$ 29 Toluene-d8	98	14.609	14.602	(0.878)	72799	1939.65	1940
* 28 Chlorobenzene-d5	117	16.632	16.634	(1.000)	81108	2000.00	
$ 35 4-Bromofluorobenzene	95	17.984	17.986	(1.082)	60446	2005.64	2006

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060104.B\HB01049.D
Date : 05-JAN-2006 05:30
Client ID: 3456
Sample Info: BLANK,3456,,SCREEN BLANK

Instrument: gcmsd.i

Operator: DLK
Column diameter: 0.53

Column phase: J&W DB-624



36B150119

CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012406 B

Date of QC: 01/26/06

Data File Number: MB012605

Canister ID Numbers

2676	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

AA
Reviewed By:

01/27/06
Date:

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060126.B\MB01265.D
Lab Smp Id: BLANK Client Smp ID: 2676
Inj Date : 27-JAN-2006 04:39
Operator : AA Inst ID: gcmsd.i
Smp Info : BLANK,2676,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060126.B\SIM34.m
Meth Date : 26-Jan-2006 11:13 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 11 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

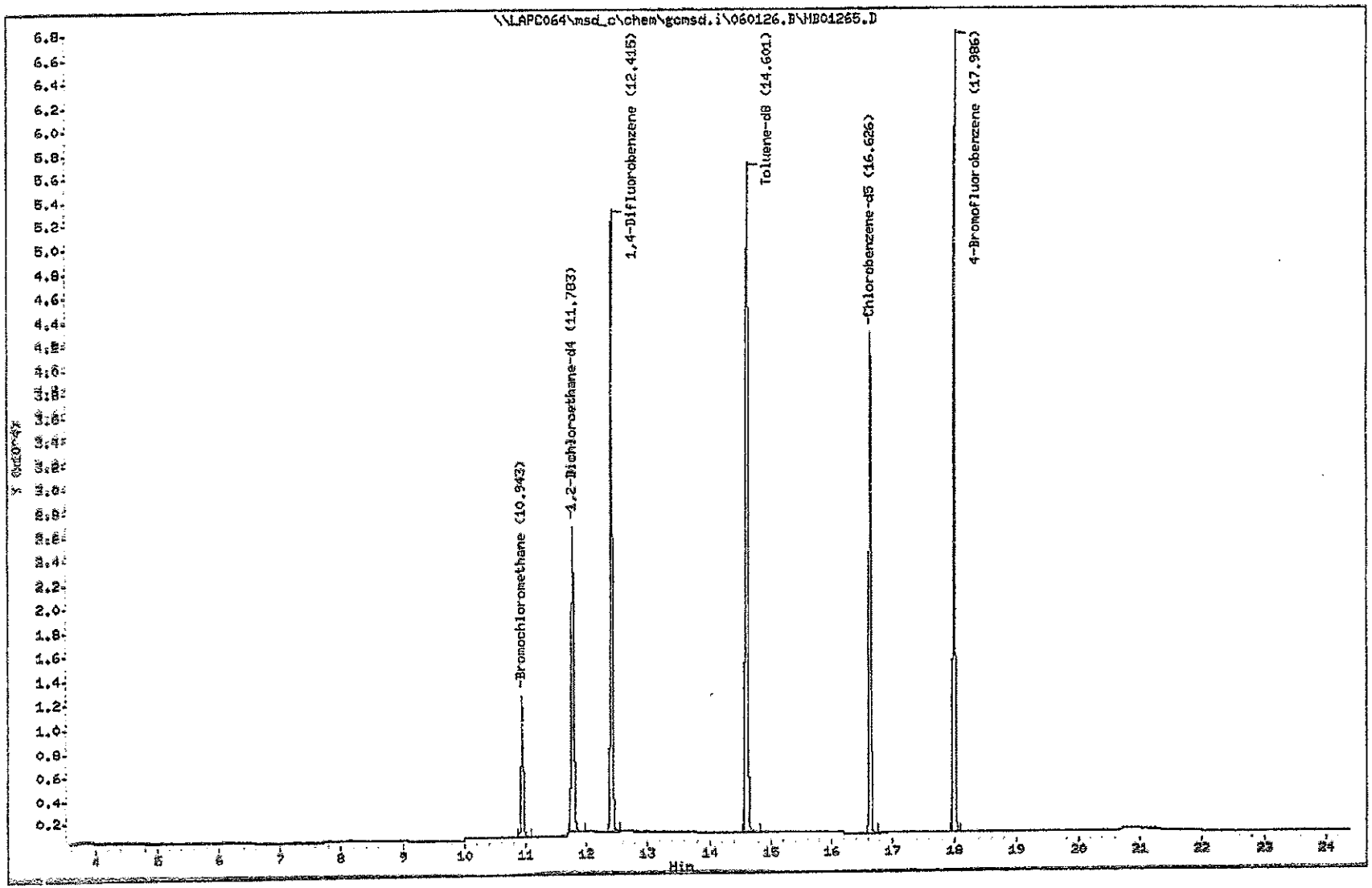
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
* 11 Bromochloromethane	130	10.943	10.947	(1.000)	31694	2000.00	
$ 13 1,2-Dichloroethane-d4	65	11.783	11.781	(1.077)	63075	1962.22	1962
* 17 1,4-Difluorobenzene	114	12.415	12.413	(1.000)	89035	2000.00	
$ 23 Toluene-d8	98	14.601	14.609	(0.878)	72572	1895.31	1896
* 28 Chlorobenzene-d5	117	16.626	16.632	(1.000)	83160	2000.00	
$ 35 4-Bromofluorobenzene	95	17.985	17.984	(1.082)	57318	1854.92	1855

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060126.B\HB01265.D
Date : 27-JAN-2006 04:39
Client ID: 2676
Sample Info: BLANK,2676,,SCREEN BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: AA
Column diameter: 0.53



CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012606A

Date of QC: 01-31-06

Data File Number: mB01313 (MSD)

Canister ID Numbers

3143	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

Reviewed By: _____ Date: 1-31-06

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060131.B\MB01313.D
Lab Smp Id: BLANK Client Smp ID: 3143
Inj Date : 31-JAN-2006 12:10
Operator : DLK Inst ID: gcmsd.i
Smp Info : BLANK,3143,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060131.B\SIM34.m
Meth Date : 31-Jan-2006 12:05 rongl Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.SUB
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

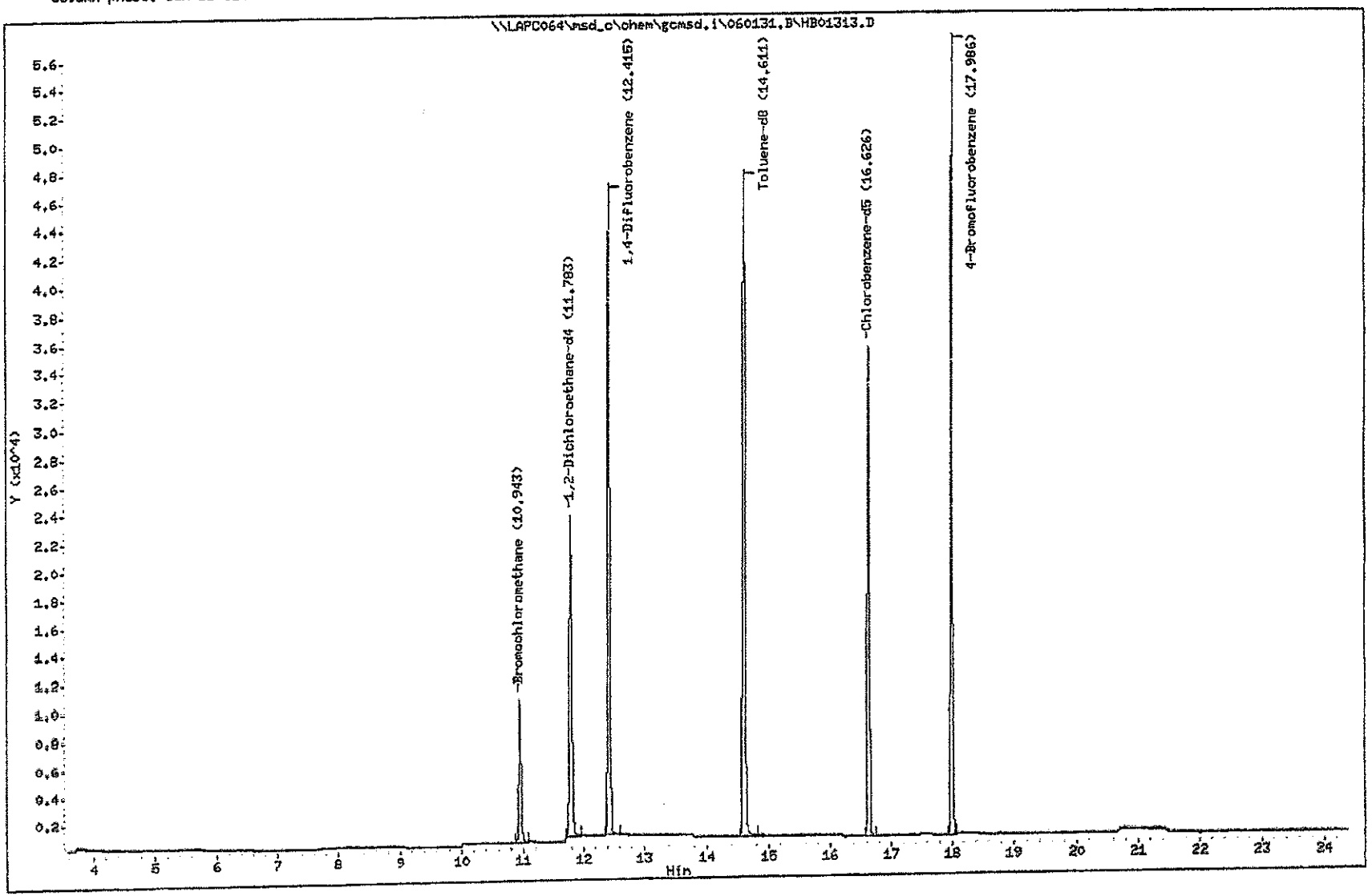
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
* 11 Bromochloromethane	130	10.943	10.947	(1.000)	26996	2000.00	
$ 13 1,2-Dichloroethane-d4	65	11.783	11.781	(1.077)	55664	2033.02	2033
* 17 1,4-Difluorobenzene	114	12.435	12.413	(1.000)	75454	2000.00	
$ 23 Toluene-d8	98	14.601	14.609	(0.878)	62847	1918.58	1918
* 28 Chlorobenzene-d5	117	16.634	16.632	(1.000)	70790	2000.00	
$ 35 4-Bromofluorobenzene	95	17.986	17.984	(1.081)	49387	1877.54	1878

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060131.B\HB01313.D
Date : 31-JAN-2006 12:10
Client ID: 3143
Sample Info: BLANK,3143,,SCREEN BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: DLK
Column diameter: 0.53



CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012406 B

Date of QC: 01/26/06

Data File Number: MB01266

Canister ID Numbers

1279	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

AA
Reviewed By:

1/27/06
Date:

N:\CONDOCS\Can QC Cert (012103).doc

STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060126.B\MB01266.D
Lab Smp Id: BLANK Client Smp ID: 1279
Inj Date : 27-JAN-2006 05:21
Operator : AA Inst ID: gcmsd.i
Smp Info : BLANK,1279,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060126.B\SIM34.m
Meth Date : 26-Jan-2006 11:13 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 12 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

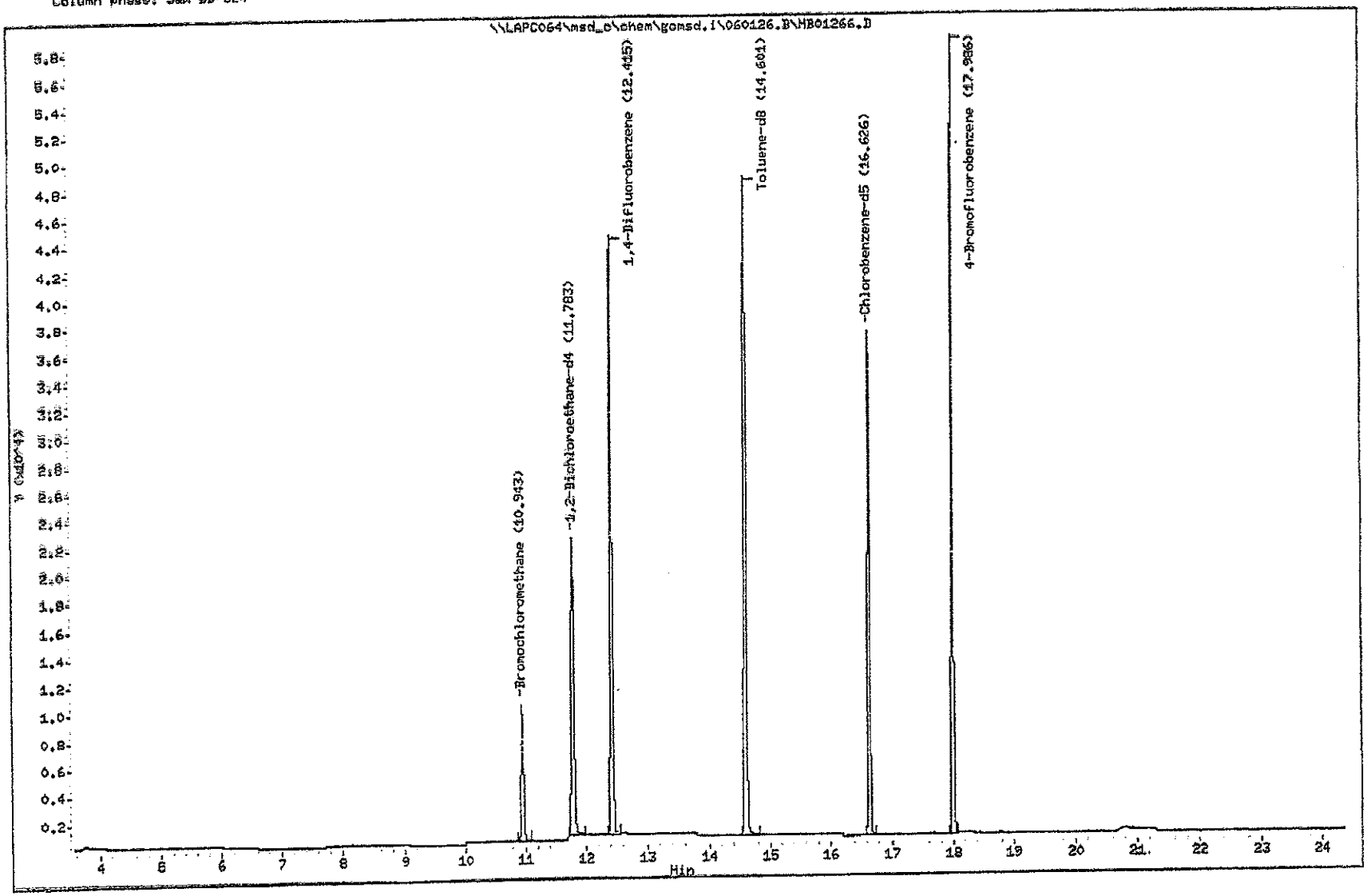
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
*	11 Bromochloromethane	130	10.943	10.947	(0.000)	26529	2000.00	
$	33 1,2-Dichloroethane-d4	65	11.783	11.781	(1.077)	53893	2002.99	2003
*	17 1,4-Difluorobenzene	114	12.415	12.413	(1.000)	74398	2000.00	
$	23 Toluene-d8	98	14.601	14.609	(0.878)	62414	1871.34	1871
*	29 Chlorobenzene-d5	117	16.626	16.630	(1.000)	72077	2000.00	
$	35 4-Bromofluorobenzene	95	17.985	17.984	(1.082)	49408	1844.80	1845

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060126.B\HB01266.D
Date : 27-JAN-2006 05:21
Client ID: 1279
Sample Info: BLANK,1279,,SCREEN BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: AA
Column diameter: 0.53



E6B150109

CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012406 B

Date of QC: 1/26/06

Data File Number: MB012GA

Canister ID Numbers

2761	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

AA
Reviewed By:

1/27/06
Date:

N:\CORDOCS\Can QC Cert (012103).doc

STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060126.B\MB0126A.D
Lab Smp Id: BLANK Client Smp ID: 2761
Inj Date : 27-JAN-2006 08:08
Operator : AA Inst ID: gcmsd.i
Smp Info : BLANK,2761,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060126.B\SIM34.m
Meth Date : 26-Jan-2006 11:13 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 3 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

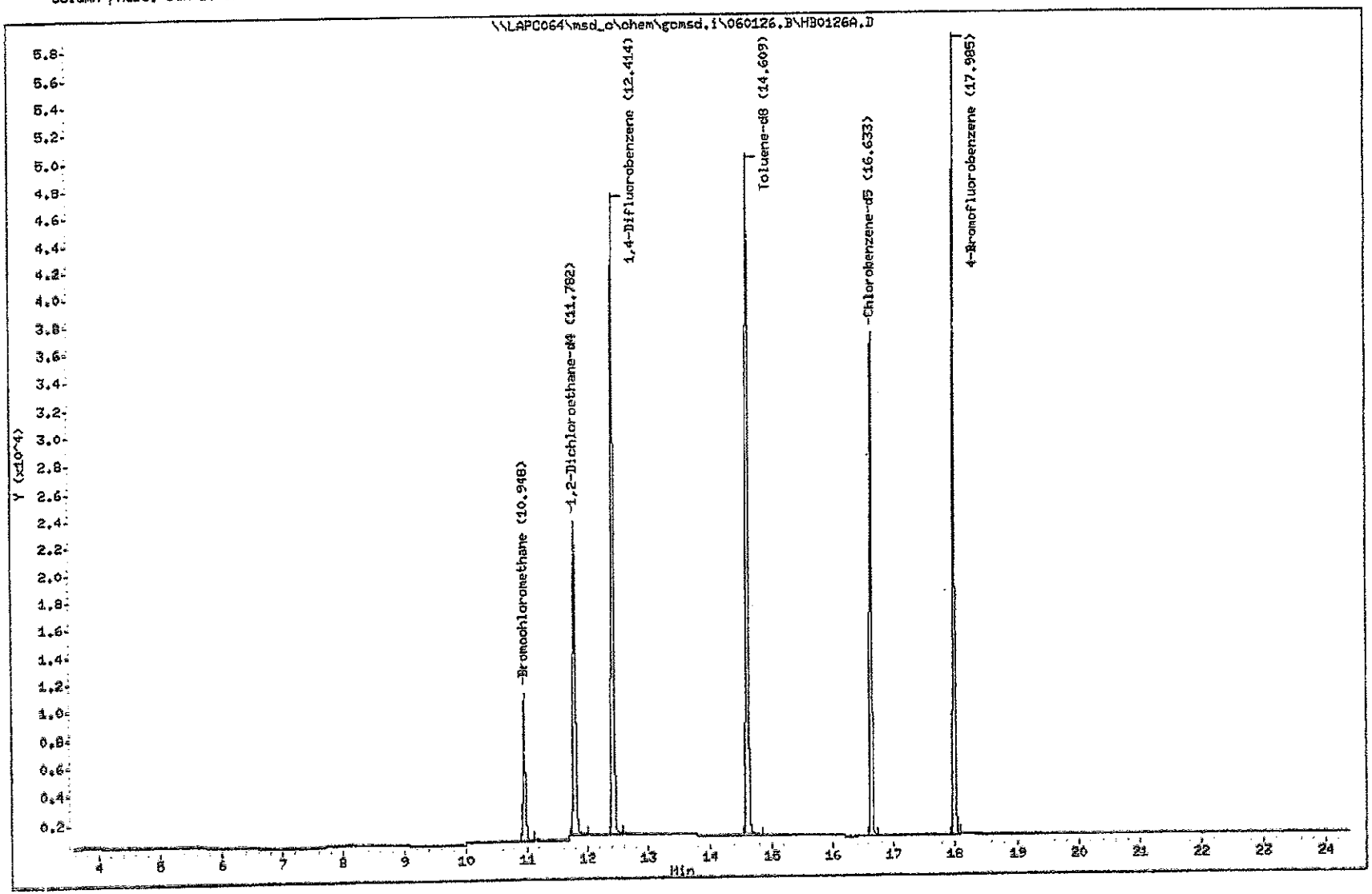
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
*	11 Bromochloromethane	130	10.947	10.947	(1.000)	28020	2000.00	
$	13 1,2-Dichloroethane-d4	65	11.781	11.781	(1.076)	54062	1930.50	1930
*	17 1,4-Difluorobenzene	114	12.413	12.413	(1.000)	76079	2000.00	
$	23 Toluene-d8	98	14.609	14.609	(0.878)	63913	1894.44	1894
*	28 Chlorobenzene-d5	117	16.632	16.632	(1.000)	72908	2000.00	
$	35 4-Bromofluorobenzene	95	17.984	17.984	(1.081)	50917	1879.47	1879

Data File: \\LAPC064\msd_o\chem\gcmsd.i\060126.B\HB0126A.D
Date : 27-JAN-2006 08:08
Client ID: 2761
Sample Info: BLANK,2761,,SCREEN BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: AA
Column diameter: 0.53



CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012406 B

Date of QC: 1/26/06

Data File Number: MB01264

Canister ID Numbers

3061	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

AA
Reviewed By:

01/27/06
Date:

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060126.B\MB01264.D
Lab Smp Id: BLANK Client Smp ID: 3061
Inj Date : 27-JAN-2006 03:58
Operator : AA Inst ID: gcmsd.i
Smp Info : BLANK,3061,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060126.B\SIM34.m
Meth Date : 26-Jan-2006 11:13 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 10 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres) * (CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

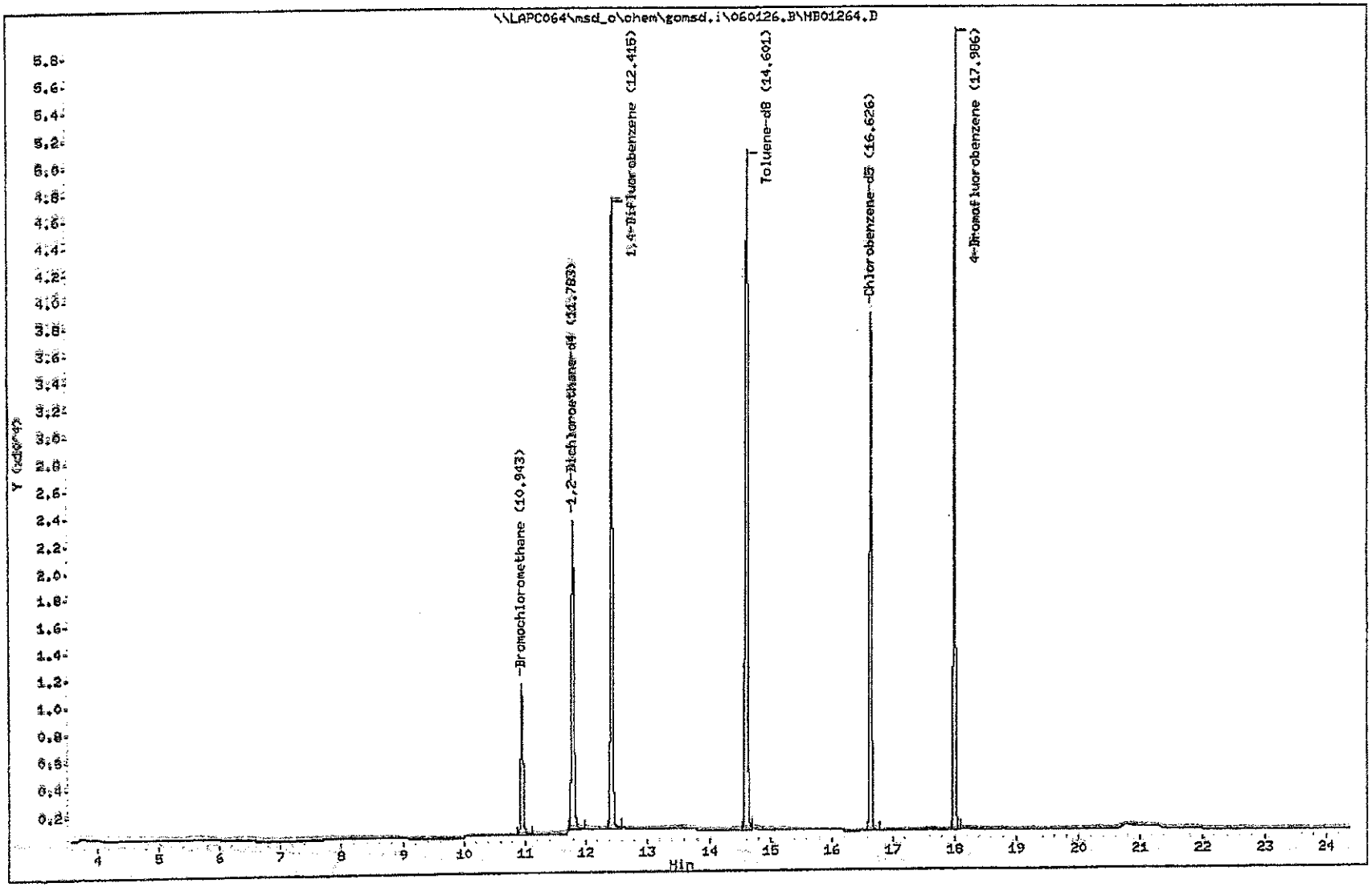
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
*	11 Bromochloromethane	130	10.943	10.947	(1.000)	29185	2000.00	
$	13 1,2-Dichloroethane-d4	65	11.783	11.781	(1.077)	56187	1896.51	1896
*	17 1,4-Difluorobenzene	114	12.415	12.413	(1.000)	79385	2000.00	
$	23 Toluene-d8	98	14.601	14.609	(0.978)	65543	1878.30	1878
*	28 Chlorobenzene-d5	117	16.626	16.632	(1.000)	75410	2000.00	
$	35 4-Bromofluorobenzene	95	17.985	17.984	(1.082)	50369	1797.56	1798

Data File: \\LAPC064\msd_e\chem\gcmsd.i\060126.B\MB01264.D
Date : 27-JAN-2006 03:58
Client ID: 3061
Sample Info: BLANK,3061,,SCREEN BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: AA
Column diameter: 0.53



CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012406 B

Date of QC: 1/26/06

Data File Number: MB01263

Canister ID Numbers

2257	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

KA
Reviewed By:

1/27/06
Date:

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060126.B\MB01263.D
Lab Smp Id: BLANK Client Smp ID: 2257
Inj Date : 27-JAN-2006 03:16
Operator : AA Inst ID: gcmsd.i
Smp Info : BLANK,2257,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060126.B\SIM34.m
Meth Date : 26-Jan-2006 11:13 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 9 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
*	11	Bromochloromethane	130	10.939	10.947	(1.000)	30403	2000.00	
$	13	1,2-Dichloroethane-d4	65	11.781	11.781	(1.077)	58036	1907.75	1908
*	17	1,4-Difluorobenzene	114	12.413	12.413	(1.000)	84105	2000.00	
$	23	Toluene-d8	98	14.599	14.609	(0.878)	68691	1886.55	1886
	24	Toluene	91	14.711	14.711	(0.884)	82	2.42953	2.430(a)
*	28	Chlorobenzene-d5	117	16.632	16.632	(1.000)	79832	2000.00	
$	35	4-Bromofluorobenzene	95	17.984	17.984	(1.081)	95311	1864.59	1864

QC Flag Legend

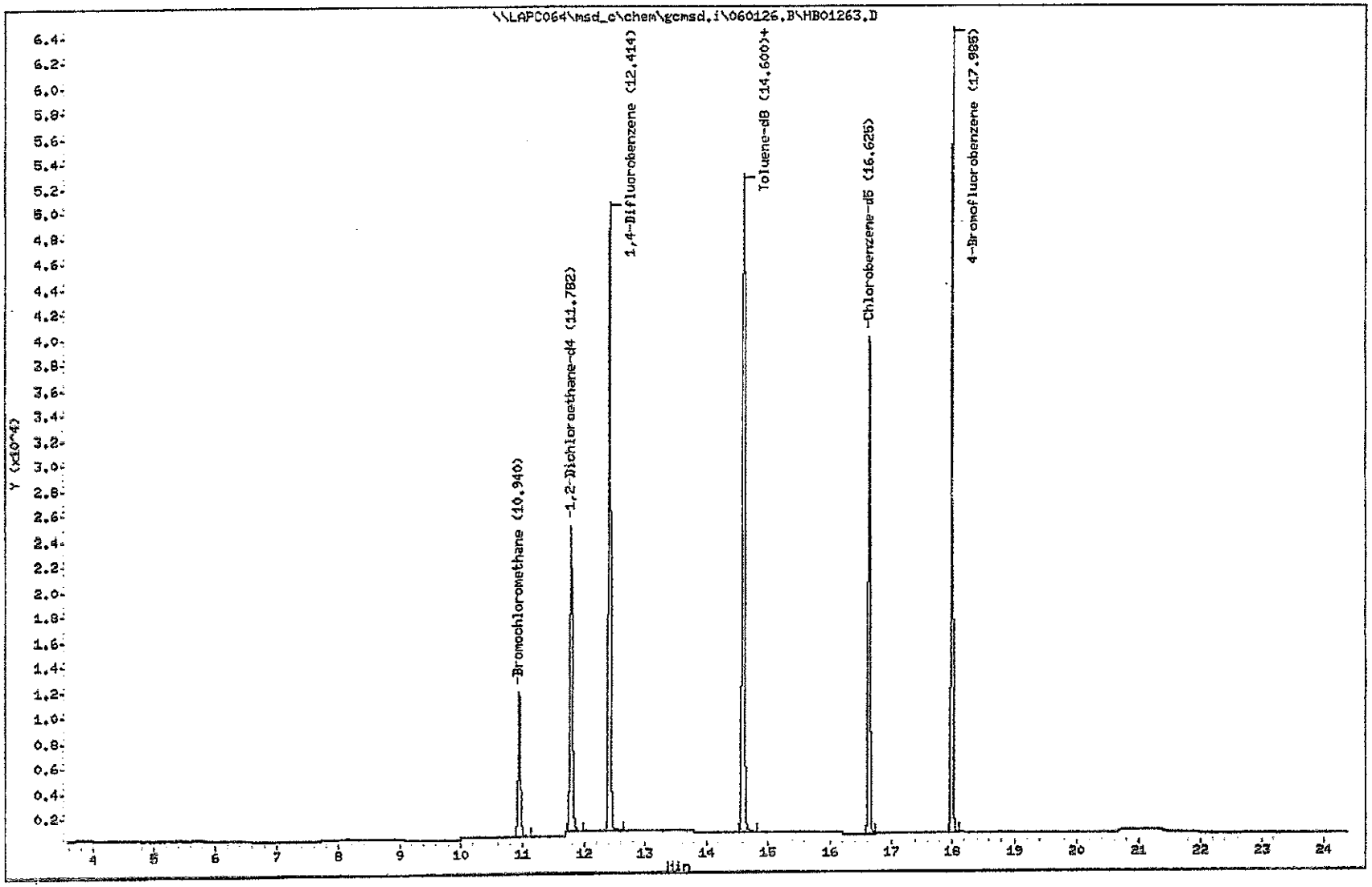
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060126.B\HB01263.D
Date : 27-JAN-2006 03:16
Client ID: 2257
Sample Info: BLANK,2257,,SCREEN BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: AA
Column diameter: 0.53



ESB150119

CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch 012606A

Date of QC 01-31-06

Data File Number MB01312 (MSD)

Canister ID Numbers

6094	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

Reviewed By:

1-31-06
Date:

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060131.B\MB01312.D
Lab Smp Id: BLANK Client Smp ID: 6094
Inj Date : 31-JAN-2006 11:32
Operator : DLK Inst ID: gcmsd.i
Smp Info : BLANK,6094,,METHOD BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060131.B\SIM34.m
Meth Date : 31-Jan-2006 09:18 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.SUB
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

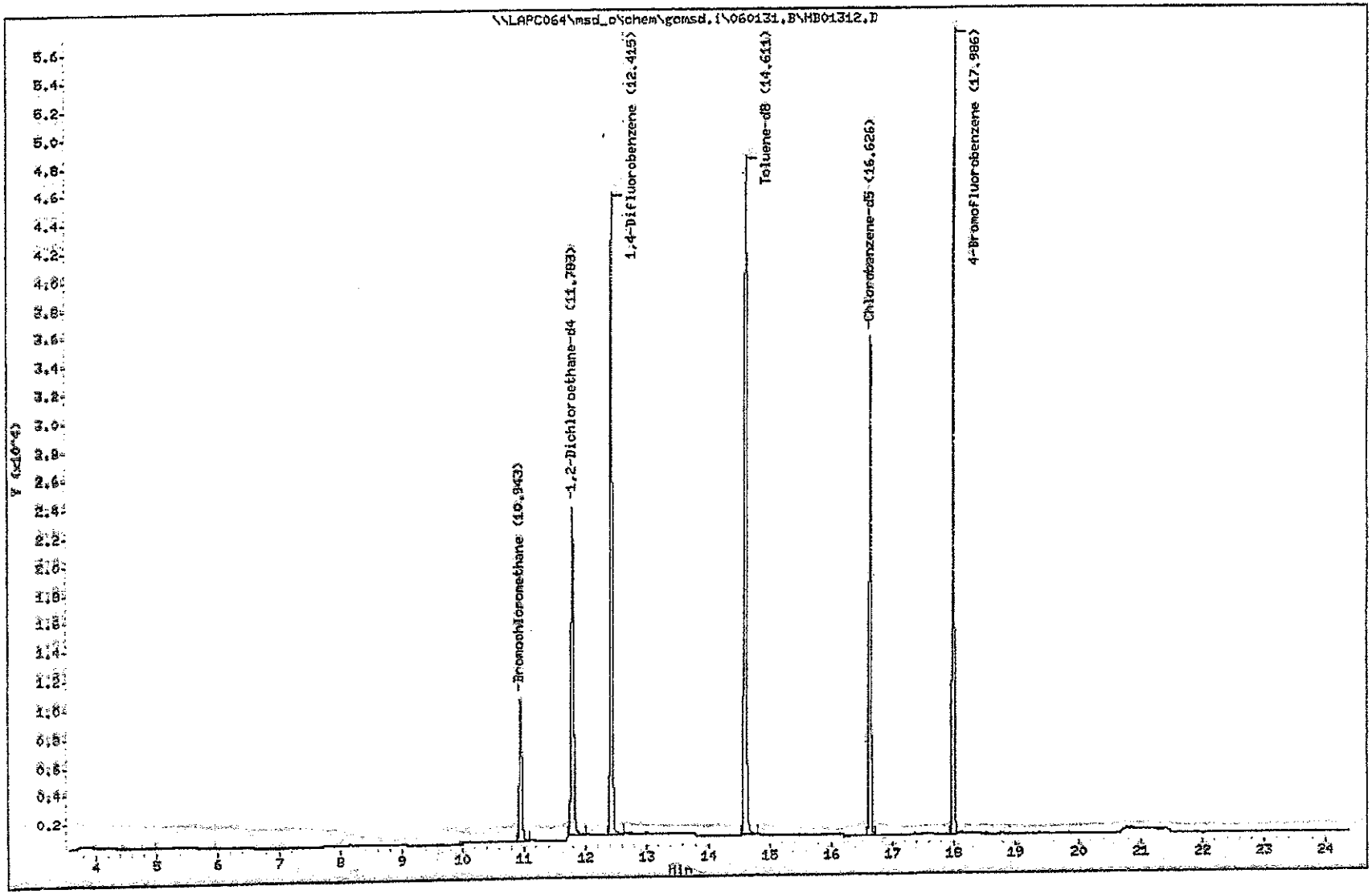
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
* 11 Bromochloromethane	130	10.943	10.947	(1.000)	26865	2000.00	
$ 13 1,2-Dichloroethane-d4	65	11.782	11.781	(1.077)	55371	2032.28	2032
* 17 1,4-Difluorobenzene	114	12.415	12.413	(1.000)	73782	2000.00	
$ 23 Toluene-d8	98	14.601	14.609	(0.878)	63066	1933.46	1933
* 28 Chlorobenzene-d5	117	16.625	16.632	(1.000)	70490	2000.00	
$ 35 4-Bromofluorobenzene	95	17.986	17.984	(1.082)	49948	1906.99	1907

Data File: \\LAPC064\msd_o\chem\gcmsd.i\060131.B\HB01312.D
Date : 31-JAN-2006 11:32
Client ID: 6094
Sample Info: BLANK,6094,,METHOD BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: DLK
Column diameter: 0.53



263150119

CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch 012606 A

Date of QC 01-31-06

Data File Number MB01314 (MSD)

Canister ID Numbers

2915

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

[signature] 1-31-06

Reviewed By: Date:

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S6B150119

STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060131.B\MB01314.D
Lab Smp Id: BLANK Client Smp ID: 2915
Inj Date : 31-JAN-2006 12:48
Operator : DLK Inst ID: gcmsd.i
Smp Info : BLANK,2915,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060131.B\SIM34.m
Meth Date : 31-Jan-2006 12:05 rongl Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.SUB
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

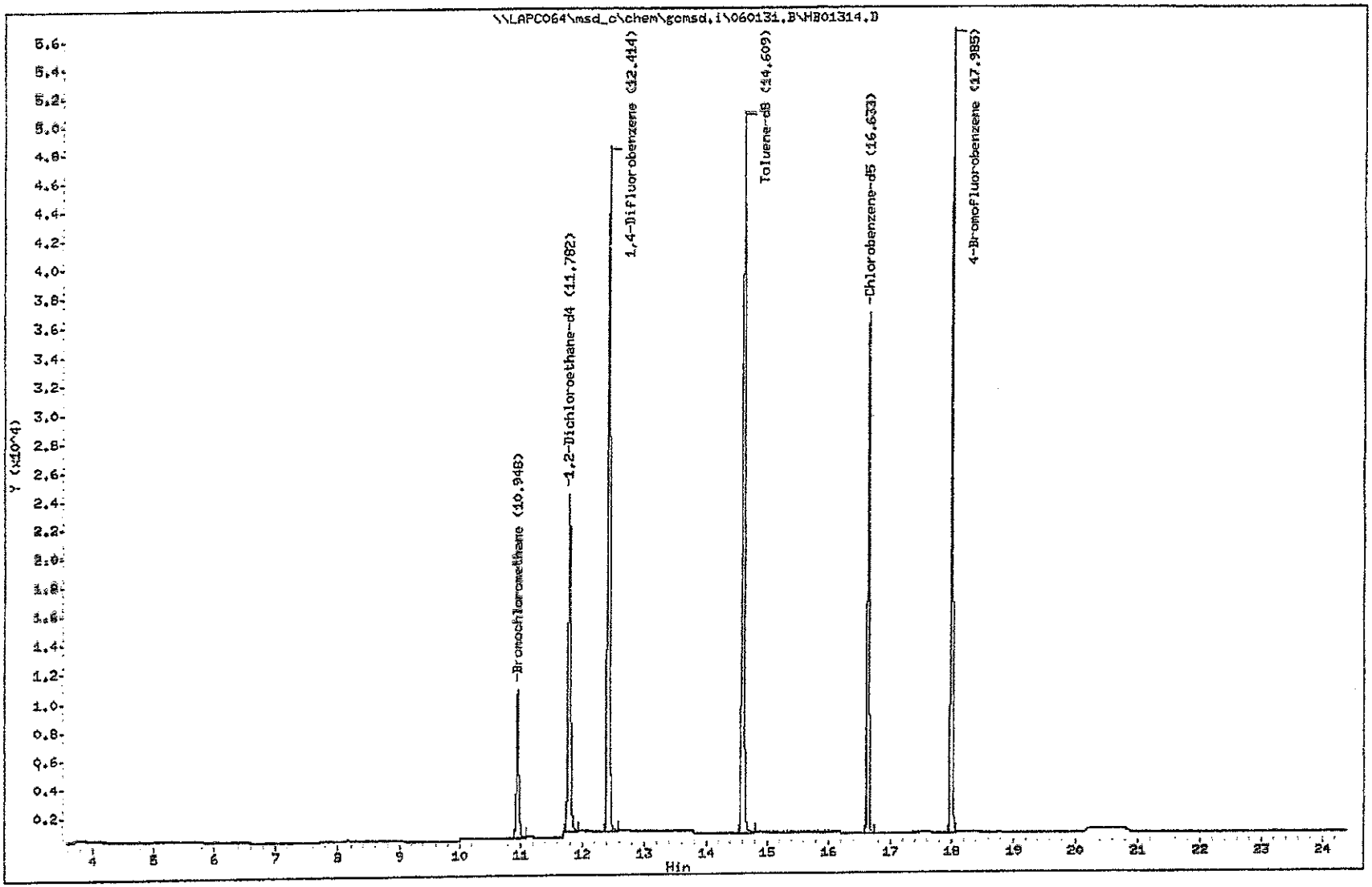
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
*	11 Bromochloromethane	130	10.948	10.947	(1.000)	27579	2000.00	
$	13 1,2-Dichloroethane-d4	65	11.781	11.781	(1.076)	56786	2030.16	2030
*	17 1,4-Difluorobenzene	114	12.413	12.413	(1.000)	77077	2000.00	
$	23 Toluene-d8	98	14.609	14.609	(0.878)	64867	1942.06	1942
*	28 Chlorobenzene-d5	117	16.633	16.632	(1.000)	72182	2000.00	
$	35 4-Bromofluorobenzene	95	17.984	17.984	(1.081)	49045	1828.58	1828

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060131.B\HB01314.D
Date : 31-JAN-2006 12:48
Client ID: 2915
Sample Info: BLANK,2915,,SCREEN BLANK

Instrument: gcmsd.i

Operator: DLK
Column diameter: 0.53

Column phase: J&W DB-624



SEVERN TRENT STL

Analytical Report

ANALYTICAL REPORT

PROJECT NO. 70990.03

NATIONAL COPPER PROD.- AIR

Lot #: SSB150619

WILLIAM A. FREZ, Ph.D

Earth Tech, Inc.

SEVERN TRENT LABORATORIES, INC.

Sabina Sadoko
Project Manager

February 28, 2006

EXECUTIVE SUMMARY - Detection Highlights

E6B150119

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
504 LOUISE-SG(2350) 02/09/06 19:00 001				
Bromodichloromethane	0.085	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	0.38	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.25	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	2.6	0.093	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	7.4	0.27	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.029	0.010	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	0.40	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	0.13	0.11	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	0.088	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	0.26	0.0064	ug/m3	EPA-2 TO-15 SIM
1,3-Dichlorobenzene	28	1.2	ug/m3	EPA-2 TO-15
601 LOUISE-SG(2656) 02/09/06 19:30 002				
Carbon tetrachloride	0.33	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.21	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	1.8	0.093	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	3.8	0.27	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.026	0.010	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	0.24	0.14	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	0.043	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	0.22	0.0064	ug/m3	EPA-2 TO-15 SIM
1,3-Dichlorobenzene	15	1.2	ug/m3	EPA-2 TO-15
404 LOUISE-SG(3417) 02/09/06 18:23 003				
Bromodichloromethane	0.082	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	0.42	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.52	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	2.5	0.093	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	6.6	0.27	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethane	5.2	0.010	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.031	0.010	ug/m3	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	5.6	0.056	ug/m3	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	3.4	0.056	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	0.44	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	30	0.11	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	0.35	0.0064	ug/m3	EPA-2 TO-15 SIM
1,3-Dichlorobenzene	21	2.5	ug/m3	EPA-2 TO-15
Trichloroethene	320	2.3	ug/m3	EPA-2 TO-15

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

E6B150119

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
700 LOUISE-SG(3456) 02/09/06 18:41 004				
Bromodichloromethane	0.090	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	0.36	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.26	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	1.8	0.093	ug/m3	EPA-2 TO-15 SIM
1,3-Dichlorobenzene	18	0.27	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	5.2	0.27	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.028	0.010	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	0.32	0.14	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	0.050	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	0.18	0.0064	ug/m3	EPA-2 TO-15 SIM
404 LOUISE-IA-1(2676) 02/10/06 10:27 005				
Bromodichloromethane	0.086	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	0.68	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.23	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	5.9	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.052	0.010	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	0.21	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	0.28	0.11	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	4.5	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	0.018	0.0064	ug/m3	EPA-2 TO-15 SIM
404 LOUISE-IA-2(3143) 02/10/06 10:27 006				
Bromodichloromethane	0.093	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	0.55	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.23	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	5.6	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.046	0.010	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	0.23	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	0.26	0.11	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	4.6	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	0.019	0.0064	ug/m3	EPA-2 TO-15 SIM
601 LOUISE-IA(1279) 02/10/06 10:42 007				
Bromodichloromethane	0.097	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	0.69	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.22	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	0.99	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.057	0.010	ug/m3	EPA-2 TO-15 SIM
Methylene chloride	1.4	0.42	ug/m3	EPA-2 TO-15 SIM

(Continued on next page)

EXECUTIVE SUMMARY - Detection Highlights

E6B150119

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
001 LOUISE-IA(1279) 02/10/06 10:42 007				
1,1,1-Trichloroethane	0.35	0.11	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	0.49	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	0.015	0.0064	ug/m3	EPA-2 TO-15 SIM
700 LOUISE-IA(2761) 02/10/06 10:55 008				
Bromodichloromethane	0.20	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	0.63	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.23	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	1.3	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.079	0.010	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	0.11	0.11	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	0.11	0.013	ug/m3	EPA-2 TO-15 SIM
504 LOUISE-IA(3061) 02/10/06 11:04 009				
Carbon tetrachloride	0.67	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.090	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	1.2	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.061	0.010	ug/m3	EPA-2 TO-15 SIM
Methylene chloride	1.6	0.42	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	0.55	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	0.15	0.11	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	0.27	0.013	ug/m3	EPA-2 TO-15 SIM
AMBIENT(2257) 02/10/06 11:25 010				
Carbon tetrachloride	0.72	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.081	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	1.1	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.041	0.010	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	0.11	0.11	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	0.26	0.013	ug/m3	EPA-2 TO-15 SIM

ANALYTICAL METHODS SUMMARY

E6B150119

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15
Volatile Organics by TO15 SIM	EPA-2 TO-15 SIM

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

E6B150119

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
HXF98	001	504 LOUISE-SG(2350)	02/09/06	19:00
HXGAW	002	601 LOUISE-SG(2656)	02/09/06	19:30
HXGAX	003	404 LOUISE-SG(3417)	02/09/06	18:23
HXGCN	004	700 LOUISE-SG(3456)	02/09/06	18:41
HXGCR	005	404 LOUISE-IA-1(2676)	02/10/06	10:27
HXGCX	006	404 LOUISE-IA-2(3143)	02/10/06	10:27
HXGC1	007	601 LOUISE-IA(1279)	02/10/06	10:42
HXGC2	008	700 LOUISE-IA(2761)	02/10/06	10:55
HXGC4	009	504 LOUISE-IA(3061)	02/10/06	11:04
HXGC5	010	AMBIENT(2257)	02/10/06	11:25
HXGC6	011	TRIP BLANK-1(6094)	02/10/06	
HXGC9	012	TRIP BLANK-2(2915)	02/10/06	

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Earth Tech, Inc.

Client Sample ID: 504 LOUISE-SG(2350)

GC/MS Volatiles

Lot-Sample #...:	E6B150119-001	Work Order #...:	HXF981AE	Matrix.....:	AE
Date Sampled...:	02/09/06 19:00	Date Received..:	02/14/06		
Prep Date.....:	02/16/06	Analysis Date..:	02/16/06		
Prep Batch #...:	6052561	Analysis Time..:	18:20		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3
1,3-Dichlorobenzene	28	1.2	ug/m3

Earth Tech, Inc.

Client Sample ID: SG#9 HOUSE-SG(2350)

GC/MS Volatiles

Lot-Sample #...: E6B150119-003 Work Order #...: HXF981AD Matrix.....: AE
Date Sampled...: 02/09/06 19:00 Date Received...: 02/14/06
Prep Date.....: 02/16/06 Analysis Date...: 02/16/06
Prep Batch #...: 6058403 Analysis Time...: 01:12
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID...: MSD
Method.....: EPA-2 TO-15 SIM

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	0.085	0.075	ug/m3
Carbon tetrachloride	0.38	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.25	0.068	ug/m3
Chloromethane	2.6	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	7.4	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	0.029	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	0.40	0.14	ug/m3
1,1,1-Trichloroethane	0.13	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	0.088	0.013	ug/m3
Vinyl chloride	0.26	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: 601 LOUISE-SG(2356)

GC/MS Volatiles

Lot-Sample #...:	6G81501119-002	Work Order #...:	HXGAW1AE	Matrix.....:	AE
Date Sampled...:	02/09/06 19:30	Date Received..:	02/14/06		
Prep Date.....:	02/16/06	Analysis Date..:	02/16/06		
Prep Batch #...:	6052561	Analysis Time..:	19:03		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3
1,3-Dichlorobenzene	15	1.2	ug/m3

Earth Tech, Inc.

Client Sample ID: 601 LOUISE-SG(Z6586)

GC/MS Volatiles

Lab-Sample #...: E6B150119-002 Work Order #...: HXGAW1AD Matrix.....: AR
Date Sampled...: 02/09/06 19:30 Date Received...: 02/14/06
Prep Date.....: 02/16/06 Analysis Date...: 02/16/06
Prep Batch #...: 6058403 Analysis Time...: 01:57
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID...: MSD
Method.....: EPA-2 TO-15 SIM

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	ND	0.075	ug/m3
Carbon tetrachloride	0.33	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.21	0.068	ug/m3
Chloromethane	1.8	0.083	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	3.8	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	0.026	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	0.24	0.14	ug/m3
1,1,1-Trichloroethane	ND	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	0.043	0.013	ug/m3
Vinyl chloride	0.22	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: 404 LOUISE-SG(3417)

GC/MS Volatiles

Lot-Sample #...:	E6B150119-003	Work Order #...:	HXGAX1AE	Matrix.....:	AE
Date Sampled...:	02/09/06 18:23	Date Received..:	02/14/06		
Prep Date.....:	02/16/06	Analysis Date..:	02/16/06		
Prep Batch #...:	6052561	Analysis Time..:	19:43		
Dilution Factor:	2.08				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	1.9	ug/m3
1,1,1,2-Tetrachloroethane	ND	29	ug/m3
1,3-Dichlorobenzene	21	2.5	ug/m3
Trichloroethene	320	2.3	ug/m3

Earth Tech, Inc.

Client Sample ID: 404 LOUISE-SG(3417)

GC/MS Volatiles

Lot-Sample #...: E6B150119-003 Work Order #...: HXGAX1AD Matrix.....: AE
Date Sampled...: 02/09/06 18:23 Date Received..: 02/14/06
Prep Date.....: 02/16/06 Analysis Date..: 02/16/06
Prep Batch #...: 6058403 Analysis Time..: 02:40
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSD
Method.....: EPA-2 TO-15 SIM

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	0.082	0.075	ug/m3
Carbon tetrachloride	0.42	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.52	0.068	ug/m3
Chloromethane	2.5	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	6.6	0.27	ug/m3
1,1-Dichloroethane	5.2	0.010	ug/m3
1,2-Dichloroethane	0.031	0.010	ug/m3
cis-1,2-Dichloroethene	5.6	0.056	ug/m3
trans-1,2-Dichloroethene	3.4	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	0.44	0.14	ug/m3
1,1,1-Trichloroethane	30	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Vinyl chloride	0.35	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: 700 LOUISE-SG(3456)

GC/MS Volatiles

Lot-Sample #...: E6B150119-004 Work Order #...: HEGCN1AB Matrix.....: AI
Date Sampled...: 02/09/06 18:41 Date Received...: 02/14/06
Prep Date.....: 02/16/06 Analysis Date...: 02/16/06
Prep Batch #...: 6052561 Analysis Time...: 20:25
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID...: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: 700 LOUISE-SG(3456)

GC/MS Volatiles

Lot-Sample #...:	268150019-004	Work Order #...:	HXGCN1AD	Matrix.....:	AIR
Date Sampled...:	02/09/06 10:41	Date Received...:	02/14/06		
Prep Date.....:	02/22/06	Analysis Date...:	02/22/06		
Prep Batch #...:	6058409	Analysis Time...:	00:22		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID...:	MSD		
		Method.....:	EPA-2 TO-15 SIM		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	0.090	0.075	ug/m3
Carbon tetrachloride	0.36	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.26	0.068	ug/m3
Chloromethane	1.8	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	10	0.27	ug/m3
1,4-Dichlorobenzene	5.2	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	0.028	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	0.32	0.14	ug/m3
1,1,1-Trichloroethane	ND	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	0.050	0.013	ug/m3
Vinyl chloride	0.18	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: 404 AOUESK-IA-1(2676)

GC/MS Volatiles

Lot-Sample #...:	6GB150119-005	Work Order #...:	HXGCR1AE	Matrix.....:	AE
Date Sampled...:	02/10/06 10:27	Date Received..:	02/14/06		
Prep Date.....:	02/16/06	Analysis Date..:	02/16/06		
Prep Batch #...:	6052561	Analysis Time..:	21:08		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: 464 ADDESS-IA-1(2670)

GC/MS Volatiles

Lab Sample #...:	B6B150119-005	Work Order #...:	HKGCR1AD
Date Sampled...:	02/10/06 10:27	Date Received..:	02/14/06
Prep Date.....:	02/21/06	Analysis Date..:	02/21/06
Prep Batch #...:	6058409	Analysis Time..:	23:39
Dilution Factor:	1		
Analyst ID.....:	341569	Instrument ID...:	MSD
		Method.....:	EPA-2 TO-15 SIM

Matrix.....: AI

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	0.086	0.075	ug/m3
Carbon tetrachloride	0.68	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.23	0.068	ug/m3
Chloromethane	5.9	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	ND	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	0.052	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	0.21	0.14	ug/m3
1,1,1-Trichloroethane	0.28	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	4.5	0.013	ug/m3
Vinyl chloride	0.018	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: 404 LOUISE-IA-2(3143)

GC/MS Volatiles

Lot-Sample #...:	6B150119-006	Work Order #...: EXGCX1AE	Matrix.....: AE
Date Sampled...:	02/10/06 10:27	Date Received..: 02/14/06	
Prep Date.....:	02/16/06	Analysis Date..: 02/16/06	
Prep Batch #...:	6052561	Analysis Time..: 21:49	
Dilution Factor:	1		
Analyst ID.....:	341569	Instrument ID..: MSE	
		Method.....: EPA-2 TO-15	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: 404 LOUISE-IA-2(3143)

GC/MS Volatiles

Lot-Sample #...: E6B150119-006 Work Order #...: HXGCX1AD Matrix.....: AE
Date Sampled...: 02/10/06 10:27 Date Received..: 02/14/06
Prep Date.....: 02/21/06 Analysis Date..: 02/21/06
Prep Batch #...: 6058409 Analysis Time..: 22:55
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSD
Method.....: EPA-2 TO-15 SIM

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	**0.093**	**0.075**	**ug/m3**
Carbon tetrachloride	**0.55**	**0.063**	**ug/m3**
Chlorobenzene	ND	0.092	ug/m3
Chloroform	**0.23**	**0.068**	**ug/m3**
Chloromethane	**5.6**	**0.093**	**ug/m3**
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	ND	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	**0.046**	**0.010**	**ug/m3**
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	**0.23**	**0.14**	**ug/m3**
1,1,1-Trichloroethane	**0.26**	**0.11**	**ug/m3**
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	**4.6**	**0.013**	**ug/m3**
Vinyl chloride	**0.019**	**0.0064**	**ug/m3**

Earth Tech, Inc.

Client Sample ID: 603 LOUISE-IA(1279)

GC/MS Volatiles

Lot-Sample #...: E6B150119-007	Work Order #...: HXGC11AE		Matrix.....: AE
Date Sampled...: 02/10/06 10:42	Date Received...: 02/14/06		
Prep Date.....: 02/16/06	Analysis Date...: 02/16/06		
Prep Batch #...: 6052561	Analysis Time...: 22:31		
Dilution Factor: 1			
Analyst ID.....: 341569	Instrument ID...: MSE		
	Method.....: EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: SOIL LOHISE-IA(0279)

GC/MS Volatiles

Lot-Sample #...: E6B150119-007 Work Order #...: HKGC11AD Matrix.....: AE
Date Sampled...: 02/10/06 10:42 Date Received...: 02/14/06
Prep Date.....: 02/17/06 Analysis Date...: 02/17/06
Prep Batch #...: 6058406 Analysis Time...: 23:43
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID...: MSD
Method.....: EPA-2 TO-15 SIM

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	0.097	0.075	ug/m3
Carbon tetrachloride	0.69	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.22	0.068	ug/m3
Chloromethane	0.99	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	ND	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	0.057	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	1.4	0.42	ug/m3
Tetrachloroethene	ND	0.14	ug/m3
1,1,1-Trichloroethane	0.35	0.12	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	0.49	0.013	ug/m3
Vinyl chloride	0.015	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: 700 LOUISE-IA(2761)

GC/MS Volatiles

Lot-Sample #...:	E6B150119-008	Work Order #...:	HXGC21AE	Matrix.....:	AB
Date Sampled...:	02/10/06 10:55	Date Received..:	02/14/06		
Prep Date.....:	02/16/06	Analysis Date..:	02/16/06		
Prep Batch #...:	6052561	Analysis Time..:	23:12		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSB		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: 700 LOUISE-IA(2762)

GC/MS Volatiles

Lot-Sample #...: S6B150119-008 Work Order #...: HXGC21AD Matrix.....: AR
Date Sampled...: 02/10/06 10:55 Date Received..: 02/14/06
Prep Date.....: 02/17/06 Analysis Date..: 02/17/06
Prep Batch #...: 6058406 Analysis Time..: 23:01
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSD
Method.....: EPA-2 TO-15 SIM

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	0.20	0.075	ug/m3
Carbon tetrachloride	0.63	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.23	0.068	ug/m3
Chloromethane	1.3	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	ND	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	0.079	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	ND	0.14	ug/m3
1,1,1-Trichloroethane	0.11	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	0.11	0.013	ug/m3
Vinyl chloride	ND	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: 504 LOUISE-IA(3061)

GC/MS Volatiles

Lot-Sample #...:	E6B150119-009	Work Order #...:	HXGC41AE	Matrix.....:	AE
Date Sampled...:	02/10/06 11:04	Date Received..:	02/14/06		
Prep Date.....:	02/16/06	Analysis Date..:	02/16/06		
Prep Batch #...:	6052561	Analysis Time..:	23:54		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: 504 LOUISE-IA(3061)

GC/MS Volatiles

Lot-Sample #...: E6B150119-009 Work Order #...: HXGC41AD Matrix.....: AE
Date Sampled...: 02/10/06 11:04 Date Received..: 02/14/06
Prep Date.....: 02/17/06 Analysis Date..: 02/17/06
Prep Batch #...: 6058406 Analysis Time..: 22:19
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSD
Method.....: EPA-2 TO-15 SIM

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	ND	0.075	ug/m3
Carbon tetrachloride	**0.67**	**0.063**	**ug/m3**
Chlorobenzene	ND	0.092	ug/m3
Chloroform	**0.090**	**0.068**	**ug/m3**
Chloromethane	**1.2**	**0.093**	**ug/m3**
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	ND	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	**0.061**	**0.010**	**ug/m3**
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	**1.6**	**0.42**	**ug/m3**
Tetrachloroethene	**0.55**	**0.14**	**ug/m3**
1,1,1-Trichloroethane	**0.15**	**0.11**	**ug/m3**
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	**0.27**	**0.013**	**ug/m3**
Vinyl chloride	ND	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: AMBIENT(2257)

GC/MS Volatiles

Lot-Sample #...: E6B150119-010 Work Order #...: HXGC51AE Matrix.....: AE
Date Sampled...: 02/10/06 11:25 Date Received..: 02/14/06
Prep Date.....: 02/17/06 Analysis Date..: 02/17/06
Prep Batch #...: 6052561 Analysis Time..: 00:35
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSE
Method.....: EPA-2 TO-15

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: AMBIENT(2257)

GC/MS Volatiles

Lot-Sample #...:	E6B150119-010	Work Order #...:	HXGC51AD	Matrix.....:	AE
Date Sampled...:	02/10/06 15:25	Date Received..:	02/14/06		
Prep Date.....:	02/17/06	Analysis Date..:	02/17/06		
Prep Batch #...:	6058406	Analysis Time..:	21:38		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSD		
		Method.....:	EPA-2 TO-15 SIM		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	ND	0.075	ug/m3
Carbon tetrachloride	0.72	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.081	0.068	ug/m3
Chloromethane	1.1	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	ND	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	0.041	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	ND	0.14	ug/m3
1,1,1-Trichloroethane	0.11	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	0.26	0.013	ug/m3
Vinyl chloride	ND	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: TRIP BLANK-1(6094)

GC/MS Volatiles

Lot-Sample #...:	E6B150119-011	Work Order #...:	HXGC61AE	Matrix.....:	AE
Date Sampled...:	02/10/06	Date Received..:	02/14/06		
Prep Date.....:	02/17/06	Analysis Date..:	02/17/06		
Prep Batch #...:	6052561	Analysis Time..:	01:15		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: TRIP BLANK-1(6094)

GC/MS Volatiles

Lot-Sample #...:	E6B150119-003	Work Order #...:	HXGC61AD	Matrix.....:	AIR
Date Sampled...:	02/10/06	Date Received..:	02/14/06		
Prep Date.....:	02/17/06	Analysis Date..:	02/17/06		
Prep Batch #...:	6058406	Analysis Time..:	20:56		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSD		
		Method.....:	EPA-2 TO-15 SIM		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	ND	0.075	ug/m3
Carbon tetrachloride	ND	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	ND	0.068	ug/m3
Chloromethane	ND	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	ND	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	ND	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	ND	0.14	ug/m3
1,1,1-Trichloroethane	ND	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	ND	0.013	ug/m3
Vinyl chloride	ND	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: TRIP BLANK-2(2915)

GC/MS Volatiles

Lot-Sample #...:	E6B150119-012	Work Order #...:	HXGC91AE	Matrix.....:	AE
Date Sampled...:	02/10/06	Date Received..:	02/14/06		
Prep Date.....:	02/17/06	Analysis Date..:	02/17/06		
Prep Batch #...:	6052561	Analysis Time..:	01:55		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: TRIP BLANK-2(2915)

GC/MS Volatiles

Lot-Sample #...: E6B150119-012 Work Order #...: HXGC91AD Matrix.....: AE
Date Sampled...: 02/10/06 Date Received..: 02/14/06
Prep Date.....: 02/17/06 Analysis Date..: 02/17/06
Prep Batch #...: 6058406 Analysis Time..: 20:14
Dilution Factor: 1
Analyst ID.....: 341569 Instrument ID..: MSD
Method.....: EPA-2 TO-15 SIM

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	ND	0.075	ug/m3
Carbon tetrachloride	ND	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	ND	0.068	ug/m3
Chloromethane	ND	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	ND	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	ND	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	ND	0.14	ug/m3
1,1,1-Trichloroethane	ND	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	ND	0.013	ug/m3
Vinyl chloride	ND	0.0064	ug/m3

SEVERN TRENT STL

QA/QC

QC DATA ASSOCIATION SUMMARY

E6B150119

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	AE	EPA-2 TO-15 SIM		6058403	
	AE	EPA-2 TO-15		6052561	
002	AE	EPA-2 TO-15 SIM		6058403	
	AE	EPA-2 TO-15		6052561	
003	AE	EPA-2 TO-15 SIM		6058403	
	AE	EPA-2 TO-15		6052561	
004	AE	EPA-2 TO-15 SIM		6058409	
	AE	EPA-2 TO-15		6052561	
005	AE	EPA-2 TO-15 SIM		6058409	
	AE	EPA-2 TO-15		6052561	
006	AE	EPA-2 TO-15 SIM		6058409	
	AE	EPA-2 TO-15		6052561	
007	AE	EPA-2 TO-15 SIM		6058406	
	AE	EPA-2 TO-15		6052561	
008	AE	EPA-2 TO-15 SIM		6058406	
	AE	EPA-2 TO-15		6052561	
009	AE	EPA-2 TO-15 SIM		6058406	
	AE	EPA-2 TO-15		6052561	
010	AE	EPA-2 TO-15 SIM		6058406	
	AE	EPA-2 TO-15		6052561	
011	AE	EPA-2 TO-15 SIM		6058406	
	AE	EPA-2 TO-15		6052561	
012	AE	EPA-2 TO-15 SIM		6058406	
	AE	EPA-2 TO-15		6052561	

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E6B150119	Work Order #...: HXVR51AA	Matrix.....: AIR
MB Lot-Sample #: M6B210000-561		
	Prep Date.....: 02/16/06	Analysis Time..: 16:57
Analysis Date..: 02/16/06	Prep Batch #...: 6052561	Instrument ID..: MSE
Dilution Factor: 1		
	Analyst ID.....: 341569	

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
1,3-Dichlorobenzene	ND	1.2	ug/m3	EPA-2 TO-15
trans-1,3-Dichloropropene	ND	0.91	ug/m3	EPA-2 TO-15
Trichloroethene	ND	1.1	ug/m3	EPA-2 TO-15
1,1,1,2-Tetrachloroethane	ND	14	ug/m3	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E6B150119
MB Lot-Sample #: M6B270000-403

Work Order #...: MX9LM1AA
Prep Date.....: 02/15/06
Prep Batch #...: 6058403
Analyst ID.....: 341569

Matrix.....: AIR
Analysis Time..: 10:59
Instrument ID..: MSD

Analysis Date..: 02/15/06
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Bromodichloromethane	ND	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	ND	0.063	ug/m3	EPA-2 TO-15 SIM
Chlorobenzene	ND	0.092	ug/m3	EPA-2 TO-15 SIM
Chloroform	ND	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	ND	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethene	ND	0.040	ug/m3	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
Methylene chloride	ND	0.42	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	ND	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	ND	0.11	ug/m3	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	ND	0.10	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	ND	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	ND	0.0064	ug/m3	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E6B150119 Work Order #...: HX9LJ1AA Matrix.....: AIR
MB Lot-Sample #: M6B270000-406

Prep Date.....: 02/17/06 Analysis Time..: 11:46
Analysis Date..: 02/17/06 Prep Batch #...: 6058406 Instrument ID..: MSD
Dilution Factor: 1

Analyst ID.....: 341569

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Bromodichloromethane	ND	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	ND	0.063	ug/m3	EPA-2 TO-15 SIM
Chlorobenzene	ND	0.092	ug/m3	EPA-2 TO-15 SIM
Chloroform	ND	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	ND	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,3-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethene	ND	0.040	ug/m3	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
Methylene chloride	ND	0.42	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	ND	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	ND	0.11	ug/m3	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	ND	0.10	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	ND	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	ND	0.0064	ug/m3	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E6B150119 **Work Order #...:** HX9LK1AA **Matrix.....:** AIR
MB Lot-Sample #: M6B270000-409

Prep Date.....: 02/21/06 **Analysis Time..:** 18:43
Analysis Date..: 02/21/06 **Prep Batch #...:** 6058409 **Instrument ID..:** MSD
Dilution Factor: 1

Analyst ID.....: 341569

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Bromodichloromethane	ND	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	ND	0.063	ug/m3	EPA-2 TO-15 SIM
Chlorobenzene	ND	0.092	ug/m3	EPA-2 TO-15 SIM
Chloroform	ND	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	ND	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,3-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethene	ND	0.040	ug/m3	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
Methylene chloride	ND	0.42	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	ND	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	ND	0.11	ug/m3	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	ND	0.10	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	ND	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	ND	0.0064	ug/m3	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: E6B150119 Work Order #....: HXVR51AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6B210000-561 HXVR51AD-LCSD
Prep Date.....: 02/16/06 Analysis Date..: 02/16/06
Prep Batch #....: 6052561 Analysis Time..: 15:33
Dilution Factor: 1 Instrument ID...: MSE
Analyst ID.....: 341569

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	78	(70 - 130)			EPA-2 TO-15
	88	(70 - 130)	12	(0-30)	EPA-2 TO-15
Methylene chloride	90	(65 - 125)			EPA-2 TO-15
	99	(65 - 125)	9.5	(0-30)	EPA-2 TO-15
Toluene	91	(65 - 135)			EPA-2 TO-15
	81	(65 - 135)	12	(0-30)	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	86	(55 - 135)			EPA-2 TO-15
	95	(55 - 135)	9.9	(0-30)	EPA-2 TO-15
Trichloroethene	97	(65 - 135)			EPA-2 TO-15
	102	(65 - 135)	4.6	(0-30)	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E6B150119 Work Order #...: HXVR51AG-LCS Matrix.....: AIR
LCS Lot-Sample#: M6B210000-561 HXVR51AD-LCSD
Prep Date.....: 02/16/06 Analysis Date...: 02/16/06
Prep Batch #...: 6052561 Analysis Time...: 15:33
Dilution Factor: 1 Instrument ID...: MSE
Analyst ID.....: 341569

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,1-Dichloroethene	39.6	30.7	ug/m3	78		EPA-2 TO-15
	39.6	34.7	ug/m3	88	12	EPA-2 TO-15
Methylene chloride	34.7	31.0	ug/m3	90		EPA-2 TO-15
	34.7	34.2	ug/m3	99	9.5	EPA-2 TO-15
Toluene	37.6	34.1	ug/m3	91		EPA-2 TO-15
	37.6	30.3	ug/m3	81	12	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	68.5	58.7	ug/m3	86		EPA-2 TO-15
	68.5	64.9	ug/m3	95	9.9	EPA-2 TO-15
Trichloroethene	53.6	52.1	ug/m3	97		EPA-2 TO-15
	53.6	54.6	ug/m3	102	4.6	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E6B150119 Work Order #...: HX9LH1AC-LCS Matrix.....: AIR
BCS Lot-Sample#: M6B270000-403 HX9LH1AD-LCSD
Prep Date.....: 02/15/06 Analysis Date..: 02/15/06
Prep Batch #...: 6058403 Analysis Time..: 09:27
Dilution Factor: 1 Instrument ID..: MSD
Analyst ID.....: 341569

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	90	(70 - 120)			EPA-2 TO-15 SIM
	87	(70 - 120)	3.7	(0-20)	EPA-2 TO-15 SIM
Tetrachloroethene	96	(70 - 125)			EPA-2 TO-15 SIM
	93	(70 - 125)	3.7	(0-20)	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	102	(70 - 130)			EPA-2 TO-15 SIM
	100	(70 - 130)	2.3	(0-20)	EPA-2 TO-15 SIM
Trichloroethene	108	(70 - 120)			EPA-2 TO-15 SIM
	101	(70 - 120)	6.1	(0-20)	EPA-2 TO-15 SIM
Vinyl chloride	107	(70 - 125)			EPA-2 TO-15 SIM
	106	(70 - 125)	0.74	(0-20)	EPA-2 TO-15 SIM
Chloroform	99	(75 - 120)			EPA-2 TO-15 SIM
	98	(75 - 120)	1.2	(0-20)	EPA-2 TO-15 SIM
1,1-Dichloroethane	98	(70 - 120)			EPA-2 TO-15 SIM
	96	(70 - 120)	1.8	(0-20)	EPA-2 TO-15 SIM
1,2-Dichloroethane	110	(70 - 125)			EPA-2 TO-15 SIM
	104	(70 - 125)	5.3	(0-20)	EPA-2 TO-15 SIM
Methylene chloride	97	(65 - 120)			EPA-2 TO-15 SIM
	97	(65 - 120)	0.040	(0-20)	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	97	(70 - 120)			EPA-2 TO-15 SIM
	95	(70 - 120)	1.3	(0-20)	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	103	(65 - 120)			EPA-2 TO-15 SIM
	98	(65 - 120)	4.3	(0-20)	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	107	(70 - 130)			EPA-2 TO-15 SIM
	107	(70 - 130)	0.0	(0-20)	EPA-2 TO-15 SIM
Bromodichloromethane	107	(70 - 120)			EPA-2 TO-15 SIM
	103	(70 - 120)	3.6	(0-20)	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E6B150119 Work Order #....: HX9LH1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6B270000-403 HX9LH1AD-LCSD
Prep Date.....: 02/15/06 Analysis Date...: 02/15/06
Prep Batch #....: 6050403 Analysis Time...: 09:27
Dilution Factor: 1 Instrument ID...: MSD
Analyst ID.....: 341549

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,1-Dichloroethene	3.96	3.57	ug/m3	90		EPA-2 TO-15 SIM
	3.96	3.44	ug/m3	87	3.7	EPA-2 TO-15 SIM
Tetrachloroethene	6.77	6.52	ug/m3	96		EPA-2 TO-15 SIM
	6.77	6.28	ug/m3	93	3.7	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	5.45	5.55	ug/m3	102		EPA-2 TO-15 SIM
	5.45	5.43	ug/m3	100	2.3	EPA-2 TO-15 SIM
Trichloroethene	5.36	5.77	ug/m3	108		EPA-2 TO-15 SIM
	5.36	5.43	ug/m3	101	6.1	EPA-2 TO-15 SIM
Vinyl chloride	2.55	2.74	ug/m3	107		EPA-2 TO-15 SIM
	2.55	2.72	ug/m3	106	0.74	EPA-2 TO-15 SIM
Chloroform	4.87	4.85	ug/m3	99		EPA-2 TO-15 SIM
	4.87	4.79	ug/m3	98	1.2	EPA-2 TO-15 SIM
1,1-Dichloroethane	4.04	3.95	ug/m3	98		EPA-2 TO-15 SIM
	4.04	3.88	ug/m3	96	1.8	EPA-2 TO-15 SIM
1,2-Dichloroethane	4.04	4.43	ug/m3	110		EPA-2 TO-15 SIM
	4.04	4.20	ug/m3	104	5.3	EPA-2 TO-15 SIM
Methylene chloride	3.47	3.38	ug/m3	97		EPA-2 TO-15 SIM
	3.47	3.38	ug/m3	97	0.040	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	5.45	5.26	ug/m3	97		EPA-2 TO-15 SIM
	5.45	5.19	ug/m3	95	1.3	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	3.96	4.07	ug/m3	103		EPA-2 TO-15 SIM
	3.96	3.90	ug/m3	98	4.3	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	3.96	4.22	ug/m3	107		EPA-2 TO-15 SIM
	3.96	4.22	ug/m3	107	0.0	EPA-2 TO-15 SIM
Bromodichloromethane	6.69	7.14	ug/m3	107		EPA-2 TO-15 SIM
	6.69	6.89	ug/m3	103	3.6	EPA-2 TO-15 SIM

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E6B150119 Work Order #...: HX9LJ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6B270000-406 HX9LJ1AD-LCSD
Prep Date.....: 02/17/06 Analysis Date..: 02/17/06
Prep Batch #...: 6058406 Analysis Time..: 08:46
Dilution Factor: 1 Instrument ID..: MSD
Analyst ID.....: 341569

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	101	(70 - 120)			EPA-2 TO-15 SIM
	91	(70 - 120)	11	(0-20)	EPA-2 TO-15 SIM
Tetrachloroethene	110	(70 - 125)			EPA-2 TO-15 SIM
	102	(70 - 125)	8.2	(0-20)	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	115	(70 - 130)			EPA-2 TO-15 SIM
	105	(70 - 130)	9.1	(0-20)	EPA-2 TO-15 SIM
Trichloroethene	114	(70 - 120)			EPA-2 TO-15 SIM
	105	(70 - 120)	8.7	(0-20)	EPA-2 TO-15 SIM
Vinyl chloride	102	(70 - 125)			EPA-2 TO-15 SIM
	121	(70 - 125)	18	(0-20)	EPA-2 TO-15 SIM
Chloroform	115	(75 - 120)			EPA-2 TO-15 SIM
	104	(75 - 120)	9.4	(0-20)	EPA-2 TO-15 SIM
1,1-Dichloroethane	108	(70 - 120)			EPA-2 TO-15 SIM
	100	(70 - 120)	7.6	(0-20)	EPA-2 TO-15 SIM
1,2-Dichloroethane	120	(70 - 125)			EPA-2 TO-15 SIM
	108	(70 - 125)	9.9	(0-20)	EPA-2 TO-15 SIM
Methylene chloride	112	(65 - 120)			EPA-2 TO-15 SIM
	105	(65 - 120)	6.8	(0-20)	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	113	(70 - 120)			EPA-2 TO-15 SIM
	105	(70 - 120)	7.6	(0-20)	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	112	(65 - 120)			EPA-2 TO-15 SIM
	101	(65 - 120)	10	(0-20)	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	124	(70 - 130)			EPA-2 TO-15 SIM
	111	(70 - 130)	11	(0-20)	EPA-2 TO-15 SIM
Bromodichloromethane	118	(70 - 120)			EPA-2 TO-15 SIM
	109	(70 - 120)	8.1	(0-20)	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E6B150119 Work Order #...: HX9LJ1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6B270000-406 HX9LJ1AD-LCSD
Prep Date.....: 02/17/06 Analysis Date..: 02/17/06
Prep Batch #...: 6058406 Analysis Time..: 08:46
Dilution Factor: 1 Instrument ID..: MSD
Analyst ID.....: 341569

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,1-Dichloroethene	3.96	4.00	ug/m3	101		EPA-2 TO-15 SIM
	3.96	3.59	ug/m3	91	11	EPA-2 TO-15 SIM
Tetrachloroethene	6.77	7.48	ug/m3	110		EPA-2 TO-15 SIM
	6.77	6.89	ug/m3	102	8.2	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	5.45	6.24	ug/m3	115		EPA-2 TO-15 SIM
	5.45	5.70	ug/m3	105	9.1	EPA-2 TO-15 SIM
Trichloroethene	5.36	6.12	ug/m3	114		EPA-2 TO-15 SIM
	5.36	5.61	ug/m3	105	8.7	EPA-2 TO-15 SIM
Vinyl chloride	2.55	2.60	ug/m3	102		EPA-2 TO-15 SIM
	2.55	3.10	ug/m3	121	18	EPA-2 TO-15 SIM
Chloroform	4.87	5.58	ug/m3	115		EPA-2 TO-15 SIM
	4.87	5.08	ug/m3	104	9.4	EPA-2 TO-15 SIM
1,1-Dichloroethane	4.04	4.37	ug/m3	108		EPA-2 TO-15 SIM
	4.04	4.06	ug/m3	100	7.6	EPA-2 TO-15 SIM
1,2-Dichloroethane	4.04	4.83	ug/m3	120		EPA-2 TO-15 SIM
	4.04	4.38	ug/m3	108	9.9	EPA-2 TO-15 SIM
Methylene chloride	3.47	3.88	ug/m3	112		EPA-2 TO-15 SIM
	3.47	3.63	ug/m3	105	6.8	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	5.45	6.17	ug/m3	113		EPA-2 TO-15 SIM
	5.45	5.72	ug/m3	105	7.6	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	3.96	4.43	ug/m3	112		EPA-2 TO-15 SIM
	3.96	4.00	ug/m3	101	10	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	3.96	4.93	ug/m3	124		EPA-2 TO-15 SIM
	3.96	4.40	ug/m3	111	11	EPA-2 TO-15 SIM
Bromodichloromethane	6.69	7.92	ug/m3	118		EPA-2 TO-15 SIM
	6.69	7.31	ug/m3	109	8.1	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E6B150119 Work Order #...: HX9LK1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6B270000-409 HX9LK1AD-LCSD
Prep Date.....: 02/21/06 Analysis Date...: 02/21/06
Prep Batch #...: 6058409 Analysis Time...: 17:18
Dilution Factor: 1 Instrument ID...: MSD
Analyst ID.....: 341569

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	99	(70 - 120)			EPA-2 TO-15 SIM
	99	(70 - 120)	0.32	(0-20)	EPA-2 TO-15 SIM
Tetrachloroethene	93	(70 - 125)			EPA-2 TO-15 SIM
	96	(70 - 125)	3.2	(0-20)	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	104	(70 - 130)			EPA-2 TO-15 SIM
	105	(70 - 130)	1.2	(0-20)	EPA-2 TO-15 SIM
Trichloroethene	104	(70 - 120)			EPA-2 TO-15 SIM
	105	(70 - 120)	1.5	(0-20)	EPA-2 TO-15 SIM
Vinyl chloride	105	(70 - 125)			EPA-2 TO-15 SIM
	99	(70 - 125)	5.8	(0-20)	EPA-2 TO-15 SIM
Chloroform	103	(75 - 120)			EPA-2 TO-15 SIM
	104	(75 - 120)	1.2	(0-20)	EPA-2 TO-15 SIM
1,1-Dichloroethane	98	(80 - 120)			EPA-2 TO-15 SIM
	98	(80 - 120)	0.78	(0-20)	EPA-2 TO-15 SIM
1,2-Dichloroethane	105	(80 - 125)			EPA-2 TO-15 SIM
	107	(80 - 125)	2.1	(0-20)	EPA-2 TO-15 SIM
Methylene chloride	101	(65 - 120)			EPA-2 TO-15 SIM
	101	(65 - 120)	0.59	(0-20)	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	99	(70 - 120)			EPA-2 TO-15 SIM
	102	(70 - 120)	2.1	(0-20)	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	100	(65 - 120)			EPA-2 TO-15 SIM
	101	(65 - 120)	0.99	(0-20)	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	100	(70 - 130)			EPA-2 TO-15 SIM
	100	(70 - 130)	0.83	(0-20)	EPA-2 TO-15 SIM
Bromodichloromethane	109	(70 - 120)			EPA-2 TO-15 SIM
	111	(70 - 120)	2.0	(0-20)	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E6B150119 Work Order #...: HX9LK1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6B270000-409 HX9LK1AD-LCSD
Prep Date.....: 02/21/06 Analysis Date...: 02/21/06
Prep Batch #...: 6058409 Analysis Time...: 17:18
Dilution Factor: 1 Instrument ID...: MSD
Analyst ID.....: 341569

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,1-Dichloroethene	3.96	3.93	ug/m3	99		EPA-2 TO-15 SIM
	3.96	3.92	ug/m3	99	0.32	EPA-2 TO-15 SIM
Tetrachloroethene	6.77	6.31	ug/m3	93		EPA-2 TO-15 SIM
	6.77	6.51	ug/m3	96	3.2	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	5.45	5.64	ug/m3	104		EPA-2 TO-15 SIM
	5.45	5.71	ug/m3	105	1.2	EPA-2 TO-15 SIM
Trichloroethene	5.36	5.56	ug/m3	104		EPA-2 TO-15 SIM
	5.36	5.64	ug/m3	105	1.5	EPA-2 TO-15 SIM
Vinyl chloride	2.55	2.68	ug/m3	105		EPA-2 TO-15 SIM
	2.55	2.53	ug/m3	99	5.8	EPA-2 TO-15 SIM
Chloroform	4.87	5.00	ug/m3	103		EPA-2 TO-15 SIM
	4.87	5.06	ug/m3	104	1.2	EPA-2 TO-15 SIM
1,1-Dichloroethane	4.04	3.94	ug/m3	98		EPA-2 TO-15 SIM
	4.04	3.97	ug/m3	98	0.78	EPA-2 TO-15 SIM
1,2-Dichloroethane	4.04	4.25	ug/m3	105		EPA-2 TO-15 SIM
	4.04	4.34	ug/m3	107	2.1	EPA-2 TO-15 SIM
Methylene chloride	3.47	3.51	ug/m3	101		EPA-2 TO-15 SIM
	3.47	3.49	ug/m3	101	0.59	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	5.45	5.41	ug/m3	99		EPA-2 TO-15 SIM
	5.45	5.53	ug/m3	102	2.1	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	3.96	3.97	ug/m3	100		EPA-2 TO-15 SIM
	3.96	4.01	ug/m3	101	0.99	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	3.96	3.94	ug/m3	100		EPA-2 TO-15 SIM
	3.96	3.97	ug/m3	100	0.83	EPA-2 TO-15 SIM
Bromodichloromethane	6.69	7.29	ug/m3	109		EPA-2 TO-15 SIM
	6.69	7.44	ug/m3	111	2.0	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.

SEVERN TRENT STL

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921
www.stl-inc.com

March 6, 2006

STL LOT NUMBER: E6B170329
PO/CONTRACT: 70999.01

WILLIAM A. FREZ, Ph.D
Earth Tech, Inc.
36133 Schoolcraft Rd
Livonia, MI 48150

Dear WILLIAM A. FREZ, Ph.D,

This report contains the analytical results for the three samples received under chain of custody by STL Los Angeles on February 16, 2006. These samples are associated with your NATIONAL COPPER PROD.- AIR project. Preliminary data was provided on March 3, 2006.

STL Los Angeles certifies that the test results provided in this report meet all the requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA/E87652.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains 000039 pages.

CASE NARRATIVE

Historical control limits for the LCS are used to define the estimate of uncertainty for a method.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

If you have any questions, please feel free to call me at 714.258.8610.

Sincerely,

Sabina Sudoko
Project Manager
CC: Project File

LOT NUMBER E6B170329

Nonconformance 05-15661

Affected Samples:
E6B170329 (1): 305 LOUISE-IA-1
E6B170329 (2): 305 LOUISE-IA-2
E6B170329 (3): 305 LOUISE-SG

Affected Methods:
TO-15, TO-15 SIM

Details:
1) The chain of custody (COC) indicates sample "305 LOUISE-IA-1" is associated with canister 3009 and sample "305 LOUISE-IA-2" associated with canister 2671. The Canister Field Data sheets indicate "305 LOUISE IA-1" with canister 2671 and "305 LOUISE IA-2" with canister 3009. The samples were logged in as per the chain of custody.

2) The chain of custody was not received with the samples on 2/16/06. The client sent the COC via email on 2/17/06.

Swart, Terry

From: tswart@stl-inc.com
Sent: Monday, February 20, 2006 11:15 AM
To: william.frez@earthtech.com
Subject: Information for E6B170329

Sample Confirmation for E6B170...

* *

Lot ID: E6B170329
Project Number: 70999.01
Project Name/Site: NATIONAL COPPER PROD.- AIR

Acknowledgement of samples received for National Copper.
Please check the sample confirmation sheet.
Note: COC has "305 LOUISE-IA-1" associated with canister 3009 and "305 LOUISE-IA-2" associated with canister 2671. The Canister Field Data sheets have "IA-1" with Canister 2671 and "IA-2" with Canister 3009.
Samples were logged in per COC.
Note: COC was not received with the samples (02/16/06). Client emailed COC to PM on 02/17/06.
Thank you.

This message and any files transmitted with it are confidential and intended solely for the use of the addressee. If you have received this message in error please notify the sender and destroy your copies of the message and any attached files.

(00246247)
Version: 2.1.10

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705
phone 714-258-8610 fax 714-258-0921

Canister Samples Chain of Custody Record

SEVERN TRENT STL

Severn Trent Laboratories, Inc. (STL) assumes no liability with respect to the collection and shipment of these samples.

E6B170329

Client Contact Information
Company: Earth Tech
Address: 36133 Schoolcraft
City/State/Zip: Livonia, MI 48150
Phone: 734-779-2819
FAX: 734-779-2860
Project Name: National Copper
Site: Dowagiac MI
PO# 70999.01

Project Manager: ERIC STRANG 2/13/06
Phone: 616-942-9600
Site Contact: Rick Smith
STL Contact: Sabina Sudoko

Analysis Turnaround Time
Standard (Specify) 2 weeks
Rush (Specify)

1 of 1 COCs

Sample Identification	Sample Date(s)	Time Start	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-15	TO-14A	EPA 3C	EPA 25C	ASTM D-1946	Other (Please specify in notes section)	Sample Type	Indoor Air	Ambient Air	Soil Gas	Landfill Gas	Other (Please specify in notes section)
305 Louise - IA-1	2/10/06-2/11/06	7:15 AM	7:15 AM	29		24229	3009	X							X				
305 Louise - IA-2	2/10/06-2/11/06	7:15 AM	7:15 AM	29		24216	2671	X							X				
305 Louise - SG	2/10/06	7:30 AM	3:30 PM	28		8214	2764	X									X		

Temperature (Fahrenheit)

	Interior	Ambient Sus
Start	68 F	~~68~~ 74
Stop	69 F	

Pressure (Inches of Hg)

	Interior	Ambient
Start		
Stop		

Special Instructions/QC Requirements & Comments:
DUST CAPS NOT ON CANISTER UPON RECEIPT (R) 2/16/06
COC REC'D 2/17/06 (R)

Canisters Shipped by:	Date/Time:	Canisters Received by:
Samples Relinquished by: Rick Smith	Date/Time: 2/13/06	Received by:
Relinquished by:	Date/Time: 2-16-06 1000	Received by: [signature]

Lab Use Only Shipper Name Opened by: Condition

000005

SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 3009
DATE CLEANED: ~~12/25/05A 1/24/06B 1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: 305 Course Ia-2
IA-1 (E)

VFR ID: STL 0829
Duration of comp.: 8 (hrs) / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

24229
24h
Controller
For
Sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0915 AM	29"	[illegible]	[illegible]
FINAL FIELD READING	8:00 AM	→ A NEEDLE WIDTH / BETWEEN 0 AND -.5 INHg VAC	2/14/06	RS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	14.20	2/21/06	EI
FINAL PRESSURE (PSIA)	25.05	2/21/06	EI

Pressurization Gas: N_2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2761
DATE CLEANED: ~~12/25/05A~~ 1/24/06B ~~1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: ~~700 Louise~~ – IA 1
305 Louise IA-2 ①

VFR ID: STL 8214 24 2/3/06
Duration of comp.: 8 (hrs) / mins. 24 hrs
Flow setting: 9.9-10.4 ml/min
Initials: CA

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0945	29"	2/9/2006	SVS
FINAL FIELD READING	8:05 AM	-3 mHg (VAC)	2/14/06	RS

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.79	2/21/06	EI
FINAL PRESSURE (PSIA)	25.00	2/21/06	EI

Pressurization Gas: N2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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SEVERN TRENT STL

CANISTER FIELD DATA RECORD

CLIENT: Earthtech
CANISTER SERIAL #: 2764
DATE CLEANED: 12/25/05A ~~1/24/06B 1/26/06A~~
CLIENT SAMPLE #:
SITE LOCATION: 305 Louise ~~[illegible]~~ SS 1 SG

VFR ID: STL 8217
Duration of comp.: 8 hrs / mins.
Flow setting: 9.9-10.4 ml/min
Initials: CA

8214 used for sample

READING	TIME	Vac. (inches Hg) Or PRESS. (psig)	DATE	INITIALS
INITIAL VACUUM CHECK	[redacted]	30"	1/31/06	CA
INITIAL FIELD VACUUM	0930	28"	2/9/2006	SWS
FINAL FIELD READING	7:45 AM	-2.5 inHg (VAC)	2/14/06	R.S.

LABORATORY CANISTER PRESSURIZATION			
INITIAL VACUUM (PSIA)	12.96	2/21/06	[illegible]
FINAL PRESSURE (PSIA)	25.20	2/21/06	[illegible]

Pressurization Gas: N2

COMMENTS:

COMPOSITE TIME (HOURS)	FLOW RATE RANGE (ml/min)
15 Min.	316 – 333
30 Min.	158 – 166.7
1	79.2 – 83.3
2	39.6 – 41.7
4	19.8 – 20.8
6	13.2 – 13.9
8	9.9 – 10.4
10	7.92 – 8.3
12	6.6 – 6.9
24	3.5 – 4.0

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CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012406 B

Date of QC: 01/26/06

Data File Number: MB01267

Canister ID Numbers

3009	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

AA
Reviewed By:

1/27/06
Date:

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060126.B\MB01267.D
Lab Smp Id: BLANK Client Smp ID: 3009
Inj Date : 27-JAN-2006 06:03
Operator : AA Inst ID: gcmsd.i
Smp Info : BLANK,3009,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060126.B\SIM34.m
Meth Date : 26-Jan-2006 11:13 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 14 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

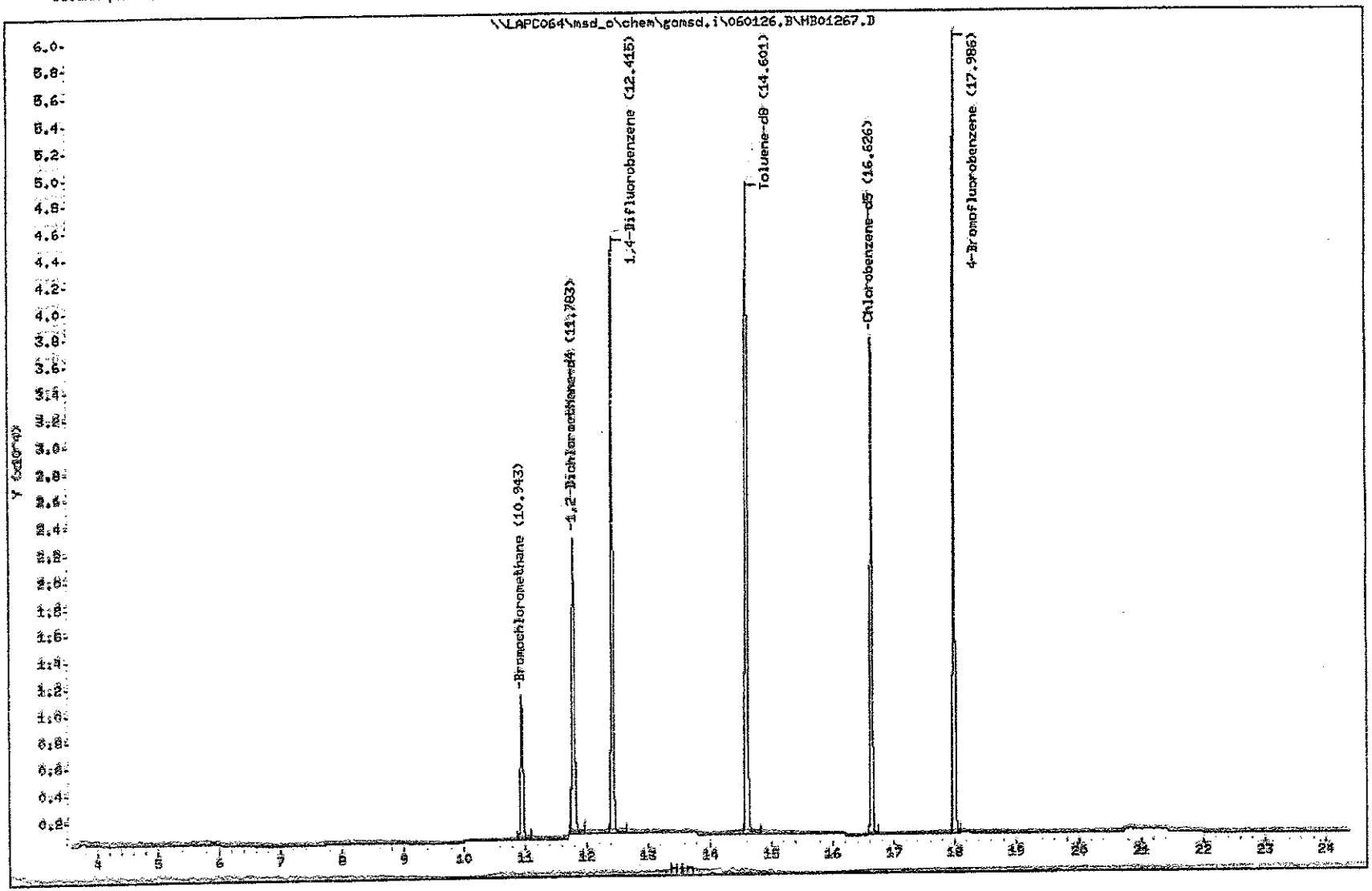
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
* 11 Bromochloromethane	130	10.943	10.947	(1.000)	28191	2000.00	
$ 13 1,2-Dichloroethane-d4	65	11.782	11.781	(1.077)	54552	1907.95	1908
* 17 1,4-Difluorobenzene	114	12.415	12.413	(1.000)	76179	2000.00	
$ 23 Toluene-d8	98	14.601	14.609	(0.878)	63263	1852.11	1852
* 28 Chlorobenzene-d5	117	16.625	16.632	(1.000)	73816	2000.00	
$ 35 4-Bromofluorobenzene	95	17.985	17.984	(1.082)	51271	1869.26	1869

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060126.B\HB01267.D
Date : 27-JAN-2006 06:03
Client ID: 3009
Sample Info: BLANK,3009,,SCREEN BLANK

Column phase: J&W DB-624

Instrument: gcmsd.i

Operator: AA
Column diameter: 0.53



CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 012406 B

Date of QC: 1/26/06

Data File Number: MB01268

Canister ID Numbers

2671	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

* INDICATES THE CAN OR CANS WHICH WERE SCREENED.

AA
Reviewed By:

1/27/06
Date:

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060126.B\MB01268.D
Lab Smp Id: BLANK Client Smp ID: 2671
Inj Date : 27-JAN-2006 06:45
Operator : AA Inst ID: gcmsd.i
Smp Info : BLANK,2671,,,SCREEN BLANK
Misc Info : 1,1,500,500,3,,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060126.B\SIM34.m
Meth Date : 26-Jan-2006 11:13 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

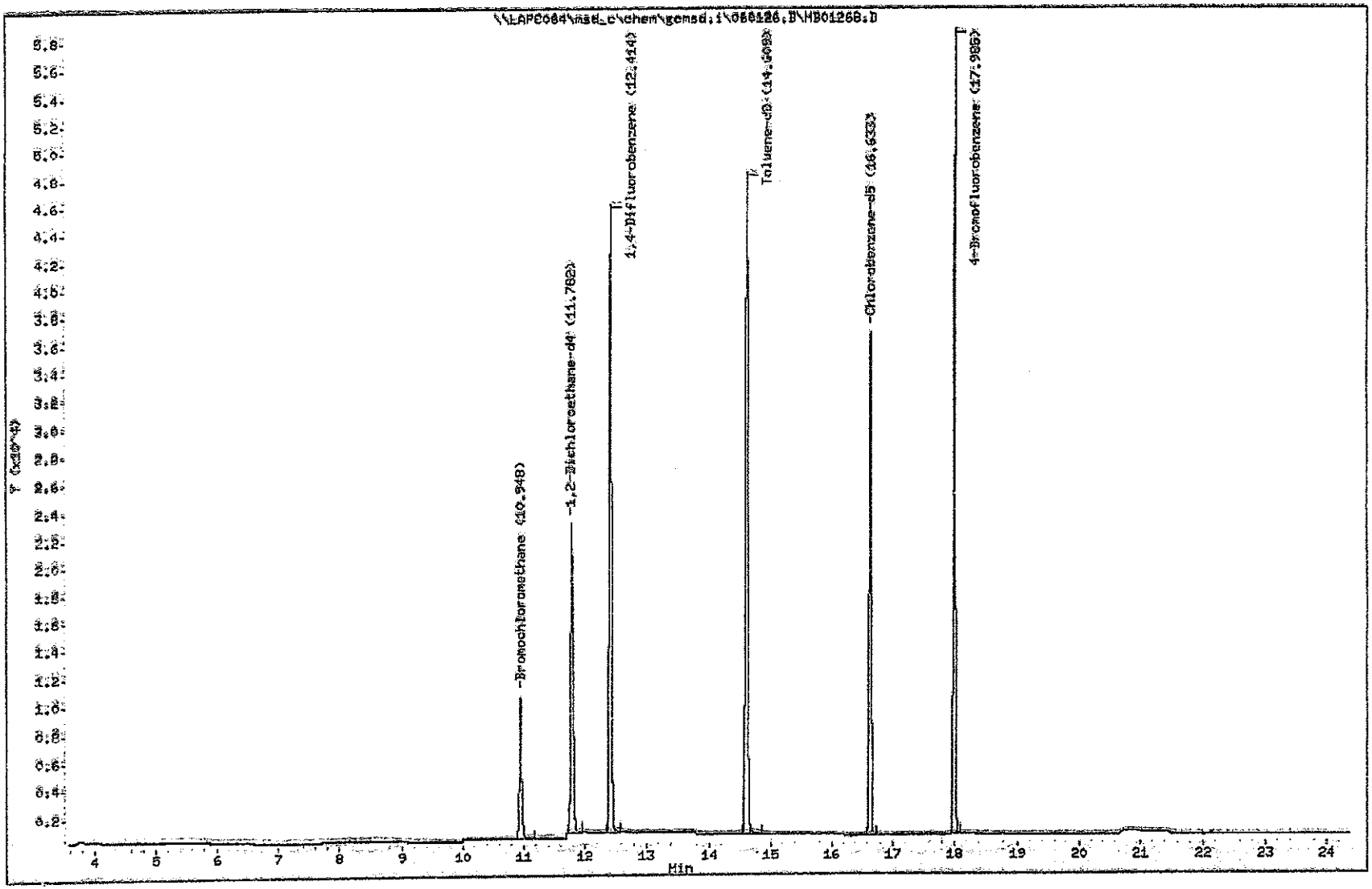
Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ppbv)	FINAL (ppbv)
*	11 Bromochloromethane	130	10.948	10.947	(1.000)	27949	2000.00	
$	13 1,2-Dichloroethane-d4	65	11.782	11.791	(1.076)	54130	1916.47	1916
*	17 1,4-Difluorobenzene	114	12.413	12.413	(1.000)	75108	2000.00	
$	23 Toluene-d8	98	14.599	14.609	(0.978)	62536	1842.31	1842
*	29 Chlorobenzene-d5	117	16.633	16.632	(1.000)	73156	2000.00	
$	35 4-Bromofluorobenzene	95	17.984	17.984	(1.081)	50195	1842.51	1842

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060126.B\MB01268.D
Date : 27-JAN-2006 06:45
Client ID: 2671
Sample Info: BLANK,2671,,SCREEN BLANK

Instrument: gcmsd.i
Operator: AA
Column diameter: 0.53

Column phase: J&W DB-624



SES120329

CANISTER QC CERTIFICATION

SEVERN TRENT STL

Certification Type: TO-15 SIM

Date Cleaned/Batch: 122305A

Date of QC: 01-03-06

Data File Number: lm801032 (MSD)

Canister ID Numbers

* 2764	

The above canisters were cleaned as a batch. This certifies this batch contains no target analyte concentration greater than or equal to the method criteria for the "*Certification Type*" indicated above.

"*" INDICATES THE CAN OR CANS WHICH WERE SCREENED.

Reviewed By: [signature]

Date: 1-31-06

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STL Los Angeles - Air Lab

TO-15 SIM Report

Data file : \\LAPC064\msd_c\chem\gcmsd.i\060103.B\MB01032.D
Lab Smp Id: BLANK Client Smp ID: 2764
Inj Date : 03-JAN-2006 16:16
Operator : DLK Inst ID: gcmsd.i
Smp Info : BLANK,2764,,METHOD BLANK
Misc Info : 1,1,500,500,3,,BLANK,SIM34.SUB,0,1000
Comment :
Method : \\LAPC064\msd_c\CHEM\GCMSD.I\060103.B\SIM34.m
Meth Date : 04-Jan-2006 12:55 dkammerer Quant Type: ISTD
Cal Date : 03-JAN-2006 14:24 Cal File: IC01038.D
Als bottle: 1 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: SIM34.sub
Target Version: 4.14
Processing Host: LAPC064

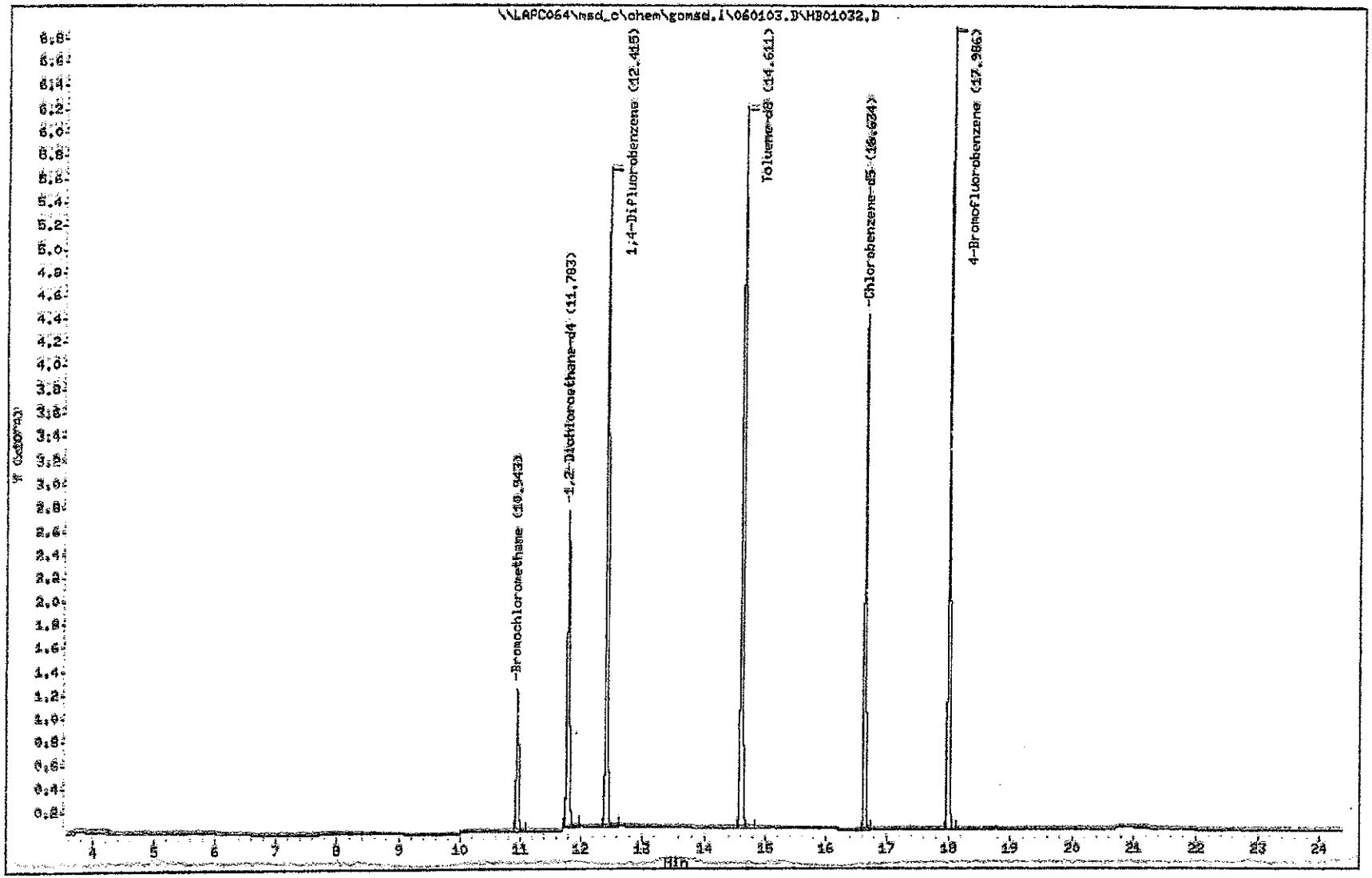
Concentration Formula:
Amt * DF * (FinalPres / InitPres)*(CalVol / SmpVol) * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
FinalPres	1.000	FinalPres
InitPres	1.000	InitPres
CalVol	500.000	CalVol
SmpVol	500.000	SmpVol
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (pptv)	FINAL (pptv)
*	11 Bromochloromethane	130	10.943	10.951	(1.000)	32139	2000.00	
$	13 1,2-Dichloroethane-d4	65	11.783	11.783	(1.077)	62792	1926.36	1926
*	17 1,4-Difluorobenzene	114	12.415	12.415	(1.000)	89372	2000.00	
$	23 Toluene-d8	98	14.610	14.610	(0.878)	78045	1946.37	1946
*	28 Chlorobenzene-d5	117	16.634	16.634	(1.000)	86654	2000.00	
$	35 4-Bromofluorobenzene	95	17.985	17.985	(1.081)	64370	1999.14	1999

Data File: \\LAPC064\msd_c\chem\gcmsd.i\060103.D\HB01032.D
Date : 03-JAN-2006 16:16
Client ID: 2764
Sample Info: BLANK,2764,,METHOD BLANK

Instrument: gcmsd.i
Operator: DLK
Column phase: J&W DB-624
Column diameter: 0.53



E69170329

SEVERN TRENT STL

Analytical Report

ANALYTICAL REPORT

PROJECT NO. 78999.01

NATIONAL COPPER PROD.- AIR

Lot #: E6B170329

WILLIAM A. PREZ, Ph.D

Earth Tech, Inc.

SEVERN TRENT LABORATORIES, INC.

Sabina Sučoka
Project Manager

March 3, 2006

EXECUTIVE SUMMARY - Detection Highlights

SSB170329

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
305 LOUISE-IA-1 02/10/06 07:15 001				
Carbon tetrachloride	0.66 G	0.55	ug/m3	EPA-2 TO-15 SIM
Chloromethane	3.6 G	0.82	ug/m3	EPA-2 TO-15 SIM
Methylene chloride	4.9 G	3.7	ug/m3	EPA-2 TO-15 SIM
305 LOUISE-IA-2 02/10/06 07:15 002				
Bromodichloromethane	0.45	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	0.68	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.38	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	1.6	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.048	0.010	ug/m3	EPA-2 TO-15 SIM
Methylene chloride	2.6	0.42	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	0.11	0.11	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	0.17	0.013	ug/m3	EPA-2 TO-15 SIM
305 LOUISE-SG 02/10/06 07:30 003				
Bromodichloromethane	0.25	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	0.36	0.063	ug/m3	EPA-2 TO-15 SIM
Chloroform	0.82	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	1.7	0.093	ug/m3	EPA-2 TO-15 SIM
1,3-Dichlorobenzene	8.9	0.27	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	2.8	0.27	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	0.033	0.010	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	0.037	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	0.21	0.0064	ug/m3	EPA-2 TO-15 SIM

ANALYTICAL METHODS SUMMARY

E6B170329

PARAMETER	ANALYTICAL METHOD
Volatile Organics by TO15	EPA-2 TO-15
Volatile Organics by TO15 SIM	EPA-2 TO-15 SIM

References:

EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.

SAMPLE SUMMARY

E6B170329

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
HXN65	001	305 LOUISE-IA-1	02/10/06	07:15
HXN68	002	305 LOUISE-IA-2	02/10/06	07:15
HXN7C	003	305 LOUISE-SG	02/10/06	07:30

NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Earth Tech, Inc.

Client Sample ID: 305 LOUISE-IA-1

GC/MS Volatiles

Lot-Sample #...:	E6B170329-001	Work Order #...:	HXN651AE	Matrix.....:	AA
Date Sampled...:	02/10/06 07:15	Date Received...:	02/16/06		
Prep Date.....:	02/22/06	Analysis Date...:	02/22/06		
Prep Batch #...:	6059234	Analysis Time...:	16:19		
Dilution Factor:	8.8				
Analyst ID.....:	341569	Instrument ID...:	MSB		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND G	8.0	ug/m3
1,1,1,2-Tetrachloroethane	ND G	120	ug/m3

NOTE(S):

G: Elevated reporting limit. The reporting limit is elevated due to matrix interference.

Earth Tech, Inc.

Client Sample ID: 305-LOUISE-IA-1

GC/MS Volatiles

Lot-Sample #...:	E6B170329-001	Work Order #...:	HNN651AD	Matrix.....:	AA
Date Sampled...:	02/10/06 07:15	Date Received...:	02/16/06		
Prep Date.....:	02/28/06	Analysis Date...:	02/28/06		
Prep Batch #...:	6060499	Analysis Time...:	05:09		
Dilution Factor:	8.8				
Analyst ID.....:	341569	Instrument ID...:	MSD		
		Method.....:	EPA-2 TO-15 SIM		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	ND G	0.66	ug/m3
Carbon tetrachloride	0.66 G	0.55	ug/m3
Chlorobenzene	ND G	0.81	ug/m3
Chloroform	ND G	0.60	ug/m3
Chloromethane	3.6 G	0.82	ug/m3
1,2-Dichlorobenzene	ND G	2.4	ug/m3
1,3-Dichlorobenzene	ND G	2.4	ug/m3
1,4-Dichlorobenzene	ND G	2.4	ug/m3
1,1-Dichloroethane	ND G	0.088	ug/m3
1,2-Dichloroethane	ND G	0.088	ug/m3
cis-1,2-Dichloroethene	ND G	0.49	ug/m3
trans-1,2-Dichloroethene	ND G	0.49	ug/m3
1,1-Dichloroethene	ND G	0.35	ug/m3
Methylene chloride	4.9 G	3.7	ug/m3
Tetrachloroethene	ND G	1.2	ug/m3
1,1,1-Trichloroethane	ND G	0.97	ug/m3
1,1,2-Trichloroethane	ND G	0.88	ug/m3
Trichloroethene	ND G	0.11	ug/m3
Vinyl chloride	ND G	0.056	ug/m3

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

Earth Tech, Inc.

Client Sample ID: 305 [illegible]-IA-2

GC/MS Volatiles

Lot-Sample #...:	E6B170329-002	Work Order #...:	HBN681AE	Matrix.....:	AA
Date Sampled...:	02/10/06 07:15	Date Received...:	02/16/06		
Prep Date.....:	02/22/06	Analysis Date..:	02/22/06		
Prep Batch #...:	6059234	Analysis Time..:	15:01		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: 305 HOUSE-IA-2

GC/MS Volatiles

Lot-Sample #...: E6B170329-002 Work Order #...: HXN681AD Matrix.....: AA
Date Sampled...: 02/10/06 07:15 Date Received...: 02/16/06
Prep Date.....: 02/23/06 Analysis Date..: 02/23/06
Prep Batch #...: 6060518 Analysis Time..: 23:48
Dilution Factor: 1
Analyst ID.....: 3410869 Instrument ID...: MSD
Method.....: EPA-2 TO-15 SIM

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	0.45	0.075	ug/m3
Carbon tetrachloride	0.68	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.38	0.068	ug/m3
Chloromethane	1.6	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	ND	0.27	ug/m3
1,4-Dichlorobenzene	ND	0.27	ug/m3
1,1-Dichloroethene	ND	0.010	ug/m3
1,2-Dichloroethane	0.040	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	2.6	0.42	ug/m3
Tetrachloroethene	ND	0.14	ug/m3
1,1,1-Trichloroethane	0.11	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	0.17	0.013	ug/m3
Vinyl chloride	ND	0.0064	ug/m3

Earth Tech, Inc.

Client Sample ID: 305 MOUSE-SS

GC/MS Volatiles

Lot-Sample #...:	E6B170329-003	Work Order #...:	HXN7C1AE	Matrix.....:	AG
Date Sampled...:	02/10/06 07:30	Date Received..:	02/16/06		
Prep Date.....:	02/22/06	Analysis Date..:	02/22/06		
Prep Batch #...:	6059234	Analysis Time..:	14:19		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSE		
		Method.....:	EPA-2 TO-15		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
trans-1,3-Dichloropropene	ND	0.91	ug/m3
1,1,1,2-Tetrachloroethane	ND	14	ug/m3

Earth Tech, Inc.

Client Sample ID: 305 LOUISE-SG

GC/MS Volatiles

Lot-Sample #...:	E6B170329-009	Work Order #...:	HXN7C1AD	Matrix.....:	AG
Date Sampled...:	02/10/06 07:30	Date Received..:	02/16/06		
Prep Date.....:	02/23/06	Analysis Date..:	02/23/06		
Prep Batch #...:	6060518	Analysis Time..:	23:06		
Dilution Factor:	1				
Analyst ID.....:	341569	Instrument ID..:	MSD		
		Method.....:	EPA-2 TO-15 SIM		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Bromodichloromethane	0.25	0.075	ug/m3
Carbon tetrachloride	0.36	0.063	ug/m3
Chlorobenzene	ND	0.092	ug/m3
Chloroform	0.82	0.068	ug/m3
Chloromethane	1.7	0.093	ug/m3
1,2-Dichlorobenzene	ND	0.27	ug/m3
1,3-Dichlorobenzene	8.9	0.27	ug/m3
1,4-Dichlorobenzene	2.8	0.27	ug/m3
1,1-Dichloroethane	ND	0.010	ug/m3
1,2-Dichloroethane	0.033	0.010	ug/m3
cis-1,2-Dichloroethene	ND	0.056	ug/m3
trans-1,2-Dichloroethene	ND	0.056	ug/m3
1,1-Dichloroethene	ND	0.040	ug/m3
Methylene chloride	ND	0.42	ug/m3
Tetrachloroethene	ND	0.14	ug/m3
1,1,1-Trichloroethane	ND	0.11	ug/m3
1,1,2-Trichloroethane	ND	0.10	ug/m3
Trichloroethene	0.037	0.013	ug/m3
Vinyl chloride	0.21	0.0064	ug/m3

SEVERN TRENT STL

QA/QC

QC DATA ASSOCIATION SUMMARY

E6B1703B29

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	AA	EPA-2 TO-15 SIM		6060499	
	AA	EPA-2 TO-15		6059234	
002	AA	EPA-2 TO-15 SIM		6060518	
	AA	EPA-2 TO-15		6059234	
003	AA	EPA-2 TO-15 SIM		6060518	
	AA	EPA-2 TO-15		6059234	

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #....: B6B170329 Work Order #....: H0A2918A Matrix.....: AIR
MB Lot-Sample #: M6B280000-234

Prep Date.....: 02/22/06 Analysis Time..: 12:58
Analysis Date...: 02/22/06 Prep Batch #....: 6059234 Instrument ID...: MSS
Dilution Factor: 1

Analyst ID.....: 341569

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
trans-1,3-Dichloropropene	ND	0.91	ug/m3	EPA-2 TO-15
1,1,1,2-Tetrachloroethane	ND	14	ug/m3	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E6B170329 Work Order #....: H0FGN1AA Matrix.....: AIR
MB Lot-Sample #: M6C010000-499

Prep Date.....: 02/27/06 Analysis Time...: 15:45
Analysis Date..: 02/27/06 Prep Batch #...: 6060499 Instrument ID..: MSD
Dilution Factor: 1

Analyst ID.....: 341569

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Bromodichloromethane	ND	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	ND	0.063	ug/m3	EPA-2 TO-15 SIM
Chlorobenzene	ND	0.092	ug/m3	EPA-2 TO-15 SIM
Chloroform	ND	0.060	ug/m3	EPA-2 TO-15 SIM
Chloromethane	ND	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,3-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethene	ND	0.040	ug/m3	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
Methylene chloride	ND	0.42	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	ND	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	ND	0.11	ug/m3	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	ND	0.10	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	ND	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	ND	0.0064	ug/m3	EPA-2 TO-15 SIM

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E6B170329
MB Lot-Sample #: M6C010000-518

Work Order #...: H0FKX1AA
Prep Date.....: 02/23/06
Prep Batch #...: 6060518
Analyst ID.....: 341569

Matrix.....: AIR
Analysis Time..: 13:14
Instrument ID..: MSD

Analysis Date..: 02/23/06
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Bromodichloromethane	ND	0.075	ug/m3	EPA-2 TO-15 SIM
Carbon tetrachloride	ND	0.063	ug/m3	EPA-2 TO-15 SIM
Chlorobenzene	ND	0.092	ug/m3	EPA-2 TO-15 SIM
Chloroform	ND	0.068	ug/m3	EPA-2 TO-15 SIM
Chloromethane	ND	0.093	ug/m3	EPA-2 TO-15 SIM
1,2-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,3-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,4-Dichlorobenzene	ND	0.27	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,2-Dichloroethane	ND	0.010	ug/m3	EPA-2 TO-15 SIM
1,1-Dichloroethene	ND	0.040	ug/m3	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	ND	0.056	ug/m3	EPA-2 TO-15 SIM
Methylene chloride	ND	0.42	ug/m3	EPA-2 TO-15 SIM
Tetrachloroethene	ND	0.14	ug/m3	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	ND	0.11	ug/m3	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	ND	0.10	ug/m3	EPA-2 TO-15 SIM
Trichloroethene	ND	0.013	ug/m3	EPA-2 TO-15 SIM
Vinyl chloride	ND	0.0064	ug/m3	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: H6B170329 Work Order #...: H0A291AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6B280000-234 H0A291AD-LCSD
Prep Date.....: 02/22/06 Analysis Date..: 02/22/06
Prep Batch #...: 6059234 Analysis Time..: 11:39
Dilution Factor: 1 Instrument ID..: MSE
Analyst ID.....: 341569

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	79	(70 - 130)			EPA-2 TO-15
	77	(70 - 130)	2.3	(0-30)	EPA-2 TO-15
Methylene chloride	87	(65 - 125)			EPA-2 TO-15
	87	(65 - 125)	0.070	(0-30)	EPA-2 TO-15
Trichloroethene	96	(65 - 135)			EPA-2 TO-15
	100	(65 - 135)	3.4	(0-30)	EPA-2 TO-15
Toluene	77	(65 - 135)			EPA-2 TO-15
	89	(65 - 135)	14	(0-30)	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	73	(55 - 135)			EPA-2 TO-15
	81	(55 - 135)	11	(0-30)	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E6B170329 Work Order #....: H0A291AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6B280000-234 H0A291AD-LCSD
Prep Date.....: 02/22/06 Analysis Date..: 02/22/06
Prep Batch #....: 6059234 Analysis Time..: 11:39
Dilution Factor: 1 Instrument ID..: MSB
Analyst ID.....: 341569

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,1-Dichloroethene	59.4	46.8	ug/m3	79		EPA-2 TO-15
	59.4	45.7	ug/m3	77	2.3	EPA-2 TO-15
Methylene chloride	52.0	45.1	ug/m3	87		EPA-2 TO-15
	52.0	45.2	ug/m3	87	0.070	EPA-2 TO-15
Trichloroethene	80.4	77.4	ug/m3	96		EPA-2 TO-15
	80.4	80.1	ug/m3	100	3.4	EPA-2 TO-15
Toluene	56.4	43.3	ug/m3	77		EPA-2 TO-15
	56.4	49.9	ug/m3	89	14	EPA-2 TO-15
1,1,2,2-Tetrachloroethane	103	75.3	ug/m3	73		EPA-2 TO-15
	103	83.7	ug/m3	81	11	EPA-2 TO-15

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.

LABORATORY CONTROL SAMPLE DUPLICATE REPORT

GC/MS Volatiles

Client Lot #...: E6B170329 Work Order #...: H0FGN1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6C010000-499 H0FGN1AD-LCSD
Prep Date.....: 02/27/06 Analysis Date..: 02/27/06
Prep Batch #...: 6060499 Analysis Time..: 13:42
Dilution Factor: 1 Instrument ID..: MSD
Analyst ID.....: 341569

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	104	(70 - 125)			EPA-2 TO-15 SIM
	97	(70 - 125)	6.3	(0-20)	EPA-2 TO-15 SIM
1,1-Dichloroethene	104	(70 - 120)			EPA-2 TO-15 SIM
	105	(70 - 120)	1.3	(0-20)	EPA-2 TO-15 SIM
Tetrachloroethene	97	(70 - 125)			EPA-2 TO-15 SIM
	96	(70 - 125)	0.89	(0-20)	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	105	(70 - 130)			EPA-2 TO-15 SIM
	105	(70 - 130)	0.58	(0-20)	EPA-2 TO-15 SIM
Trichloroethene	107	(70 - 120)			EPA-2 TO-15 SIM
	102	(70 - 120)	4.5	(0-20)	EPA-2 TO-15 SIM
Vinyl chloride	105	(70 - 125)			EPA-2 TO-15 SIM
	100	(70 - 125)	4.6	(0-20)	EPA-2 TO-15 SIM
Chloroform	107	(75 - 120)			EPA-2 TO-15 SIM
	107	(75 - 120)	0.42	(0-20)	EPA-2 TO-15 SIM
1,1-Dichloroethane	103	(70 - 120)			EPA-2 TO-15 SIM
	102	(70 - 120)	0.89	(0-20)	EPA-2 TO-15 SIM
1,2-Dichloroethane	105	(70 - 125)			EPA-2 TO-15 SIM
	100	(70 - 125)	4.9	(0-20)	EPA-2 TO-15 SIM
Methylene chloride	108	(65 - 120)			EPA-2 TO-15 SIM
	107	(65 - 120)	1.1	(0-20)	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	100	(70 - 120)			EPA-2 TO-15 SIM
	101	(70 - 120)	0.81	(0-20)	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	102	(65 - 120)			EPA-2 TO-15 SIM
	101	(65 - 120)	0.46	(0-20)	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	104	(70 - 130)			EPA-2 TO-15 SIM
	101	(70 - 130)	2.7	(0-20)	EPA-2 TO-15 SIM
Bromodichloromethane	110	(70 - 120)			EPA-2 TO-15 SIM
	108	(70 - 120)	2.1	(0-20)	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E6B170329 Work Order #...: H0FGN1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6C010000-499 H0FGN1AD-LCSD
Prep Date.....: 02/27/06 Analysis Date..: 02/27/06
Prep Batch #...: 6060499 Analysis Time..: 13:42
Dilution Factor: 1 Instrument ID..: MSD
Analyst ID.....: 341569

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Benzene	1.59	1.66	ug/m3	104		EPA-2 TO-15 SIM
	1.59	1.55	ug/m3	97	6.3	EPA-2 TO-15 SIM
1,1-Dichloroethene	1.98	2.05	ug/m3	104		EPA-2 TO-15 SIM
	1.98	2.08	ug/m3	105	1.3	EPA-2 TO-15 SIM
Tetrachloroethene	3.38	3.29	ug/m3	97		EPA-2 TO-15 SIM
	3.38	3.26	ug/m3	96	0.89	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	2.72	2.86	ug/m3	105		EPA-2 TO-15 SIM
	2.72	2.87	ug/m3	105	0.53	EPA-2 TO-15 SIM
Trichloroethene	2.68	2.86	ug/m3	107		EPA-2 TO-15 SIM
	2.68	2.73	ug/m3	102	4.5	EPA-2 TO-15 SIM
Vinyl chloride	1.28	1.34	ug/m3	105		EPA-2 TO-15 SIM
	1.28	1.28	ug/m3	100	4.6	EPA-2 TO-15 SIM
Chloroform	2.44	2.61	ug/m3	107		EPA-2 TO-15 SIM
	2.44	2.62	ug/m3	107	0.41	EPA-2 TO-15 SIM
1,1-Dichloroethane	2.02	2.08	ug/m3	103		EPA-2 TO-15 SIM
	2.02	2.06	ug/m3	102	0.89	EPA-2 TO-15 SIM
1,2-Dichloroethane	2.02	2.13	ug/m3	105		EPA-2 TO-15 SIM
	2.02	2.02	ug/m3	100	4.9	EPA-2 TO-15 SIM
Methylene chloride	1.73	1.87	ug/m3	108		EPA-2 TO-15 SIM
	1.73	1.85	ug/m3	107	1.1	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	2.72	2.72	ug/m3	100		EPA-2 TO-15 SIM
	2.72	2.75	ug/m3	101	0.81	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	1.98	2.01	ug/m3	102		EPA-2 TO-15 SIM
	1.98	2.00	ug/m3	101	0.45	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	1.98	2.06	ug/m3	104		EPA-2 TO-15 SIM
	1.98	2.00	ug/m3	101	2.7	EPA-2 TO-15 SIM
Bromodichloromethane	3.34	3.68	ug/m3	110		EPA-2 TO-15 SIM
	3.34	3.60	ug/m3	108	2.1	EPA-2 TO-15 SIM

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #...: E6B170329 Work Order #...: H0FKX1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6C010000-518 H0FKX1AD-LCSD
Prep Date.....: 02/23/06 Analysis Date..: 02/23/06
Prep Batch #...: 6060518 Analysis Time..: 11:49
Dilution Factor: 1 Instrument ID..: MSD
Analyst ID.....: 341569

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
1,1-Dichloroethene	**98**	**(70 - 120)**			**EPA-2 TO-15 SIM**
	98	**(70 - 120)**	**0.30**	**(0-20)**	**EPA-2 TO-15 SIM**
Tetrachloroethene	**99**	**(70 - 125)**			**EPA-2 TO-15 SIM**
	100	**(70 - 125)**	**1.2**	**(0-20)**	**EPA-2 TO-15 SIM**
1,1,1-Trichloroethane	**102**	**(70 - 130)**			**EPA-2 TO-15 SIM**
	105	**(70 - 130)**	**2.3**	**(0-20)**	**EPA-2 TO-15 SIM**
Trichloroethene	**108**	**(70 - 120)**			**EPA-2 TO-15 SIM**
	108	**(70 - 120)**	**0.27**	**(0-20)**	**EPA-2 TO-15 SIM**
Vinyl chloride	**109**	**(70 - 125)**			**EPA-2 TO-15 SIM**
	113	**(70 - 125)**	**4.4**	**(0-20)**	**EPA-2 TO-15 SIM**
Chloroform	**100**	**(75 - 120)**			**EPA-2 TO-15 SIM**
	102	**(75 - 120)**	**1.6**	**(0-20)**	**EPA-2 TO-15 SIM**
1,1-Dichloroethane	**92**	**(70 - 120)**			**EPA-2 TO-15 SIM**
	95	**(70 - 120)**	**3.2**	**(0-20)**	**EPA-2 TO-15 SIM**
1,2-Dichloroethane	**106**	**(70 - 125)**			**EPA-2 TO-15 SIM**
	107	**(70 - 125)**	**1.1**	**(0-20)**	**EPA-2 TO-15 SIM**
Methylene chloride	**95**	**(65 - 120)**			**EPA-2 TO-15 SIM**
	99	**(65 - 120)**	**4.0**	**(0-20)**	**EPA-2 TO-15 SIM**
1,1,2-Trichloroethane	**103**	**(70 - 120)**			**EPA-2 TO-15 SIM**
	106	**(70 - 120)**	**2.9**	**(0-20)**	**EPA-2 TO-15 SIM**
cis-1,2-Dichloroethene	**100**	**(65 - 120)**			**EPA-2 TO-15 SIM**
	100	**(65 - 120)**	**0.23**	**(0-20)**	**EPA-2 TO-15 SIM**
trans-1,2-Dichloroethene	**98**	**(70 - 130)**			**EPA-2 TO-15 SIM**
	100	**(70 - 130)**	**1.4**	**(0-20)**	**EPA-2 TO-15 SIM**
Bromodichloromethane	**113**	**(70 - 120)**			**EPA-2 TO-15 SIM**
	115	**(70 - 120)**	**1.8**	**(0-20)**	**EPA-2 TO-15 SIM**

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E6B170329 Work Order #...: H0FKX1AC-LCS Matrix.....: AIR
LCS Lot-Sample#: M6C010000-518 H0FKX1AD-LCSD
Prep Date.....: 02/23/06 Analysis Date..: 02/23/06
Prep Batch #...: 6060518 Analysis Time..: 11:49
Dilution Factor: 1 Instrument ID..: MSD
Analyst ID.....: 341569

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,1-Dichloroethene	3.96	3.87	ug/m3	98		EPA-2 TO-15 SIM
	3.96	3.88	ug/m3	98	0.30	EPA-2 TO-15 SIM
Tetrachloroethene	6.77	6.72	ug/m3	99		EPA-2 TO-15 SIM
	6.77	6.80	ug/m3	100	1.2	EPA-2 TO-15 SIM
1,1,1-Trichloroethane	5.45	5.56	ug/m3	102		EPA-2 TO-15 SIM
	5.45	5.70	ug/m3	105	2.3	EPA-2 TO-15 SIM
Trichloroethene	5.36	5.77	ug/m3	108		EPA-2 TO-15 SIM
	5.36	5.79	ug/m3	108	0.27	EPA-2 TO-15 SIM
Vinyl chloride	2.55	2.77	ug/m3	109		EPA-2 TO-15 SIM
	2.55	2.90	ug/m3	113	4.4	EPA-2 TO-15 SIM
Chloroform	4.87	4.88	ug/m3	100		EPA-2 TO-15 SIM
	4.87	4.96	ug/m3	102	1.6	EPA-2 TO-15 SIM
1,1-Dichloroethane	4.04	3.71	ug/m3	92		EPA-2 TO-15 SIM
	4.04	3.83	ug/m3	95	3.2	EPA-2 TO-15 SIM
1,2-Dichloroethane	4.04	4.28	ug/m3	106		EPA-2 TO-15 SIM
	4.04	4.33	ug/m3	107	1.1	EPA-2 TO-15 SIM
Methylene chloride	3.47	3.31	ug/m3	95		EPA-2 TO-15 SIM
	3.47	3.44	ug/m3	99	4.0	EPA-2 TO-15 SIM
1,1,2-Trichloroethane	5.45	5.62	ug/m3	103		EPA-2 TO-15 SIM
	5.45	5.78	ug/m3	106	2.9	EPA-2 TO-15 SIM
cis-1,2-Dichloroethene	3.96	3.94	ug/m3	100		EPA-2 TO-15 SIM
	3.96	3.95	ug/m3	100	0.23	EPA-2 TO-15 SIM
trans-1,2-Dichloroethene	3.96	3.89	ug/m3	98		EPA-2 TO-15 SIM
	3.96	3.94	ug/m3	100	1.4	EPA-2 TO-15 SIM
Bromodichloromethane	6.69	7.53	ug/m3	113		EPA-2 TO-15 SIM
	6.69	7.66	ug/m3	115	1.8	EPA-2 TO-15 SIM

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters.