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QUARTERLY MONITORING DATA REPORT OCTOBER 1, 2002 THROUGH DECEMBER 31, 2002 AND 2002 PERFORMANCE EVALUATION REPORT

VAC AIR ALLOYS DIVISION
FREWSBURG, NEW YORK

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QUARTERLY MONITORING DATA REPORT OCTOBER 1, 2002 THROUGH DECEMBER 31, 2002 AND 2002 PERFORMANCE EVALUATION REPORT

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1.0 INTRODUCTION

Keywell L.L.C. (Keywell) has implemented a Remedial Action (RA) at its VacAir Alloys Division Plant (Site) in Frewsburg, New York. The RA for the Site is outlined in the Record of Decision (ROD) dated March 1996 and the "Evaluation of North Soil Area Remedial Alternatives" (North Soil Area Report) as revised July 1996. The RA consists of:

i) institutional controls;

ii) long-term groundwater monitoring;

iii) paving of unpaved areas north of the Plant;

iv) runoff isolation;

v) sediment excavation and off-Site disposal;

vi) groundwater extraction and treatment;

vii) surface water discharge of treated groundwater;

viii) in situ soil vapor extraction (SVE);

ix) installation of a barrier wall; and

x) extension of the barrier wall as a contingency.

The construction activities associated with items iii) through ix) were performed between mid-1997 and mid-1998.

The key operating components of the RA are the:

i) groundwater extraction system;

ii) groundwater treatment system;

iii) Center Soil Area in situ SVE system;

iv) north area paving; and

v) runoff isolation systems.

These components are operated and maintained in accordance with the "Operation and Maintenance Plan, Remedial Action" (O&M Plan) dated September 1998.

An effectiveness and performance monitoring program is included in the O&M Plan. The components of the monitoring program are:

i) hydraulic monitoring;

ii) groundwater quality monitoring;

iii) surface water quality monitoring;

iv) seep inspections;

v) treated groundwater discharge monitoring;

vi) groundwater treatment system component monitoring; and

vii) Center Soil Area SVE system monitoring.

The monitoring program is conducted in accordance with the Sampling, Analysis, and Monitoring Plan (SAMP) contained in Appendix A of the O&M Plan. Monitoring is conducted at the frequencies shown in Table 1.1 and the data collected are reported quarterly.

The O&M Plan requires that a Performance Evaluation Report be prepared and submitted annually. The content of the evaluation report is to include:

i) analytical results and appropriate quality assurance/quality control (QA/QC) data;

ii) groundwater and surface water hydraulic monitoring data;

iii) a description of Site maintenance activities and problems that required corrective action during the reporting period;

iv) an evaluation of the effectiveness of the groundwater extraction system and the Center Soil Area SVE system; and

v) recommendations for any system or monitoring program revisions.

In addition, the New York State Department of Environmental Conservation (NYSDEC), in the letter from Mr. G.P. Sutton to Mr. D. Trostle (VacAir) dated December 22, 1999, specifically requested that the Performance Evaluation Report document:

i) the inward hydraulic gradient provided by the groundwater extraction system;

ii) that the barrier wall system is functioning as designed; and

iii) that the SVE system is functioning as designed and is removing the design loading expected from the Center Soil Area.

The purpose of this report is to present:

i) the Fourth Quarter Monitoring Data Report, October 1, 2002 through December 31, 2002; and

ii) the 2002 Performance Evaluation Report.

The report is organized as follows:

- Section 1.0 Introduction. An overview of the RA and monitoring programs and a description of the scope of this report is presented in Section 1;
- Section 2.0 Fourth Quarter Report. The fourth quarter 2002 operating and monitoring data are presented in Section 2;
- Section 3.0 Summary of System Operation and Maintenance. A summary of the operating and monitoring data collected since system startup is presented in Section 3;
- Section 4.0 Performance Evaluation. An evaluation of the performance and effectiveness of the RA is presented in Section 4;
- Section 5.0 Groundwater Geochemical Characterization. Results of groundwater geochemical analyses are presented in Section 5; and
- Section 6.0 Conclusions and Recommendations. Conclusions regarding the performance and effectiveness of the RA and recommendations for modifications to the operating and monitoring programs are presented in Section 6.

2.0 FOURTH QUARTER 2002 REPORT

The Monitoring Report for the fourth quarter 2002 is presented in Appendix A.

3.0 SUMMARY OF 2002 SYSTEM OPERATION AND MAINTENANCE

Details of the operation and maintenance of the groundwater extraction and treatment systems have been presented in the quarterly reports submitted to NYSDEC. These quarterly reports have been submitted for each calendar quarter beginning with the third quarter (July 1 through September 30) of 1998. The following subsections present compilations of the operating data for the period of January 1, 2002 through December 31, 2002, and summary descriptions of problems encountered and maintenance performed. All information presented herein has been presented previously in the quarterly reports.

3.1 ROUTINE OPERATIONS

Keywell employees operate, monitor, and maintain the SVE, groundwater extraction, and treatment systems and perform all routine system and environmental monitoring activities. Employees trained and familiar with the Site and the treatment plant operations during this reporting period were:

i) Chuck Becker;

ii) Kevin Niles; and

iii) Dennis Trostle.

Analytical samples are sent to a contract laboratory for analyses. All sample analyses are performed in accordance with the applicable methods.

A summary of the types and frequencies of the samples collected during this annual evaluation period is presented in Table 1.1.

3.2 GROUNDWATER TREATMENT SYSTEM OPERATION AND DISCHARGE MONITORING

A water treatment system designed to minimize the buildup of iron deposits on the stripper trays was installed on September 14, 1999. This system reduced but did not eliminate the formation of iron deposits; therefore, periodic cleaning of the stripper trays is required. During this annual evaluation period, the air stripper was shut down and the trays cleaned on January 30, August 19, and October 9.

During 2002, treated water (effluent) samples were analyzed for volatile organic compounds (VOCs) and pH monthly and for oil and grease, aluminum, iron, and zinc semi-annually (see Table 1.1). Tabulations of the effluent monitoring data and calculated discharged loadings are contained in Appendix B.

The treated water analytical data presented in Appendix B has been compared to the effluent discharge limits shown in Table 3.1. This comparison shows that, except on April 4, 2002 when total VOCs were 26.9 micrograms per liter (µg/L) versus the permitted daily maximum of 10 µg/L, the treated effluent was in compliance with the effluent discharge requirements throughout 2002.

3.3 GROUNDWATER/CREEK HYDRAULIC MONITORING

During 2002, hydraulic monitoring was performed at least quarterly in all extraction wells, monitoring wells, and piezometers. In addition, water levels were measured monthly in extraction wells EW-5 and EW-12 and, in October through December 2002, in EW-13 through EW-18. The tabulated water level elevation data are presented in Appendix C. The locations of the monitoring wells and piezometers are shown on Figure 3.1.

3.4 GROUNDWATER QUALITY MONITORING

The current groundwater monitoring program is summarized in Table 1.1 of this report. The locations of the groundwater quality monitoring points are shown on Figure 3.1.

The groundwater quality data and analytical data assessments and validations have been submitted previously in the quarterly reports. For reference purposes, the data assessment and validation reports prepared for sampling conducted during this annual evaluation period are contained in Appendix D. A complete groundwater analytical database is presented in Appendix E.

3.5 GROUNDWATER EXTRACTION OPERATION AND RATE

Under normal operating conditions, groundwater extraction occurs automatically and continuously. Flow is regulated through water level measurement and automatic flow control.

Monthly, maximum daily, and/or total volumes of groundwater extracted have been reported in the quarterly reports. These extraction rate data for 2002 have been compiled and are presented with previous data in Table 3.2. The operating hours of the extraction and SVE systems during 2002 are presented in Table 3.3. These operating times were used in the calculation of average monthly flow. As the information in Table 3.3 show, each branch of the groundwater extraction system operated approximately 90 percent of the total available time in the reporting period.

3.6 SVE SYSTEM

3.6.1 ROUTINE OPERATION

As shown on Table 3.3, the SVE system was operated continuously between January 1, 2002 and July 9, 2002. NYSDEC approved the shut down of the SVE system to allow groundwater in the area to equilibrate prior to sampling for analyses of natural attenuation parameters (see Section 5).

The SVE wells were maintained in a dewatered state during the operating period as shown by the water level data for the extraction wells presented in Appendix C. To increase the retention time between soil and vapor, cyclic operation of the SVE branches of the system was initiated in April 2001 and continued through July 8, 2002 when the system was shut down.

As discussed in previous Performance Evaluation Reports, the concentrations of trichloroethene (TCE) detected in routine monitoring of extracted soil vapors was lower than expected. The routine vapor samples were collected at the blower exhaust, and, therefore, were mixed with ambient air. Other possible causes of the absence of TCE in the blower exhaust are:

i) failure to dewater the SVE wells and expose the well screens;

ii) insufficient retention time between the soil and vapor to allow attenuation of TCE; and/or

iii) sedimentation or fouling of well screens and/or dip tubes preventing the extraction of groundwater or soil vapor.

These potential causes were eliminated through the performance of an extensive troubleshooting and repair program between February 2000 and December 2001.

3.6.2 SVE SYSTEM EFFECTIVENESS MONITORING

Routine monitoring of the SVE system consists of field screening of soil vapor samples for TCE using Drager tubes and collection and analysis of groundwater samples from monitoring well MW-11. As part of the continuing effort to evaluate the performance of the SVE system in the Center Soil Area, additional soil vapor and groundwater samples were collected and analyzed as described in the following subsections.

3.6.2.1 SOIL VAPOR ANALYSES

Routine measurement of TCE in vapor samples collected from the SVE system blower exhaust, first carbon drum outlet, and second carbon drum outlet was performed at least weekly during the operating period. A tabulation of the routine SVE monitoring data is presented in Appendix F.

As shown by the data presented in Appendix F, TCE was not detected in the routine samples of vapor effluent. To evaluate whether these data were representative of the quality of vapor extracted, and thusly the effectiveness of the SVE system, samples of vapor effluent were collected on two occasions, April 18, 2002 and July 2, 2002, using Summa canisters and sent to an accredited laboratory for analyses of VOCs.

Influent to the SVE comes from two branches of vapor extraction wells; the "even" branch which delivers the combined vapors from wells SVE-14, SVE-16, and SVE-18 and the "odd" branch which delivers the combined vapors from wells SVE-13, SVE-15, and SVE-17. Each branch is fitted with a three-way valve which can be positioned so that each branch is:

i) connected to the vacuum system;

ii) isolated from the vacuum system; or

iii) isolated from the vacuum system but open to the introduction of ambient air.

For both of the special sampling events, the vapor samples were collected from a sample port on the influent side of the blower as follows:

i) a length of new teflon tubing was connected from the sample port to a laboratory-supplied Summa canister fitted with a filter and pressure gauge;

ii) the valve on the canister was opened slightly, allowing the vacuum in the canister to draw in vapor from the SVE system. While the canister was filling, the tubing was closely observed to assure that moisture was not entrained in the sample; and

iii) when the vacuum in the SVE system and the vacuum in the Summa canister equilibrated, the canister was closed, a label was affixed, and the canister was shipped to the analytical laboratory following Chain of Custody procedures.

A schematic diagram of the SVE system including the sample locations is shown on Figure 3.2.

On April 18, discrete samples were collected from the even and odd branches. Prior to sampling, the SVE system was in operation with both branches under vacuum. To collect the sample from the even branch, the three-way valve was closed, isolating the odd branch from the SVE system. The sample was collected following the procedure described above. In preparation for sampling the odd branch, the three-way valves were switched so that the odd branch was under vacuum and the even branch was isolated from the system. The system was allowed to operate for 1 hour after switching the branches and prior to collection of the vapor sample.

On July 2, a sample was collected of the combined influent to the SVE system in addition to discrete samples from the even and odd SVE branches. The combined sample was collected with both branches under vacuum. The valves were switched and after waiting one hour, the even branch was sampled. Then the valves were switched again so that the odd branch was under vacuum and the even branch was isolated. After 1 hour the sample was collected from the odd branch.

A summary of the vapor quantitative analytical data is presented in Table 3.4 and analytical data validation reports are presented in Appendix D. The vapor analytical data show an average concentration of TCE of approximately 89,500 micrograms per cubic meter ($\mu g/m^3$), or 89.5 parts per million (ppm), in effluent from the even-numbered branch of SVE wells and approximately 220 ppm from the odd-numbered branch. The combined effluent was sampled only in July 2002 and the analysis of the sample showed 21 ppm TCE versus the additive total from the individual branch analyses on that date of 409 ppm. Since all samples cannot be collected simultaneously, this difference in concentration may be either a result of the operating time of the branches or dilution effects within the system. No other VOCs were detected in any of the vapor samples.

These data demonstrate that the SVE system does effectively remove soil vapors containing VOCs. The dilution of the VOCs between the extraction points and the routine sample point is due primarily to the introduction of ambient air through the vacuum relief system. As described in the Pre-Design Study Report, the permeability of soils in the Center Soil Area is low, 10^{-7} to 10^{-9} cm^2; therefore, although air flow through the SVE system is not metered, the extracted volume of vapor is undoubtedly low. This is further substantiated by the observation that the vacuum relief valve opens frequently to lower the vacuum pressure in the system. Under these conditions, dilution of the soil vapor through the maintenance of system vacuum within operating limits (relief of excess vacuum through venting) is reasonable. Further dilution undoubtedly occurs with the Drager method of sampling. Given these factors, it is obvious that the Drager tube sampling does not generate data which is representative of the quality of the vapor extracted.

3.6.2.2 GROUNDWATER ANALYSES

The results of sampling of monitoring well MW-11 are presented with the results of the other groundwater monitoring in the analytical database presented in Appendix E. The water quality in MW-11 is discussed in detail in Section 4.1.2.

During this evaluation period, additional groundwater samples were collected from each of the extraction wells in the Center Soil Area and from the combined effluent from these wells. The extraction well and groundwater effluent analytical data are summarized in Tables 3.5 and 3.6, respectively. Review of the extraction well analytical data shows that the highest concentration of TCE, 68,000 µg/L, is in the vicinity of well EW-17 located in the center of the Center Soil Area. Extraction wells to the north, EW-13 and EW-18, exhibit concentrations of TCE which are an order of magnitude lower than in EW-17. Extraction wells to the south of EW-17, EW-14 through EW-16, exhibit concentrations only approximately 50 percent lower than EW-17 (average 33,000 µg/L versus 68,000 µg/L).

The average concentration of TCE in the groundwater effluent from this area was 22,400 µg/L. Assuming that this concentration is representative of the effluent from the area over the entire year and that the system operated at an extraction rate of approximately 3 gallons per minute (GPM) (the average flow measured January 9, 2002), approximately 268 pounds of TCE were removed by the groundwater extraction wells in the Center Soil Area during 2002.

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3.7 PREVENTATIVE MAINTENANCE

Preventative maintenance is performed on the SVE, groundwater extraction, and treatment systems on an as-needed basis. The maintenance performed has been discussed in detail in the quarterly reports. A summary of the non-routine maintenance performed during this reporting period is presented in Table 3.7.

4.0 PERFORMANCE EVALUATION

The evaluation of the performance of the RA is undertaken to determine:

i) the effectiveness of the SVE system to reduce chemical concentrations in soil from the Center Soil Area and groundwater within the area;

ii) the effectiveness of the barrier wall with respect to its design;

iii) the effectiveness of the extraction system in establishing and maintaining a hydraulic barrier between the source area and Conewango Creek;

iv) the combined effectiveness of the extraction system and barrier wall in preventing the discharge of chemicals in groundwater to Conewango Creek; and

v) the effectiveness of the groundwater extraction and treatment system in removing and treating contaminated groundwater.

In this report, the evaluation of the groundwater extraction system performance and trends in chemical concentrations in groundwater utilizes running or moving average concentrations. A running average was calculated on a well-by-well basis for each set of four data points in the database. For example:

Running Average for sampling result x 4	= average (x_1, x_2, x_3, x_4)
Running Average for sampling result x 5	= average (x_2, x_3, x_4, x_5)
Running Average for sampling result x 6	= average (x_3, x_4, x_5, x_6)

The analytical detection limits for sample analyses at this Site have also been widely variable; therefore, where a compound was not detected, a value equal to the lowest reported detection limit at that location was used in the calculation. When duplicate samples were analyzed, the analytical results of the two samples were averaged and these averages were treated as one data set in the calculation of running averages. Running averages were not calculated for monitoring points with less than four sampling results or for wells not currently included in the monitoring program.

4.1 SVE SYSTEM

The SVE system is installed in the Center Soil Area and functions as a dual phase soil vapor/groundwater extraction system. The extraction wells in this area are designed to be dewatered by groundwater pumping with soil vapors extracted through the exposed well screen in the unsaturated interval. The locations of the SVE wells are shown on Figure 3.1.

4.1.1 SOIL VAPOR

The effectiveness of the removal of VOCs in soil vapor by the SVE system was routinely monitored through the collection and analysis of soil vapor samples from the blower exhaust. The effectiveness of the vapor phase carbon canisters in treating the extracted soil vapor was evaluated by analyses of vapor from the outlet of the primary carbon drum. The polish or second carbon canister was typically not monitored. The data from the blower exhaust samples collected during this annual evaluation period are contained in Appendix F.

As described in Section 3.6.2.1, routine field screening of TCE in the SVE system indicated that the concentration of TCE in the vapor effluent was relatively low. However, quantitative laboratory analyses conducted in April and July 2002 demonstrated that the TCE concentration in extracted soil vapor ranged between approximately 20 and 200 ppm. This new information demonstrated that the SVE system did, in fact, effectively remove TCE from unsaturated soils in the Center Soil Area. Since the volume of vapors extracted from the area are not metered and the routine monitoring data do not reflect the total concentration of TCE in extracted vapor, the mass of TCE removed cannot be estimated.

During this evaluation period, NYSDEC expressed concern regarding the progress of the restoration of groundwater quality in the Center Soil Area. In response to that concern, Keywell initiated an evaluation of remedial technology options for this area. The scope of work was presented in the letter from C. Dunnigan (CRA) to G. Sutton (NYSDEC) dated June 24, 2002. NYSDEC approved the scope of work, including the proposal that the SVE system be shut down since its operation was believed to inhibit the process of anaerobic biodegradation of TCE. The field activities associated with the technology evaluation included:

i) confirmatory soil vapor analyses;
ii) identification of groundwater hotspots in the Center Soil Area; and
iii) definition of geochemical conditions.

The results of the confirmatory soil vapor analyses were discussed previously in Section 3.6.2. A groundwater hotspot in the Center Soil Area, EW-17, was identified through the analyses of groundwater samples from individual wells (see Section 3.6.2.2). The geochemical analytical data are presented and discussed in Section 5.

The analytical data from samples of the Center Soil Area groundwater effluent presented in Table 3.6 demonstrate that the natural process of biodegradation of TCE was beginning to be restored following the shutdown of the SVE system. This is evidenced by the change in the ratios of TCE to 1,2-dichloroethene (1,2-DCE) between the period when the SVE system was operating (January 2002) and when it was not (October and December 2002). Based on the January 2002 analytical data, the ratio of TCE to 1,2-DCE with both the SVE and groundwater extraction systems operating was approximately 16:1. In December 2002, with the SVE system shut down, the ratio was reduced to approximately 7:1 and under a near-static condition in October 2002, neither system operating, the ratio was 1:1. The lower ratios of TCE to 1,2-DCE observed during the SVE shut down period are indicative of biodegradation of TCE. Review of the ratios and system operating records suggests that TCE biodegradation is most efficient when both the SVE and groundwater extraction systems are shut down as in October 2002. Under those conditions, the system is less aerobic and thus more favorable for biodegradation of TCE than with either or both of the remedial systems operating.

4.1.2 GROUNDWATER

The maintenance activities performed in 2000 and 2001 have been successful in optimizing the groundwater extraction from the SVE wells and thus maintaining a dewatered condition in the area. The groundwater contours presented on Figures 4.1 through 4.4 demonstrate that continued operation of the groundwater extraction system has maintained the area of influence of the two branches across the entire chemical plume.

Groundwater quality in the area of the SVE system is evaluated using the data from monitoring well MW-11. The running average concentrations of TCE, 1,2-DCE, and vinyl chloride in well MW-11 have been calculated and graphed versus time. The graph is presented on Figure 4.5. The graph shows that the running average concentration of TCE has been reduced at least 74 percent since the startup of the groundwater extraction system (from 46,000 µg/L in October 1998 to 17,000 µg/L in October 2002). The increasing running averages shown on Figure 4.5 between April 1999 and January 2000 are representative of a period during which operation of the groundwater extraction and SVE systems in this area was intermittent. After the system(s) began operating continuously decreasing running average concentrations for both TCE and 1,2-DCE are apparent. Well MW-11 was sampled October 24, 2002 immediately following a 5-day shutdown of the groundwater extraction system. The reported concentrations of TCE and 1,2-DCE in that sample, 49,000 µg/L and 12,000 µg/L, respectively, were an order of magnitude higher than in other recent analyses. Well MW-11 was resampled

December 16, 2002 after the groundwater extraction system had run continuously for nearly 2 months. The results obtained from the resampling were 450 µg/L TCE and 290 µg/L 1,2-DCE. The data from monitoring well MW-11 reflect the influence of the operation of the groundwater extraction system in this area: chemical concentrations increased during the shutdown period and decreased again after continual system operation. The pattern of higher TCE concentrations under static conditions is suggestive of solubilization of dense non-aqueous phase liquid (DNAPL) is occurring.

4.2 BARRIER WALL EFFECTIVENESS

The barrier wall was constructed along the northern boundary of the Site to prevent the migration of impacted groundwater to Conewango Creek. The effectiveness of the barrier wall is determined based on the results of seep inspections performed along the creek embankment and the hydraulic and water quality monitoring data from monitoring wells and/or piezometers within and outside the barrier wall.

Monitoring well MW-2 and piezometer PZ-3 are both located hydraulically downgradient of the barrier wall.

Prior to construction of the barrier wall and implementation of the groundwater extraction and treatment system (July 1998), seeps were observed along the sloped area between the Site fence and the Conewango River and lowlying wet area. Seep inspections were conducted quarterly during the first year of extraction system operation and semi-annually thereafter. No seeps have been identified since the startup of the groundwater extraction and treatment system.

It was demonstrated previously that fluctuations in the water table elevation at MW-2 and PZ-3 are related to seasonal conditions and not to changes in the operating parameters of the groundwater extraction system. The absence of a response in the water table outside the barrier wall to groundwater pumping within the barrier wall indicates that the slurry wall is an effective hydraulic barrier. The graph of the running average concentrations of TCE, 1,2-DCE, and vinyl chloride in MW-2 (Figure 4.6) shows that the running average concentration of TCE, which increased in 2001 due to a single detection of 7,700 µg/L in April 2001, remained constant through October 2002. TCE has not been detected in any other sample collected from MW-2 since April 2001. The running average concentration of 1,2-DCE has shown a steadily decreasing trend over the course of the monitoring program. A spike in vinyl chloride concentration in October 2000 also occurred in MW-2. If the sudden increases in TCE and vinyl chloride concentration were a result of a breach in the barrier wall, the increased concentrations

would have remained steady over time and would not have appeared as spikes in the data. There have been no changes in the barrier wall or other construction in the area; therefore, it is not likely that there was a sudden break in the barrier. These elevated reported concentrations are deemed anomalous. Running average concentrations of TCE and vinyl chloride in MW-2 have been calculated both with and without the anomalous data and both are shown on the graph presented on Figure 4.6.

Based on the hydraulic and chemical monitoring data for MW-2 and PZ-3, and the lack of any groundwater seeps, it is concluded that the barrier wall is intact and is functioning as designed. The wall provides a physical barrier to both groundwater flow and chemical migration.

4.3 GROUNDWATER EXTRACTION SYSTEM EFFECTIVENESS

A barrier to groundwater flow toward Conewango Creek is provided by the combination of the barrier wall installed along the north and east boundaries of the Site and the operation of groundwater extraction wells EW-1 through EW-12 located immediately upgradient of the wall. The locations of the barrier wall and extraction wells are shown on Figure 3.1. As described in the previous section, the barrier wall is intact and is functioning as designed. The following section presents an evaluation of the effectiveness of the combined barrier wall/groundwater extraction system in achieving hydraulic containment, particularly beyond the west end of the barrier wall.

As described in Section 3.3, water level data from 19 wells and piezometers are collected routinely and it is primarily these data which have been used in this evaluation. (The hydraulic monitoring database is contained in Appendix C.) Groundwater chemical data are also used in the evaluation. Trends in chemical concentrations in groundwater are evaluated based on the running average concentrations as described previously in this section of the report.

To determine the presence of the hydraulic barrier during this evaluation period, water level data from the quarterly monitoring events have been plotted on a Site plan and potentiometric contours have been drawn (see Figures 4.1 through 4.4). These contours have then been compared to the contours prepared using data collected during a static (non-pumping) period (Figure 4.7) to determine the effect of the barrier wall/pumping system.

4.3.1 EVALUATION OF THE OPERATING PARAMETERS

The operating data presented in Table 3.2 show that the average groundwater extraction rates during 2002 ranged between 6.5 and 15.0 GPM. The average extraction rate during this evaluation period was 9.9 GPM, approximately the same as in 2001. It is estimated that 711 pounds of VOCs were removed from groundwater through the operation of the combined branches (Center Soil and Barrier Wall Areas) of the groundwater extraction system.

The hydraulic monitoring data for the extraction wells presented on Figures 4.1 through 4.4 and in Appendix C show that water levels in the operating extraction wells were generally maintained within the design range.

4.3.2 EVALUATION OF HYDRAULIC CONTAINMENT

The evaluation of hydraulic containment by the groundwater extraction system is made using hydraulic monitoring data, groundwater and surface water analytical data, and the results of the bank (seep) inspections.

4.3.2.1 GROUNDWATER HORIZONTAL FLOW

Figures 4.1 through 4.4 show the potentiometric contours for January 2002, April 2002, July 2002, and October 2002, respectively.

Comparison of the groundwater contours representing groundwater flow under pumping conditions (Figures 4.1 through 4.4) to those representing static or non-pumping conditions (Figure 4.7) clearly demonstrates the effectiveness of the groundwater extraction system in providing hydraulic containment. Prior to the operation of the groundwater extraction system, groundwater flow was from south to north across the Site toward Conewango Creek (see Figure 4.7). The comparison of the pre-pumping potentiometric contours (Figure 4.7) to the pumping contours (Figures 4.1 through 4.4) shows that the barrier wall combined with the operation of the extraction system have altered the groundwater flow pattern and horizontal gradient. With the groundwater extraction system operating, a groundwater depression is evident within the barrier wall and along the extraction well alignment. This cone of influence extends across the SVE area as shown on Figures 4.1 and 4.4. This pattern of groundwater flow demonstrates that a hydraulic barrier between the source area and Conewango Creek is created and maintained by the barrier wall and extraction system. In particular,

hydraulic containment is achieved by the groundwater extraction system (EW-1 through EW-4) beyond the limits of the barrier wall.

Horizontal groundwater flow across the Site under static conditions is generally from north to south. The operation of the extraction system has increased the horizontal hydraulic gradient across the Site from 0.014 prior to the operation of the extraction system to approximately 0.06 in October 2002.

The hydraulic monitoring data demonstrate that groundwater flow at the Site is inward toward the extraction wells.

4.3.2.2 GROUNDWATER QUALITY

In addition to the hydraulic data noted above, the groundwater chemical data confirm the maintenance of hydraulic containment. The complete groundwater and surface water analytical database is contained in Appendix E. The Site-related chemicals present in groundwater are primarily VOCs. Therefore, the evaluation of system performance is limited to the evaluation of the presence of VOCs, specifically TCE, 1,2-DCE, and vinyl chloride.

Based on the October 2002 analytical data, concentrations of TCE, 1,2-DCE, and vinyl chloride in wells MW-1, MW-4D, MW-5, MW-5D, MW-6, MW-7, MW-8, and MW-10 meet the standards for Class GA (potable) groundwater.

The running average concentrations of TCE, 1,2-DCE, and vinyl chloride versus time in the wells in which exceedances of standards were detected in 2002 (MW-2 through MW-4, MW-9, and MW-11 through MW-14) have been graphed and the graphs are presented on Figures 4.5, 4.6, and 4.8 through 4.13. If linear trend lines were plotted on the graphs they would show the following:

i) overall, decreasing running average concentrations of all compounds overall in wells MW-4, MW-9, MW-13, and MW-14;

ii) increasing trends in concentration of 1,2-DCE since April 2000 in MW-4 and since April 2001 in MW-9 and MW-14;

iii) decreasing running average concentrations of TCE and 1,2-DCE and slightly increasing running average concentration of vinyl chloride in MW-3;

iv) increasing overall trends in running average concentrations of 1,2-DCE and TCE in MW-12 but a relatively stable or decreasing TCE concentration since October 2000; and

v) decreasing running average concentrations of TCE with increasing running average concentrations of 1,2-DCE and vinyl chloride in MW-11.

With the groundwater extraction system operating, evaluation of the effectiveness of natural attenuation is difficult. Potential decreases in TCE concentration are masked by higher concentrations drawn into the area through pumping. In addition, the maintenance of the extraction wells in a dewatered condition compromises the naturally occurring anaerobic conditions which are favorable to the biodegradation of TCE. Nonetheless, where either long- or short-term trends show decreasing concentrations of TCE accompanied by increasing trends of 1,2-DCE and/or vinyl chloride (MW-3, MW-4, MW-9, MW-11, and MW-14) these trends are indicative of the recovery of the plume of TCE degradation products and/or natural attenuation through degradation of the TCE in the area.

As shown on Figure 4.11, trends of increasing concentrations of TCE and 1,2-DCE over time are apparent in MW-12; however, the concentrations of TCE have remained stable or decreased since October 2000. Monitoring well MW-12 is located off-Site beyond the limit of the groundwater extraction system and barrier wall. MW-12 was installed in 1993 as part of the Remedial Investigation at the Site and it was known that the extent of the TCE plume extended west of the well location. The source of the TCE in this area was groundwater migration from the Site, in particular from the MW-4 and MW-13 areas. The pre-Remedial Action TCE concentrations in MW-12 ranged from 3,400 to 6,600 µg/L, the current concentration is 2,100 µg/L. Continued migration of the groundwater contaminant plume away from the Site due to lack of containment would be manifested in MW-12 and the nearest on-Site monitoring wells (MW-4 and MW-13) by increasing TCE concentrations. Evaluation of the graphs of running average concentrations versus time for these wells (Figures 4.9, 4.11, and 4.12) shows that the running average concentrations of TCE, which steadily increased between April 1999 and October 2000, are now stable or decreasing as are the TCE concentrations in MW-4 and MW-13. These trends in VOC concentration demonstrate the recovery of the off-Site plume of VOCs in groundwater. The maintenance of the cone of influence around the extraction system has increased the horizontal hydraulic gradient from the vicinity of MW-12 inward toward the extraction system. This gradient has resulted in the migration of the chemical plume which had reached beyond MW-12 back (inward) toward MW-12 and eventually the extraction system.

The current patterns of chemical presence demonstrate that the extraction system is maintaining hydraulic containment of the chemical plume and recovering chemicals from within the plume.

4.3.2.3 SURFACE WATER QUALITY

No seeps have been observed on the bank of Conewango Creek since the commencement of operation of the extraction system. Chemical monitoring of surface water in Conewango Creek was discontinued in 2001 since no chemicals were detected in the surface water samples collected during the monitoring program. However, a sample was collected and analyzed for VOCs in October 2002 and no VOCs were detected. These conditions further demonstrate the effectiveness of the remedial system in providing a barrier to groundwater flow to Conewango Creek.

4.4 CONCLUSION

Given the combined effectiveness of the barrier wall and groundwater extraction system in achieving hydraulic containment, there is no need to implement the contingency plan of the barrier wall extension at this time. In fact, implementation of this contingency could prevent the continued recovery of chemicals in groundwater in the vicinity of MW-12. The trends in chemical concentration in MW-12 as well as the hydraulic containment of the extraction system will continue to be monitored to confirm that there is no migration of chemicals from the Site westward toward MW-12.

5.0 GROUNDWATER GEOCHEMISTRY

To evaluate remedial technology alternatives for the Center Soil Area the existing geochemical conditions needed to be characterized. Therefore, groundwater samples for geochemical analyses were collected in October and December 2002. The SVE component of the Center Soil Area remediation system was shut down on July 9, 2002, nearly 4 months prior to the collection of the samples for geochemical analyses. The results of the analyses are presented in Table 5.1.

Review of the field-generated data following the October 2002 sampling revealed very high concentrations of dissolved oxygen (DO). The concentrations reported were believed to reflect aeration of samples during collection and not in situ conditions. Therefore, a second monitoring event was conducted in December 2002. The field parameters were measured using a downhole instrument (Horiba U20) in December 2002.

The geochemical data suggest that aerobic conditions exist in the Center Soil Area, but anaerobic conditions have existed in the past. Evidence of each is as follows:

	Aerobic		*Anaerobic*
1.	High dissolved oxygen at all locations except background well MW-10 and PZ-1-96.	1.	Ethane and ethene presence in MW-11 and EW-18.
2.	Positive oxidation/reduction potential in all wells except background well MW-10.	2.	Elevated chloride (64.8 milligrams per liter [mg/L]) in EW-18.
3.	Low dissolved iron and manganese compared to total concentrations in all wells.	3.	Zero DO and negative ORP in background well MW-10.
		4.	Presence of methane in background wells MW-1 and MW-10 and in MW-11, EW-16, EW-18.

The geochemical data demonstrate that the conditions in the majority of the wells in the Center Soil Area were still aerobic at the time of sampling. This appears to be the result of operation of the SVE and/or the groundwater extraction system. Although the SVE system was deactivated in early July, the low permeability of the soils has allowed the saturated media to retain oxygen and remain aerobic for a considerable length of time. The groundwater extraction system depresses the groundwater table, which has allowed air/oxygen to infiltrate into the saturated media more easily. It is likely that the media will slowly revert to anaerobic conditions as the oxygen is depleted, unless continued operation of the groundwater extraction system is sufficient to maintain enough oxygen in the media to keep them aerobic. Under undisturbed conditions, the groundwater in

the Center Soil Area would be anaerobic, this condition is represented by the data from well MW-10 located beyond the area of influence of the system, are anaerobic. Conditions in PZ-1-96 located within the Center Soil Area also appear to be anaerobic. As shown on Figures 4.1 through 4.4, hydraulic monitoring data consistently indicate a mounded water surface at PZ-1-96. This mounded water level demonstrates that the well is not hydraulically connected to the surrounding area. This also suggests that the operation of the SVE in the area would have little influence in the immediate vicinity of PZ-1-96, thus that area would remain anaerobic.

not located on figures

TCE does not biodegrade under the aerobic conditions existing in most of the wells sampled. The effectiveness of the naturally-occurring anaerobic biodegradation of TCE may be shown by the geochemical and VOC data from EW-18. The geochemical data from this well indicate that anaerobic conditions have existed in the area. The data presented in Table 3.5 show that the VOC concentrations in EW-18 are the lowest in the area. The low VOC concentrations combined with the elevated chloride concentration confirm the degradation of VOCs. Anaerobic conditions could be enhanced in the Center Soil Area by addition of an organic substrate. The nutrients, nitrogen and phosphorus, were low in the groundwater samples, suggesting that they would also need to be supplemented if anaerobic conditions were to be enhanced.

Doesn't by if anaerobic existed DCE would be higher than TCE

The source(s) of methane in the samples analyzed is difficult to identify. Methane would be present in an anaerobic environment but could also be attributable to the presence of septic system(s) or degradation of organic materials. Anaerobic conditions are required for the biodegradation of TCE. However, in an aerobic system methane would work to cometabolize TCE.

In summary, the Site monitoring data suggest that anaerobic conditions favorable to the biodegradation of TCE are naturally occurring but, in the areas effected by the SVE system, these conditions have been negated and an aerobic environment has been created. To confirm this, the remediation systems in the area would need to be shut down and monitoring performed until a steady state is achieved.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based upon the review of the operating and monitoring data presented in the previous sections of this report, the following conclusions regarding the effectiveness of the remedial systems and recommendations for modification of the operating and monitoring programs are made.

6.1 CONCLUSIONS

1. The monitoring data demonstrate that the Site remediation system is effective in achieving its goals and objectives:
   a) the removal of VOCs from the groundwater and soil thus reducing potential human and environmental risk and restoring water quality; and
   b) prevention of discharge of impacted groundwater to Conewango Creek.
2. The extraction of soil vapor from the SVE area was effective in removing TCE from the unsaturated soils in the Center Soil Area.
3. The groundwater extraction system has operated reliably since its startup. Both the analytical and hydraulic monitoring data demonstrate that the barrier wall and groundwater extraction system are effective in creating a barrier to groundwater flow toward Conewango Creek.
4. No groundwater seeps have been observed since startup of the groundwater extraction system; therefore, there is no potential for adverse impact on surface water quality in the Conewango Creek.
5. Biodegradation of TCE in the Center Soil Area has occurred. However, aerobic conditions, which are unfavorable to the biodegradation of TCE, generally exist in the Center Soil Area at present.
6. Conditions in the Center Soil Area can be supplemented to enhance the biodegradation of TCE in the area.
7. The potential presence of DNAPL in the Center Soil Area significantly impacts the effectiveness of remedial treatment technologies.

6.2 RECOMMENDATIONS

The following recommendations are made for the continuing improvement of the operation of the existing remediation system and evaluation of alternative remedial technologies:

i) the components of the groundwater extraction system will continue to be inspected and repaired as necessary to maintain the optimal operation of the extraction pump. This will include inspecting and replacing, as necessary, gaskets, valves, etc. on the extraction pump, header, and well heads;

ii) the water level elevations in the extraction wells will be closely monitored and well rehabilitation or repair will be performed as necessary to maintain the drawdown in these wells;

iii) if restarted, the vapor effluent from the SVE system will be metered to allow for future quantification of mass removal;

iv) if restarted, quantitative monitoring of the vapor effluent from the SVE system will be performed in the same manner as described in Section 3.6.2.1 of this report on a quarterly basis. Field screening of the vapor discharge from the carbon drums will continue.

No modifications of the operation of the groundwater extraction system are proposed at this time.

The evaluation of alternative remedial technologies will be completed in the near future and will be submitted to NYSDEC as a separate report.

FIGURES

FIGURES

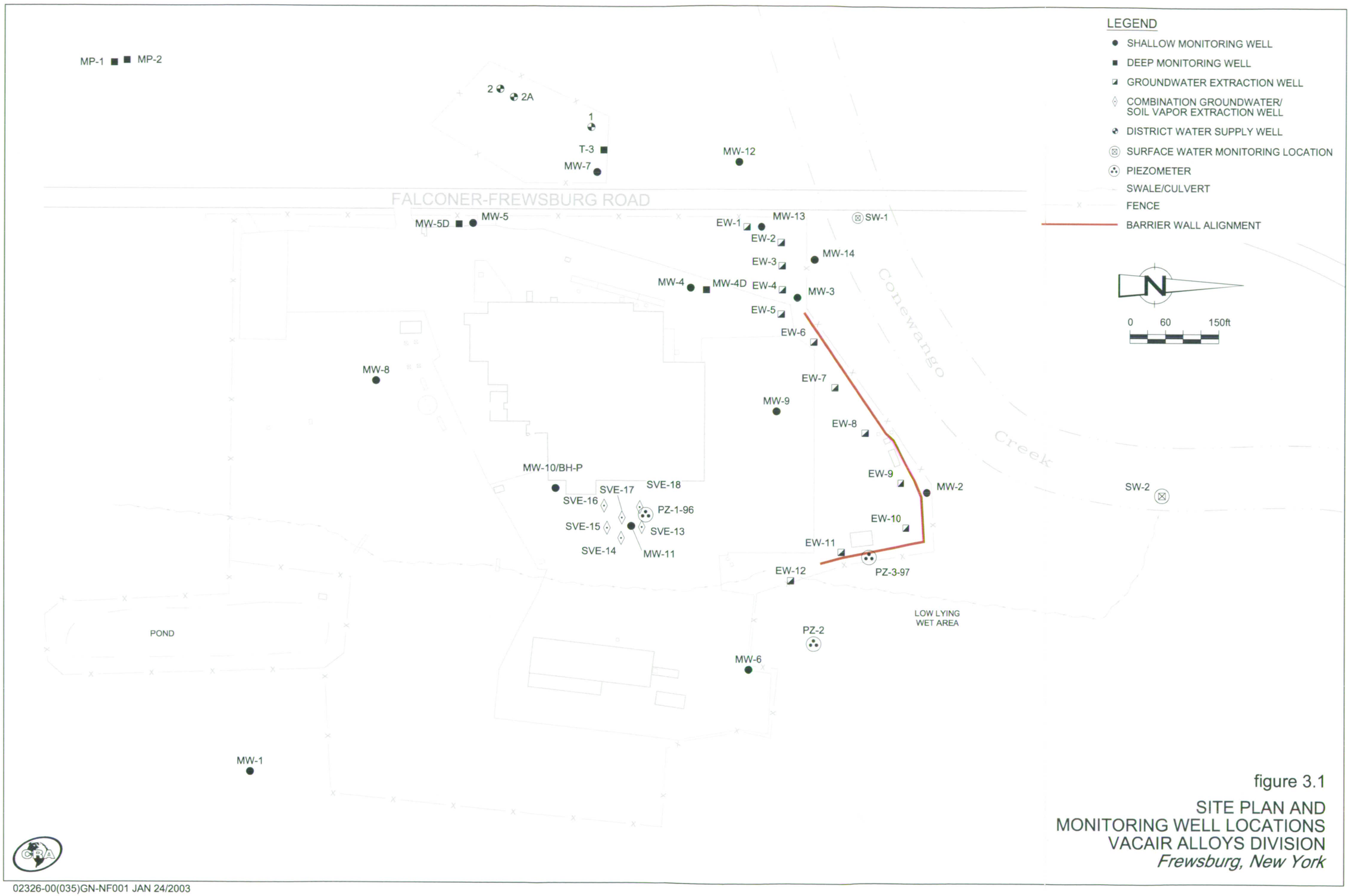

figure 3.1

SITE PLAN AND
MONITORING WELL LOCATIONS
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)GN-NF001 JAN 24/2003

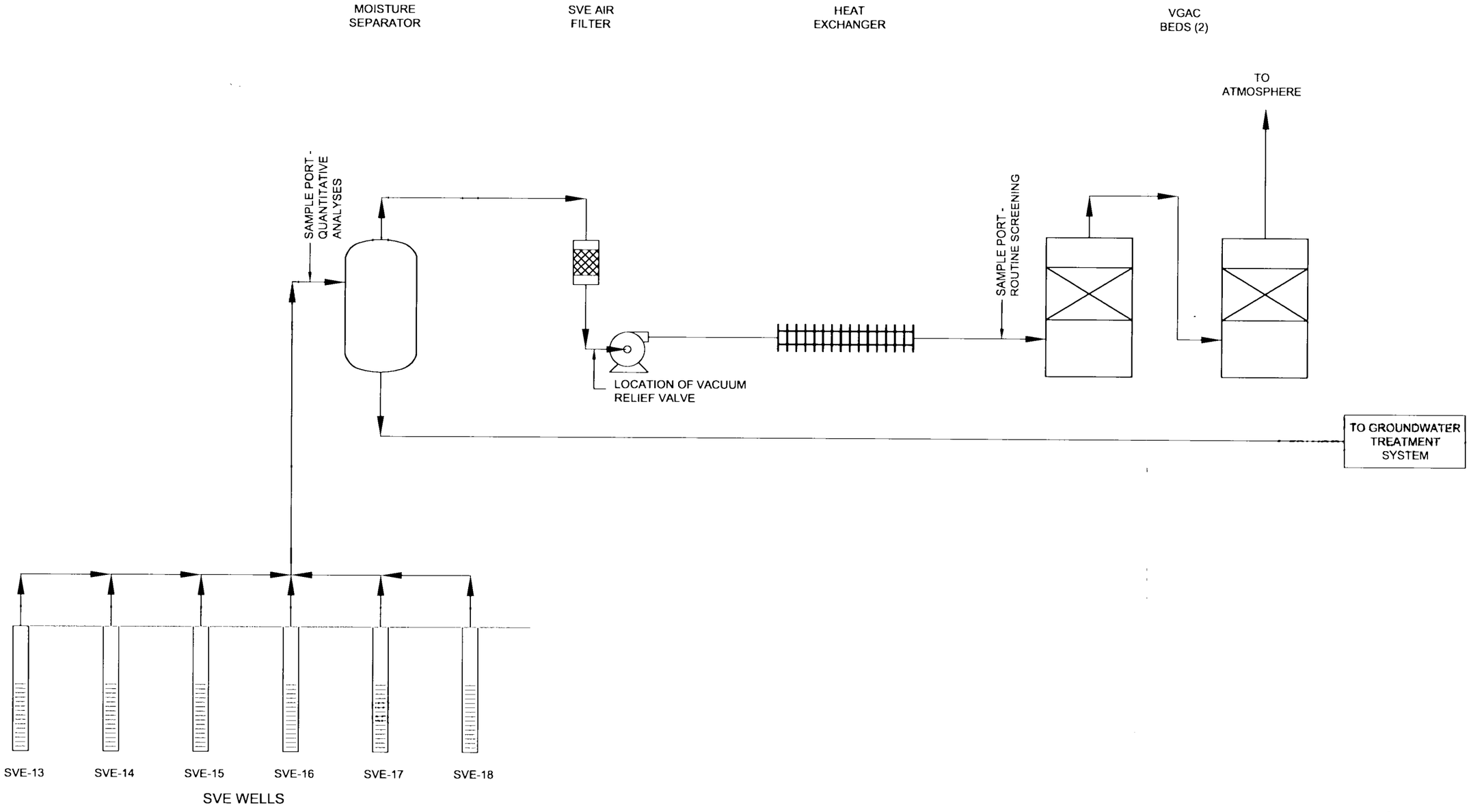

figure 3.2

SVE SYSTEM SCHEMATIC FLOW DIAGRAM
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)GN-NF007 JAN 24/2003

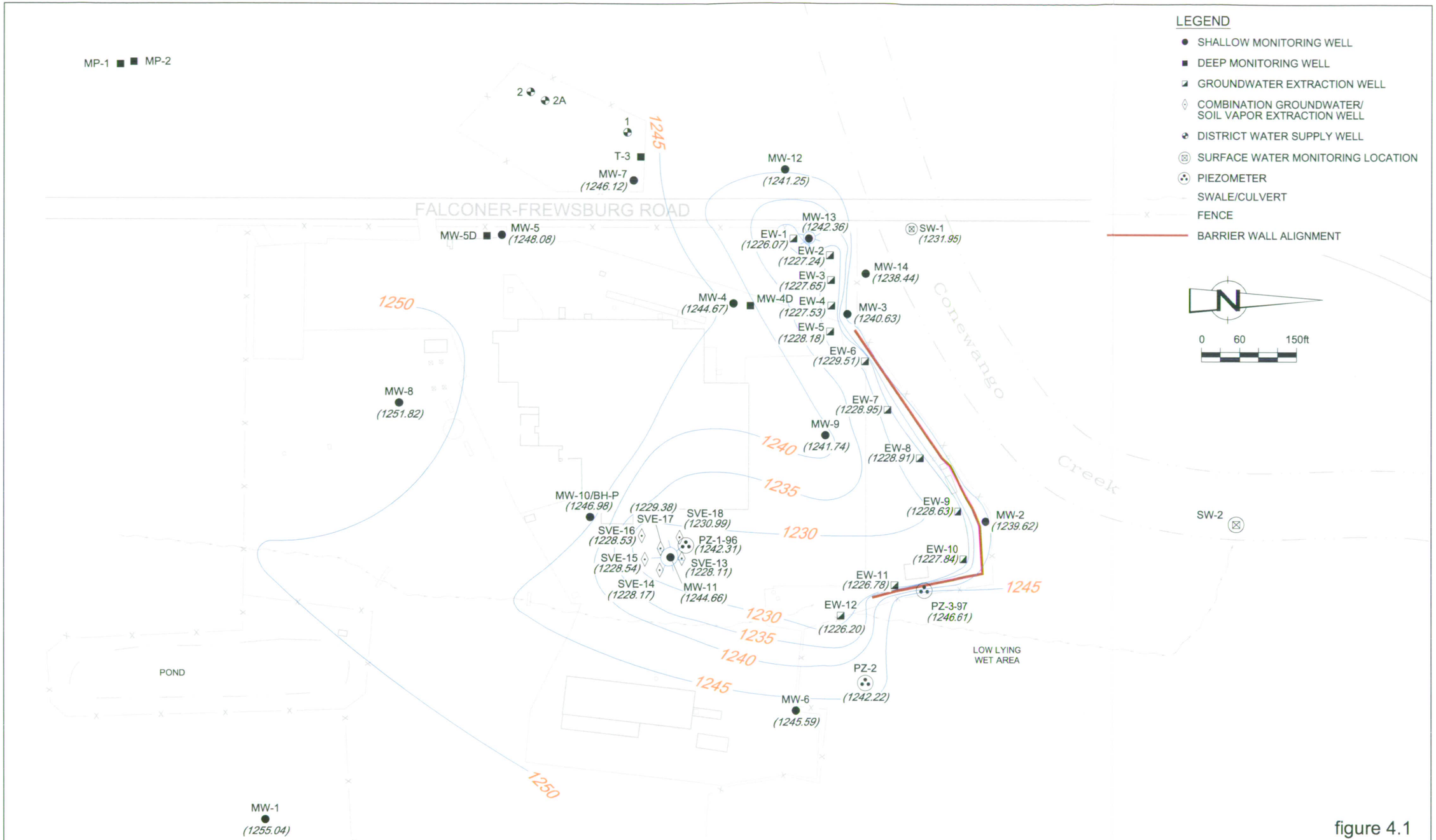

figure 4.1

POTENTIOMETRIC CONTOURS
WATER TABLE AQUIFER - JANUARY 2002
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)GN-NF002 JAN 24/2003

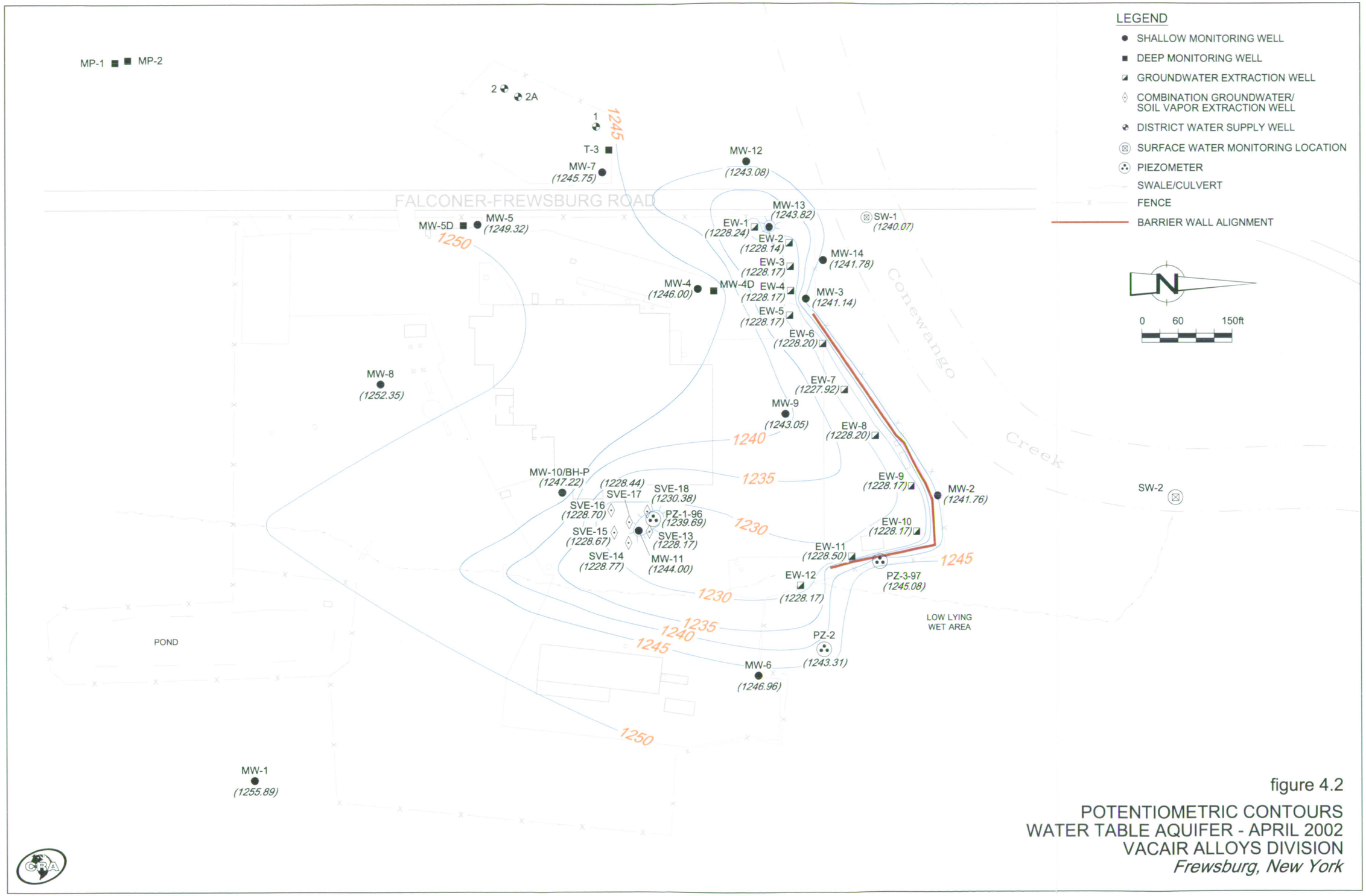

figure 4.2

POTENTIOMETRIC CONTOURS
WATER TABLE AQUIFER - APRIL 2002
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)GN-NF003 JAN 24/2003

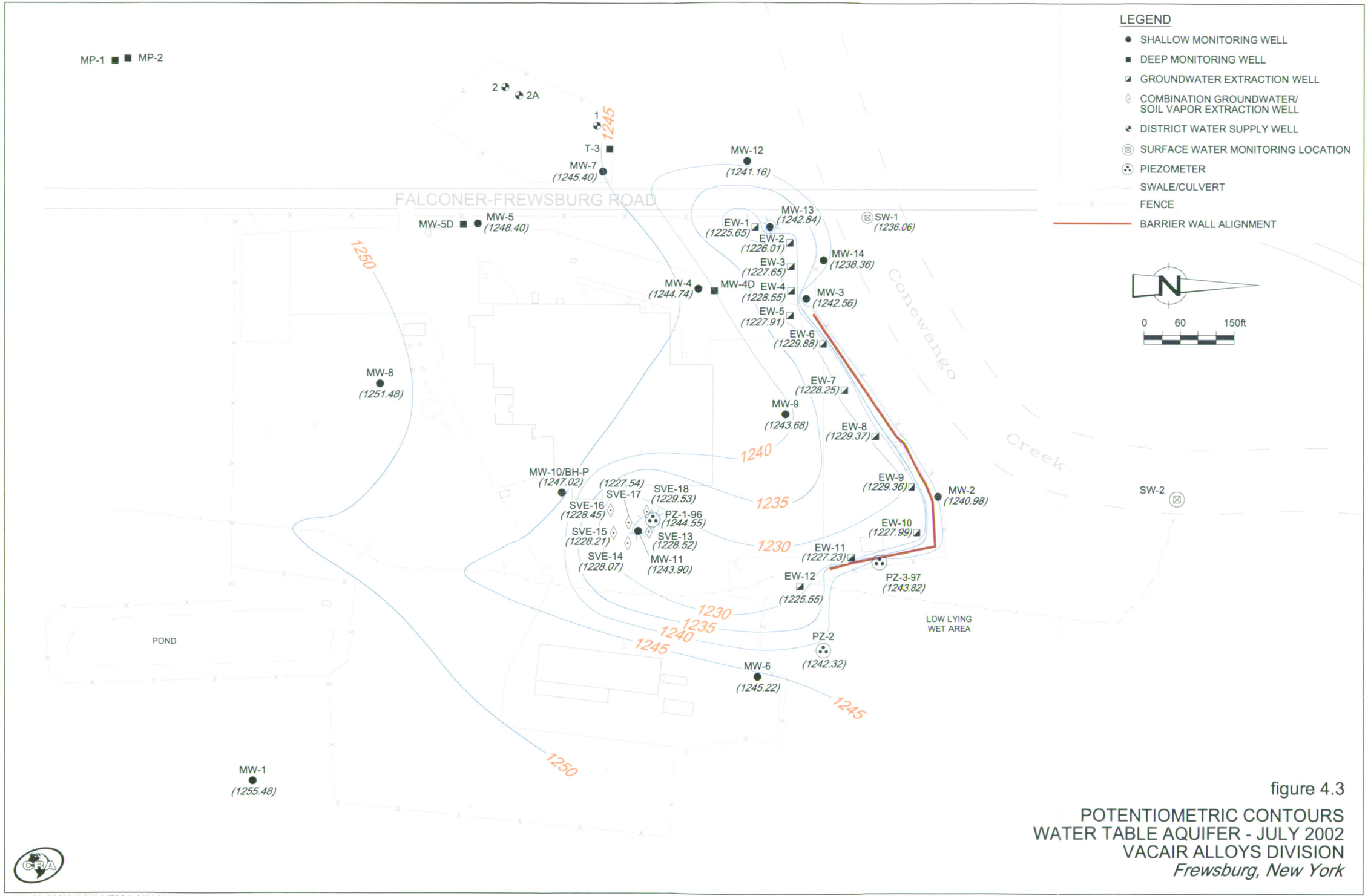

figure 4.3

POTENTIOMETRIC CONTOURS
WATER TABLE AQUIFER - JULY 2002
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)GN-NF004 JAN 24/2003

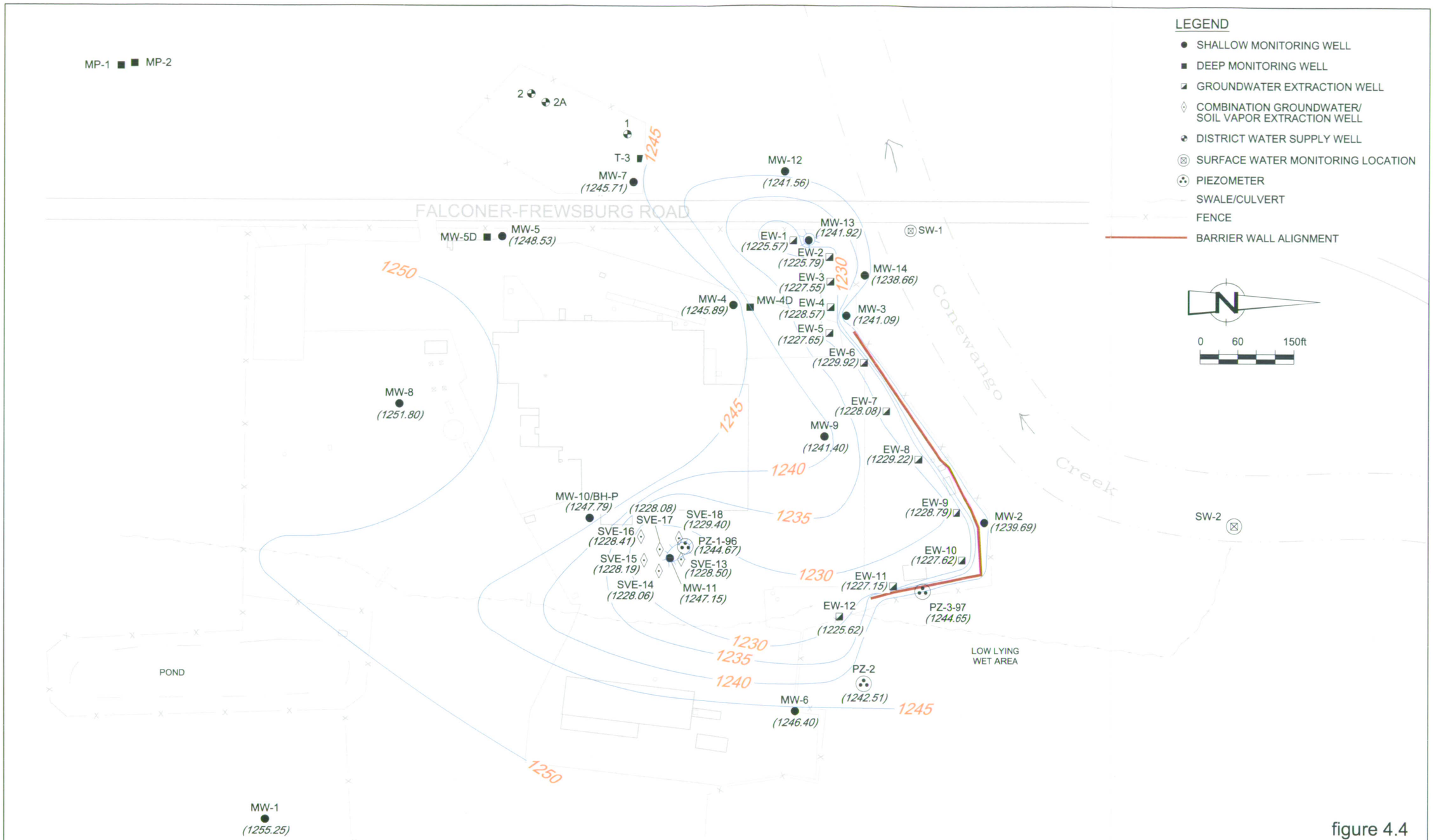

figure 4.4

POTENTIOMETRIC CONTOURS
WATER TABLE AQUIFER - OCTOBER 2002
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)GN-NF005 JAN 24/2003

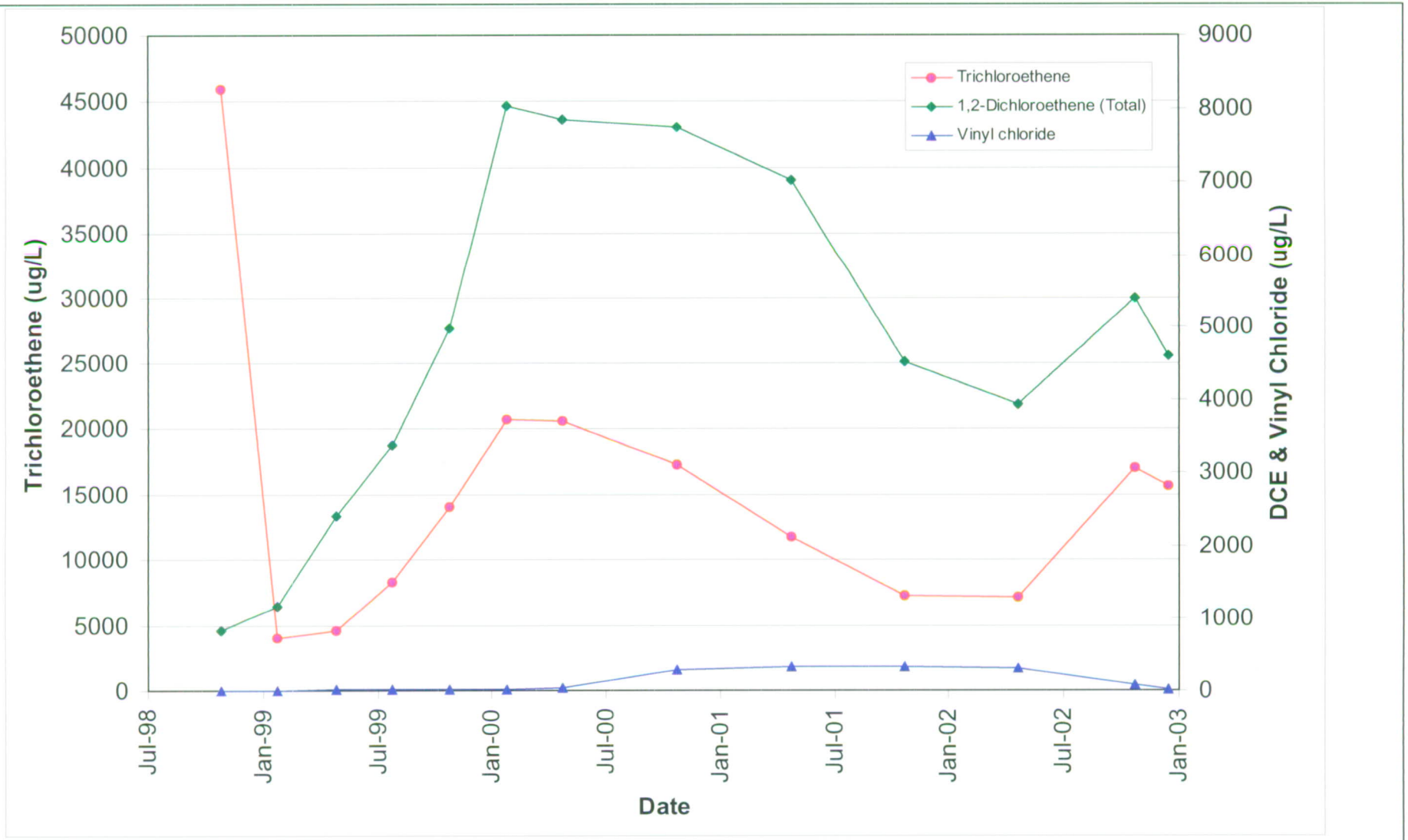

figure 4.5

RUNNING AVERAGE CONCENTRATIONS VERSUS TIME - MW-11
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)EX-NF001 JAN 24/2003

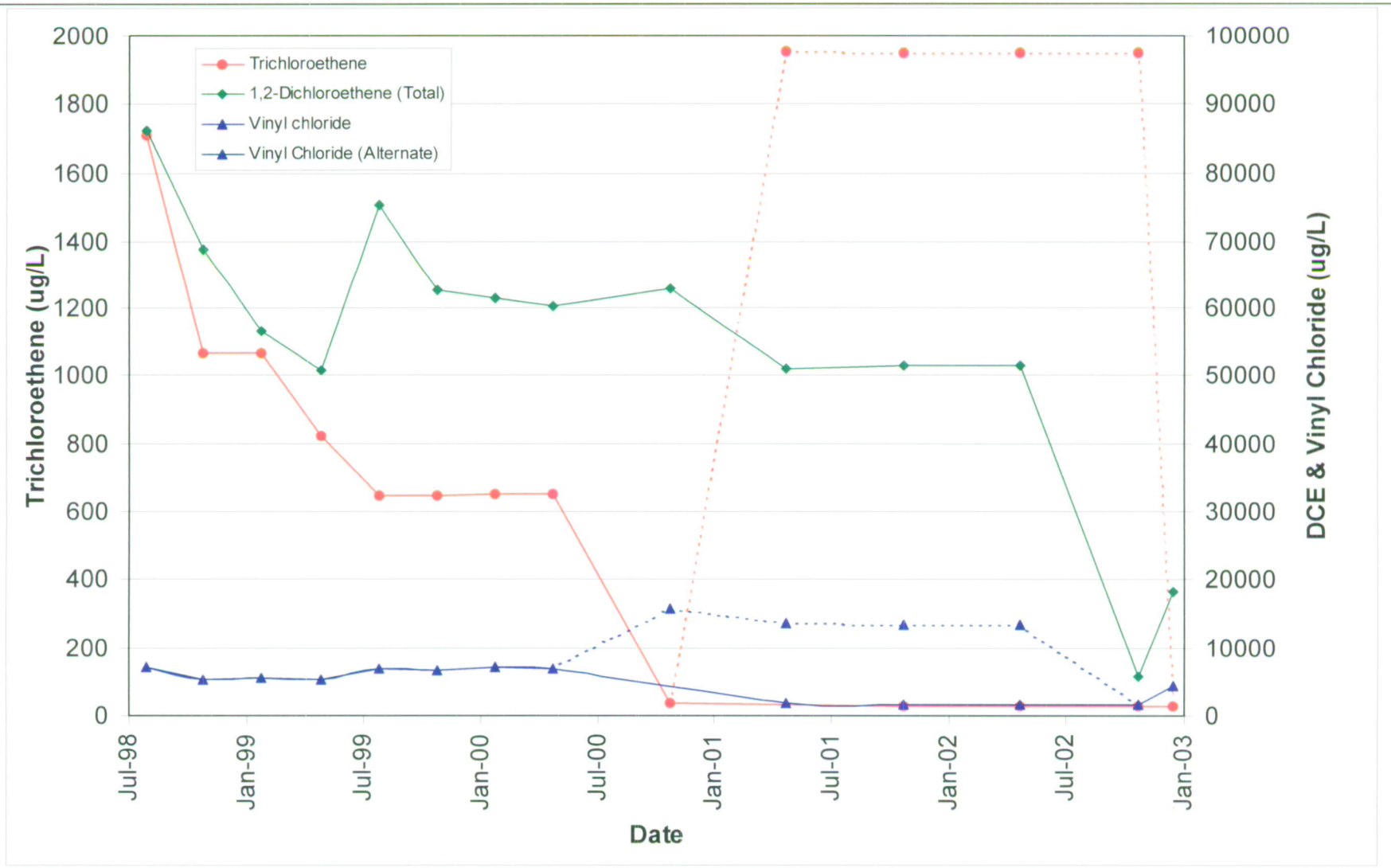

figure 4.6

RUNNING AVERAGE CONCENTRATIONS VERSUS TIME - MW-2
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)EX-NF002 JAN 24/2003

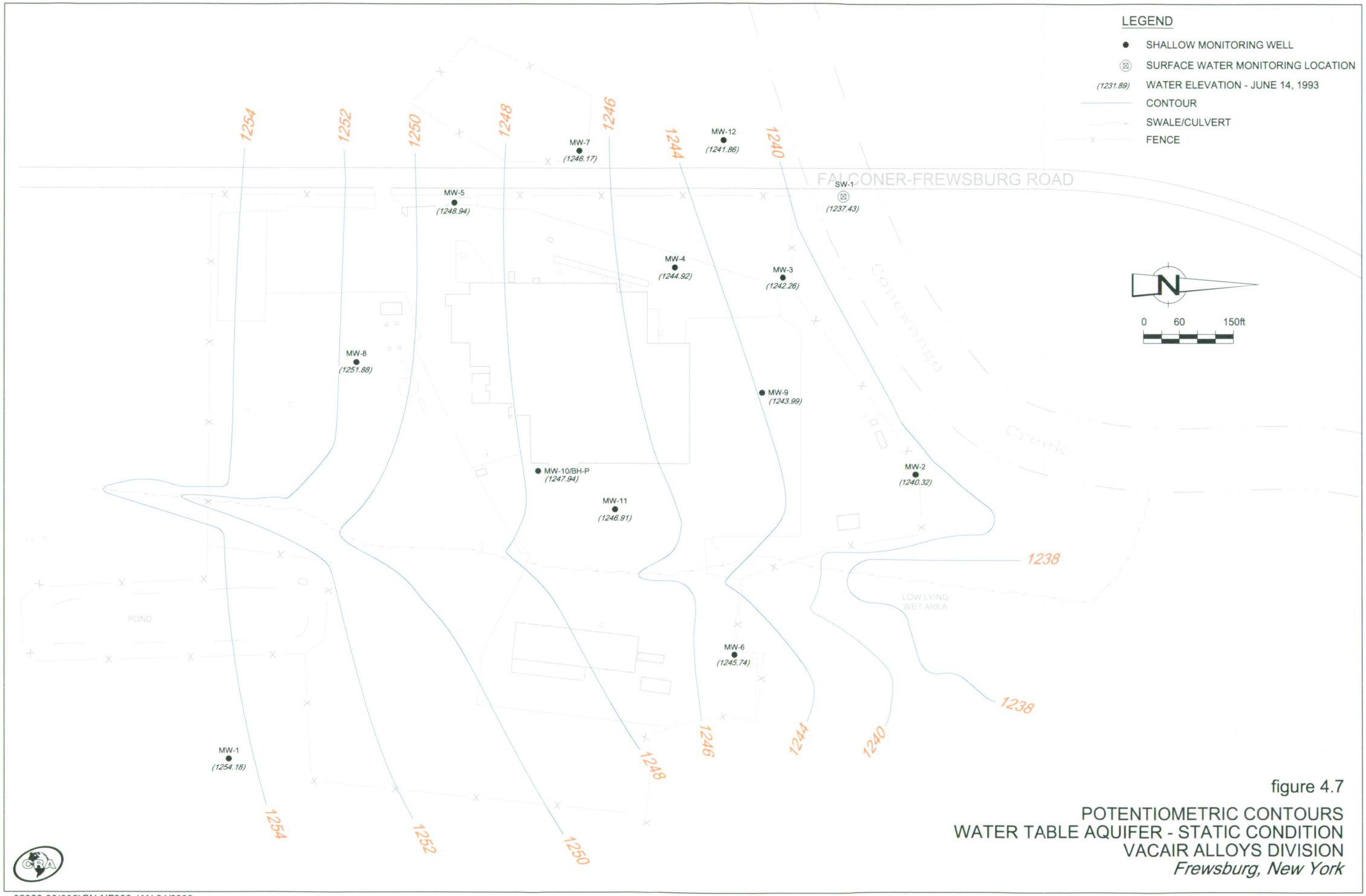

figure 4.7

POTENTIOMETRIC CONTOURS
WATER TABLE AQUIFER - STATIC CONDITION
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)GN-NF006 JAN 24/2003

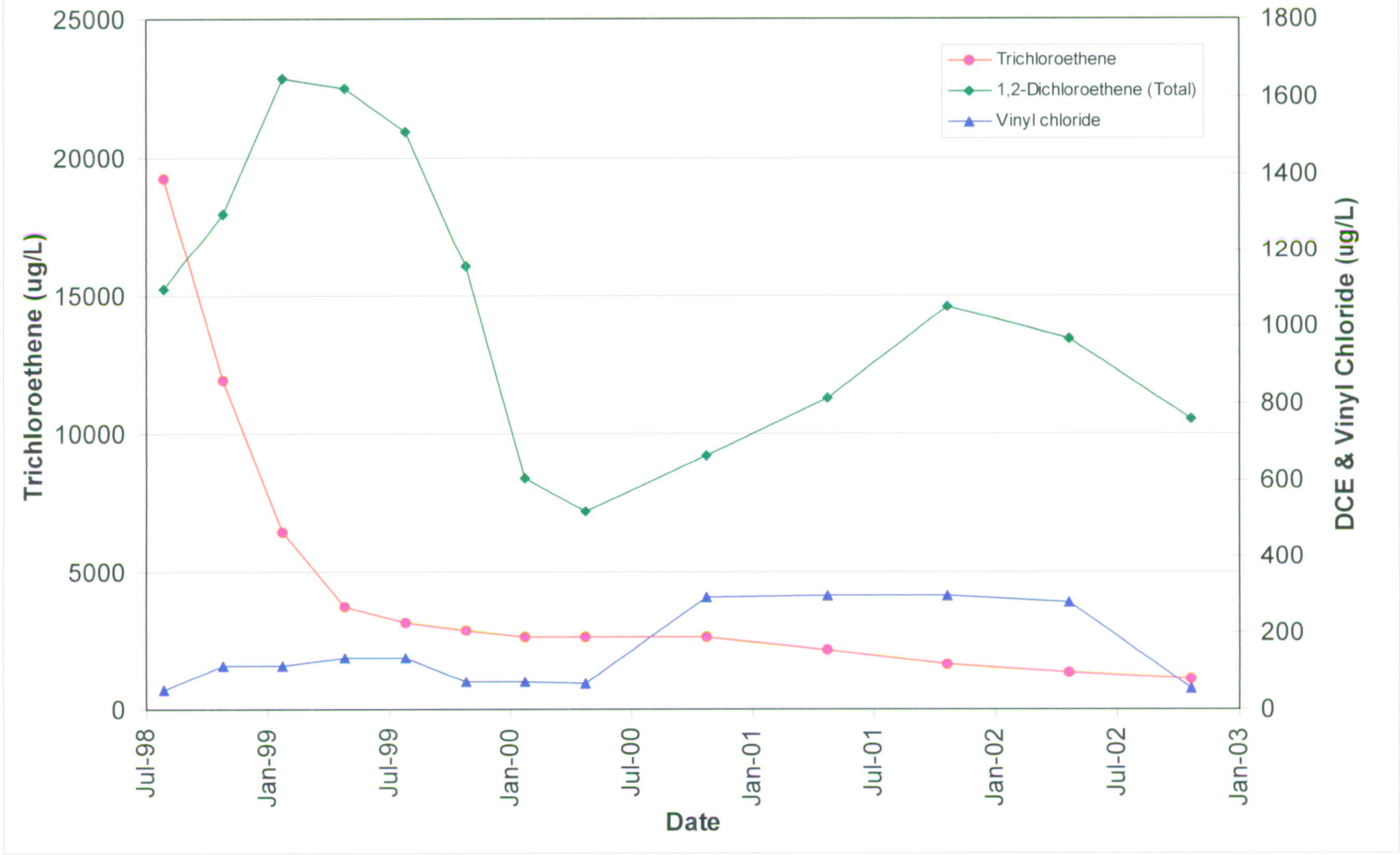

figure 4.8

RUNNING AVERAGE CONCENTRATIONS VERSUS TIME - MW-3
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)EX-NF003 JAN 24/2003

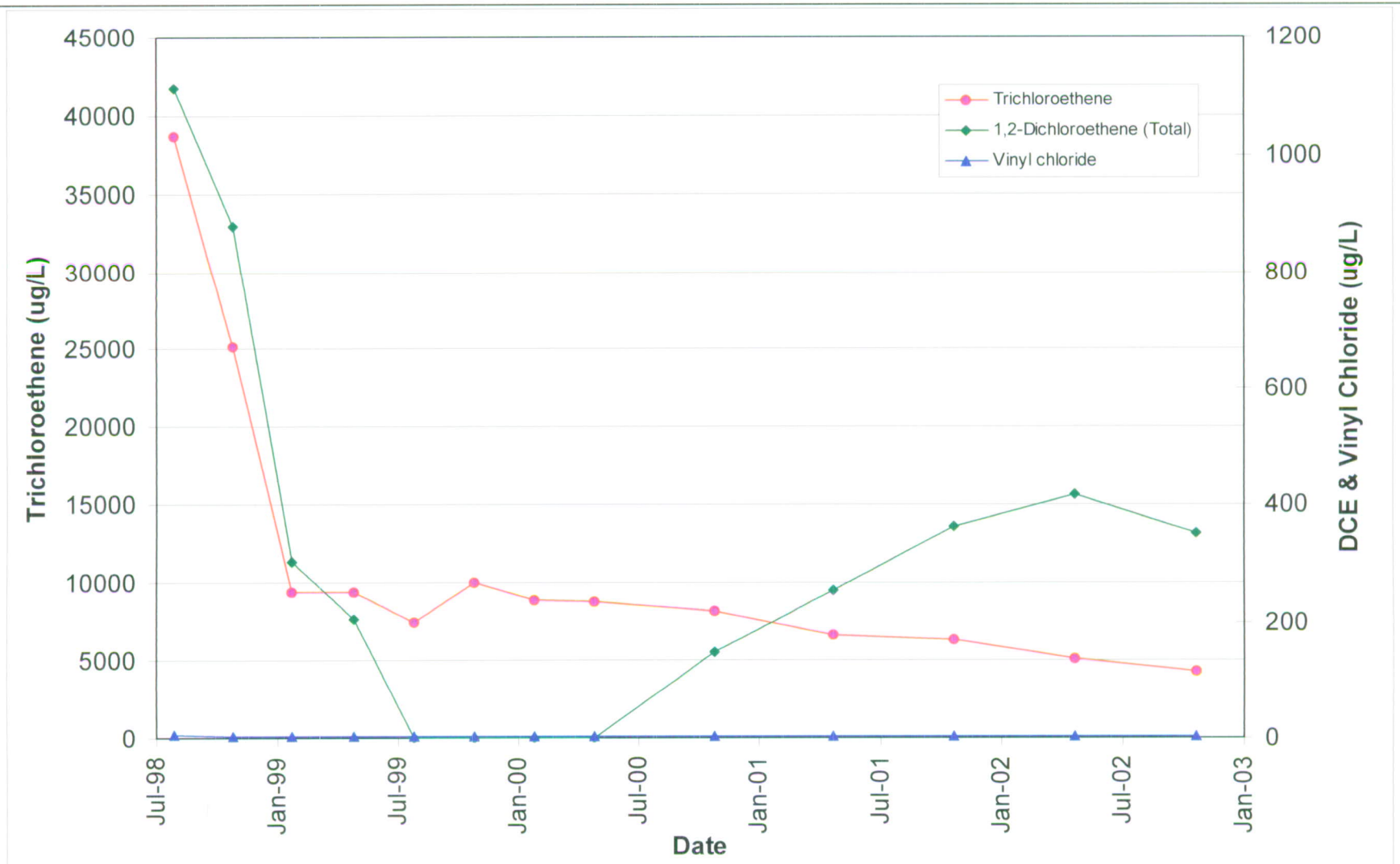

figure 4.9

RUNNING AVERAGE CONCENTRATIONS VERSUS TIME - MW-4
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)EX-NF004 JAN 24/2003

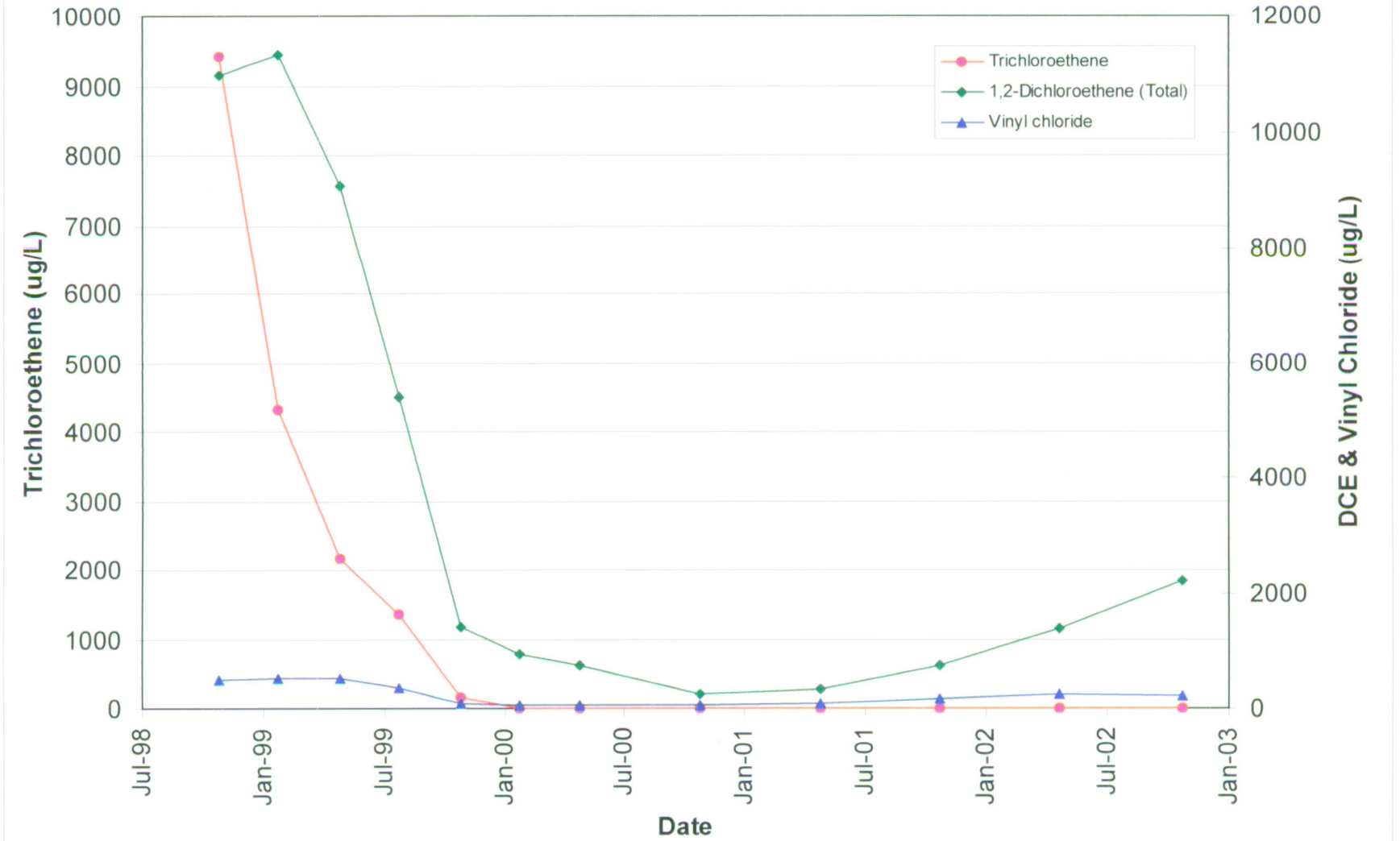

figure 4.10

RUNNING AVERAGE CONCENTRATIONS VERSUS TIME - MW-9
VACAIR ALLOYS DIVISION
Frewsburg, New York

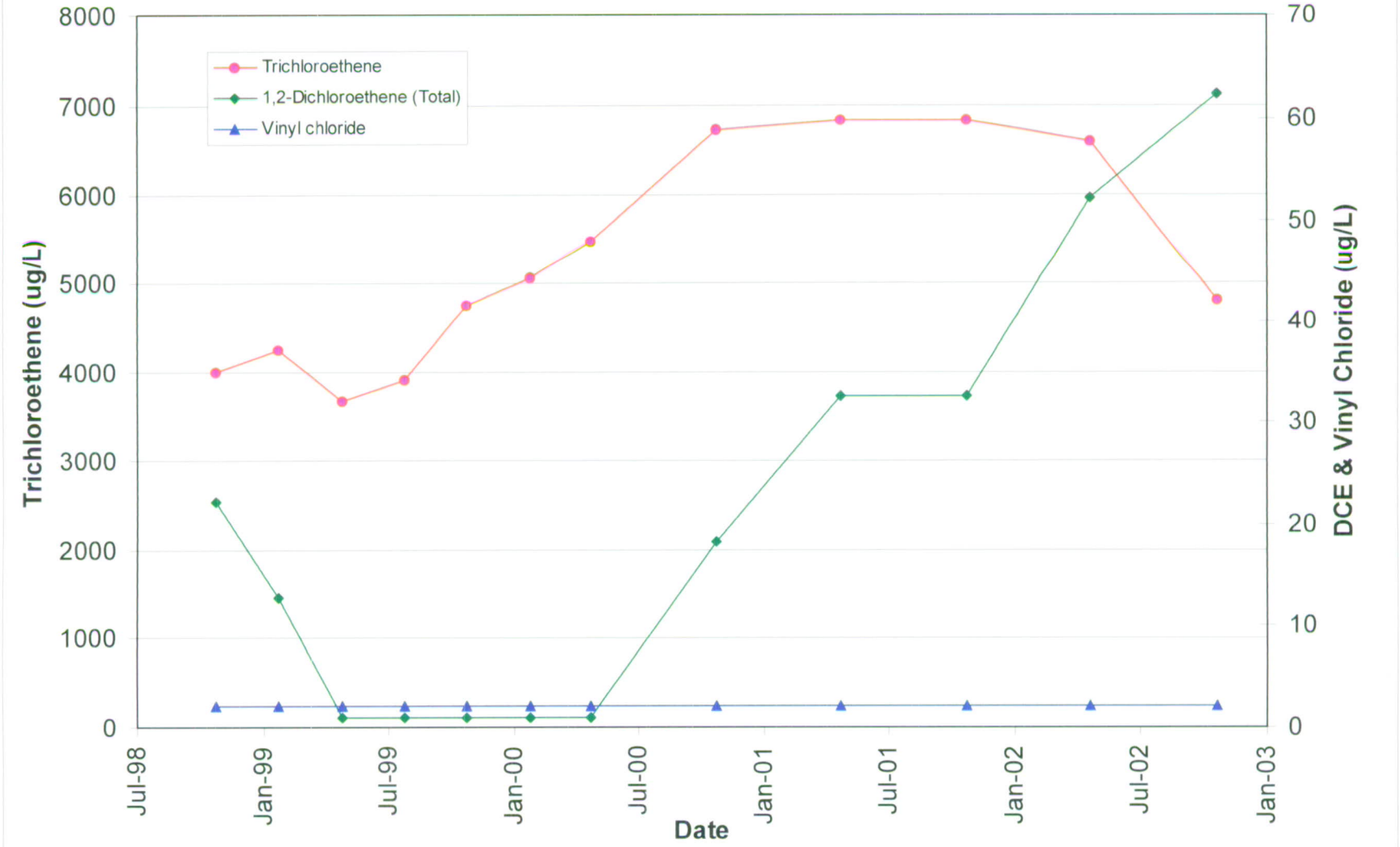

figure 4.11

RUNNING AVERAGE CONCENTRATIONS VERSUS TIME - MW-12
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)EX-NF006 JAN 24/2003

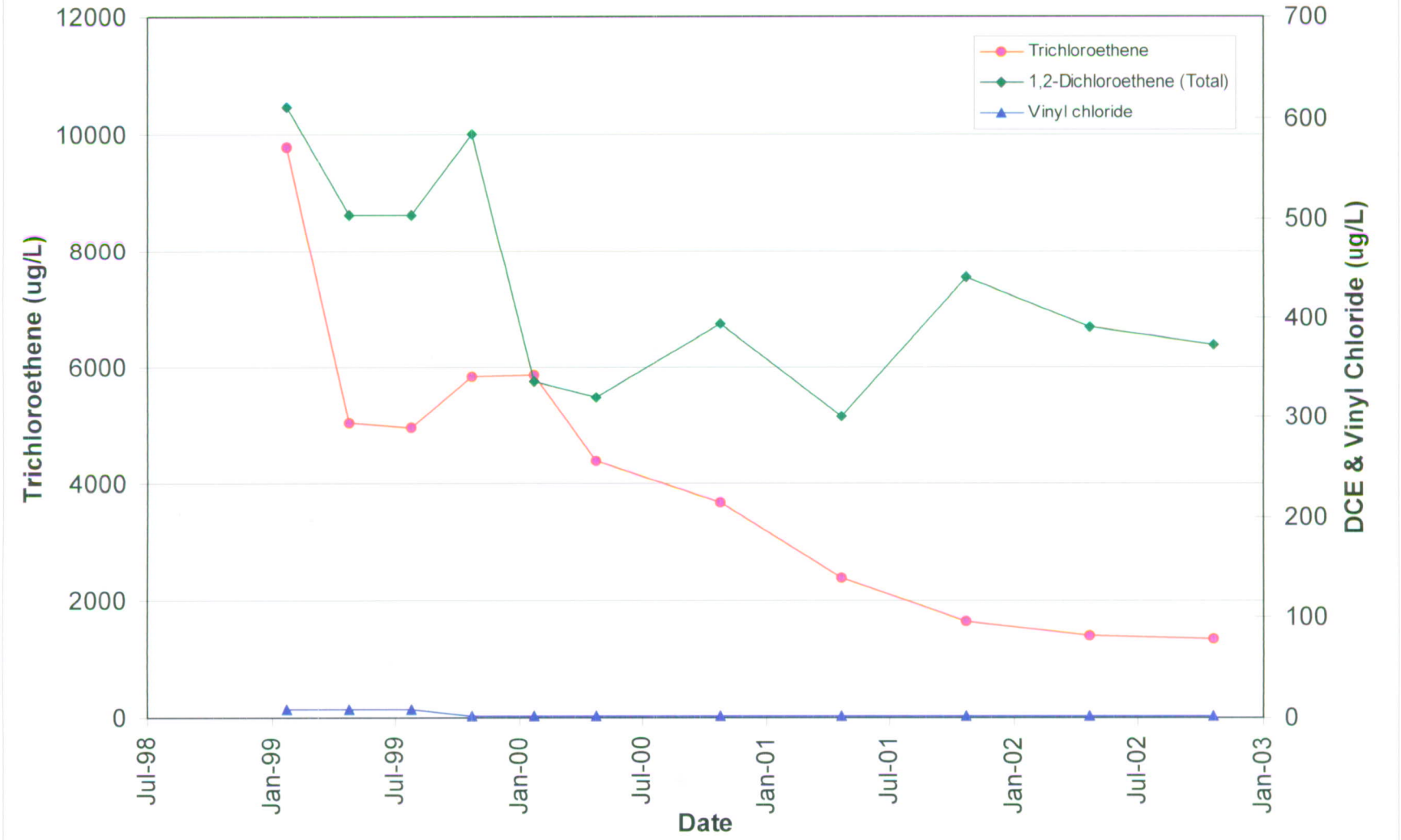

figure 4.12

RUNNING AVERAGE CONCENTRATIONS VERSUS TIME - MW-13
VACAIR ALLOYS DIVISION
Frewsburg, New York

02326-00(035)EX-NF007 JAN 24/2003

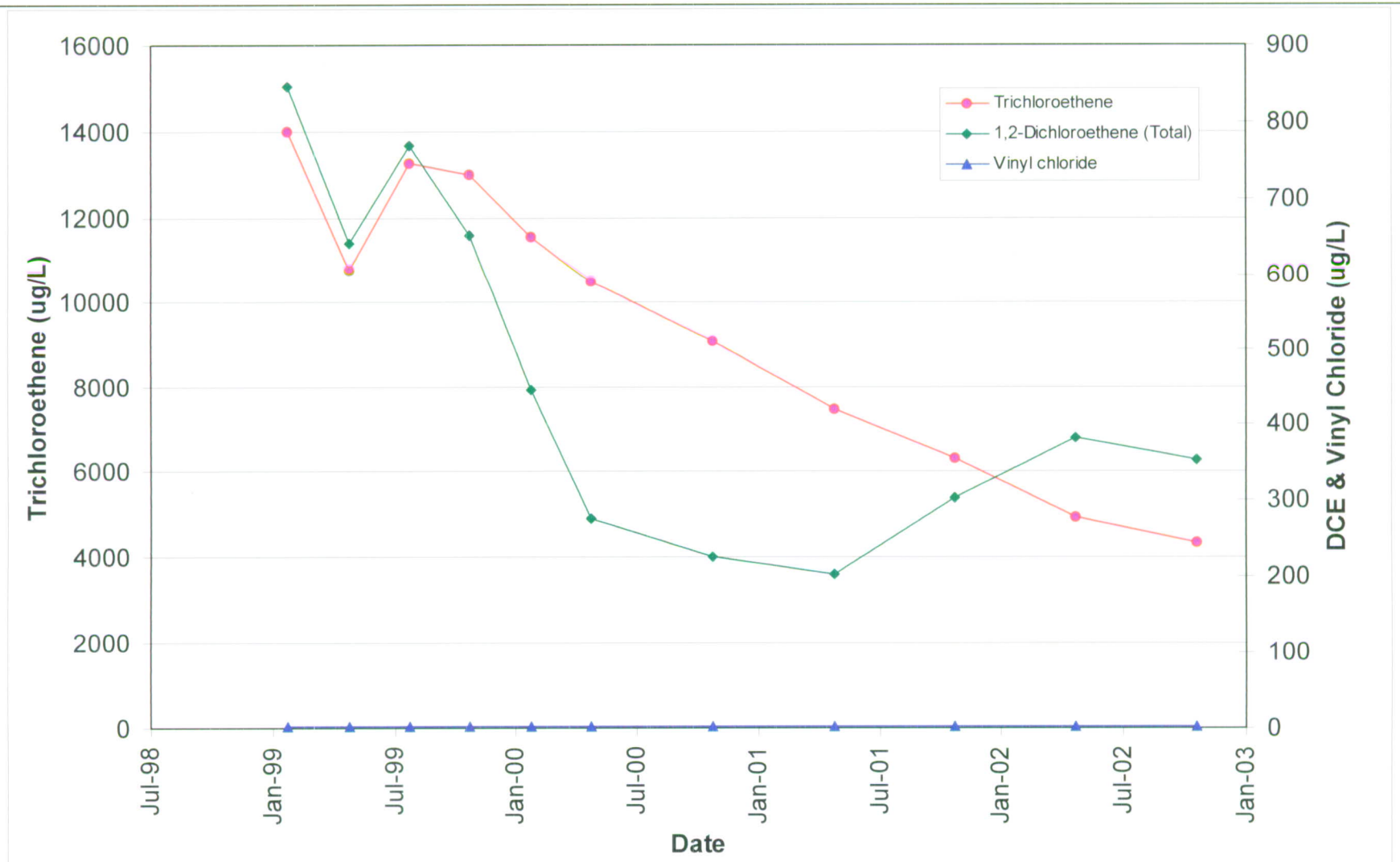

figure 4.13

RUNNING AVERAGE CONCENTRATIONS VERSUS TIME - MW-14
VACAIR ALLOYS DIVISION
Frewsburg, New York

TABLES

TABLE 1.1

INSPECTION, SAMPLING, AND MONITORING FREQUENCIES
VACAIR ALLOYS
FREWSBURG, NEW YORK

Remedial Component	*Activity*	*Frequency*
Site Paving / Wells		
Inspection	Inspect for damage, defects, cracks, ponded water, etc.	Monthly
Repairs		As Needed
Stormwater Systems		
Stormceptor / Catchbasins	Inspect for sediment/oil accumulation	Monthly
	Sediment removal	As Needed
Sewer Bedding Sump	Inspect for proper operation, sediment	Monthly
Groundwater Extraction and Treatment System		
Gauge readings, equipment inspections	Read and record gauge and indicator readings, inspect equipment and piping for operation and leaks, alarms	Daily
Bag Filters	Change at 15 psi pressure (Daily Form 5)	As Needed
NAPL Drum	Change based on NAPL level	As Needed
Air Stripper	Review O&M instructions	Monthly
SVE and Treatment System		
Treated Air Stream	Check breakthrough indicators outlet of each carbon canister to establish change out frequency, monitor influent concentration using sensidyne air gas sampling system	Weekly
Gauge readings, equipment inspections	Read and record gauge and indicator readings, inspect equipment and piping for operation and leaks, alarms	Weekly
Carbon Canister	Check for breakthrough change based on breakthrough indicator	Daily
Environmental Sampling and Monitoring		
Seep Inspections	Inspect seeps for flow	Semi-annually
Seep Sampling	Collect and analyze seep water	After 2 consecutive seeps
Hydraulic Monitoring	• EW-5 and EW-12	Monthly
	• Extraction and SVE Wells	Quarterly
	• Monitoring Wells and Piezometers	Quarterly
	• Conewango Creek	Quarterly

TABLE 1.1

INSPECTION, SAMPLING, AND MONITORING FREQUENCIES
VACAIR ALLOYS
FREWSBURG, NEW YORK

Remedial Component	*Activity*	*Frequency*
Environmental Sampling and Monitoring (Cont'd.)		
Groundwater Quality Monitoring	• Monitoring Wells	Annual: MW-1, MW-4D, MW-5, MW-5D, MW-6, MW-7, MW-8, MW-10* Semi-Annual: MW-2, MW-3, MW-4, MW-9, MW-11, MW-12, MW-13, MW-14*
	• Conewango Creek	None
Discharge Effluent Monitoring	• pH	Monthly
	• Oil and Grease, Aluminum, Iron, Zinc	Semi-Annually
	• Volatile Organic Compounds	Monthly
Site Security, Fencing, Building, Etc.		
Inspection	Inspect for problems/defects	Monthly
Reporting		
Quarterly Environmental Monitoring and Inspection Reports		Quarterly
Annual Performance Evaluation Reports		Annually

Notes:
* Commenced in April 2000, quarterly prior to April 2000.

TABLE 3.1

EFFLUENT DISCHARGE LIMITATIONS
VACAIR ALLOYS
FREWSBURG, NEW YORK

Effluent Parameter	*Daily Average*	*Daily Maximum*	*Units*
Flow	Monitor	50,000	GPD
pH (range)	Monitor	6.0 - 9.0	SU
Oil and Grease	Monitor	15	mg/L
Aluminum, total	Monitor	2700	µg/L
Iron, total	Monitor	2000	µg/L
Zinc, total	Monitor	400	µg/L
VOCs	Monitor	10	µg/L

Notes:

µg/L	Micrograms per Liter.
GPD	Gallons Per Day.
mg/L	Milligrams per Liter.
SU	Standard Units.
VOCs	Volatile Organic Compounds.

TABLE 3.2

GROUNDWATER EXTRACTION VOLUMES AND RATES
VACAIR ALLOYS
FREWSBURG, NEW YORK

Month	End of Month Totalizer Reading (Gallons)	Extracted Volume (Gallons)	Operating Time (Hours)	Maximum Daily Flow (GPM)	Average Monthly Flow (GPM)
December-99	9,361,316				
January-00	9,527,470	166,154	744	16.2	3.7
February-00	9,943,730	416,260	665	15.7	10.4
March-00	10,429,380	485,650	744	20.4	10.9
April-00	10,870,460	441,080	720	20.1	10.2
May-00	11,384,330	513,870	744	20.2	11.5
June-00	11,697,340	313,010	720	15.4	7.2
July-00	11,873,130	175,790	312	18.6	9.4
August-00	12,036,790	163,660	648	18.7	4.2
September-00	12,383,120	346,330	720	17.6	8.0
October-00	12,876,160	493,040	744	21.1	11.0
November-00	13,295,460	419,300	720	13.7	9.7
December-00	13,965,682	670,222	744	19.6	15.0
January-01	14,534,440	568,758	744	18.6	12.7
February-01	14,889,400	354,960	672	18.7	8.8
March-01	15,377,750	488,350	744	12.1	10.9
April-01	15,933,550	555,800	720	18.6	12.9
May-01	16,365,580	432,030	744	16.2	9.7
June-01	16,805,439	439,859	720	12.1	10.2
July-01	17,199,270	393,831	576	17.6	11.4
August-01	17,594,689	395,419	744	12.5	8.9
September-01	17,925,190	330,501	720	16.7	7.7
October-01	18,447,419	522,229	744	11.6	11.7
November-01	18,823,644	376,225	720	12.5	8.7
December-01	19,205,500	381,856	744	9.6	8.6
January-02	19,590,599	385,099	696	14.1	9.2
February-02	20,011,440	420,841	468	22.2	15.0
March-02	20,370,040	358,600	696	26.2	8.6
April-02	20,958,500	588,460	720	14.1	13.6
May-02	21,437,177	478,677	744	22.2	10.7
June-02	21,794,240	357,063	720	26.2	8.3
July-02	22,195,200	400,960	696	14.4	9.6
August-02	22,542,470	347,270	480	26.7	12.1
September-02	22,978,729	436,259	672	21.2	10.8
October-02	23,311,690	332,961	624	19.2	8.9
November-02	23,594,170	282,480	720	10.5	6.5
December-02	23,961,847	367,677	744	13.3	8.2
	To Date:	*14,600,531*		**26.7**	*9.9*

Note:
GPM Gallons Per Minute.

TABLE 3.3

REMEDIATION BRANCH OPERATING TIME - 2002
VACAIR ALLOYS
FREWSBURG, NEW YORK

	EW1-10 (Hours)	*EW11-18 (Hours)*	*SVE 13-18 (Hours)*
January	696	696	744
February	468	468	672
March	696	696	744
April	720	720	720
May	744	744	744
June	720	720	720
July	696	696	192*
August	480	480	0
September	672	672	0
October	624	624	0
November	720	720	0
December	744	744	0

*Soil Vapor Extraction (SVE) system shut down with prior New York State Department of Environmental Conservation (NYSDEC) approval July 9, 2002.

TABLE 3.4

SOIL VAPOR ANALYTICAL RESULTS SUMMARY
VAC AIR ALLOYS
FREWSBURG, NEW YORK

	Sample Location:	Odd-Numbered Branch		Even-Numbered Branch		Combined Effluent
	Collection Date:	04/18/02	07/02/02	04/18/02	07/02/02	07/02/02
Parameters	Units					
TCL Volatiles						
Chloromethane	µg/m³	160 U	770 U	160 U	88 U	31 U
Bromomethane	µg/m³	300 U	1400 U	290 U	160 U	58 U
Vinyl chloride	µg/m³	200 U	950 U	190 U	110 U	38 U
Chloroethane	µg/m³	210 U	980 U	200 U	110 U	39 U
Methylene chloride	µg/m³	270 U	1300 U	260 U	150 U	52 U
Acetone	µg/m³	750 U	3500 U	720 U	400 U	140 U
Carbon disulfide	µg/m³	980 U	4600 U	940 U	530 U	180 U
1,1-Dichloroethene	µg/m³	310 U	1500 U	300 U	170 U	59 U
1,1-Dichloroethane	µg/m³	320 U	1500 U	310 U	170 U	60 U
trans-1,2-Dichloroethene	µg/m³	1200 U	5900 U	1200 U	680 U	240 U
Chloroform	µg/m³	380 U	1800 U	370 U	210 U	72 U
1,2-Dichloroethane	µg/m³	320 U	1500 U	310 U	170 U	60 U
2-Butanone	µg/m³	930 U	4400 U	890 U	500 U	180 U
1,1,1-Trichloroethane	µg/m³	430 U	2000 U	410 U	230 U	81 U
Carbon tetrachloride	µg/m³	500 U	2300 U	480 U	270 U	93 U
Bromodichloromethane	µg/m³	2100 U	10000 U	2000 U	1100 U	400 U
1,2-Dichloropropane	µg/m³	360 U	1700 U	350 U	200 U	68 U
cis-1,3-Dichloropropene	µg/m³	360 U	1700 U	340 U	190 U	67 U
Trichloroethene	µg/m³	100000	340000 J	110000	69000	21000
Dibromochloromethane	µg/m³	2700 U	13000 U	2600 U	1400 U	500 U
1,1,2-Trichloroethane	µg/m³	430 U	2000 U	410 U	230 U	81 U
Benzene	µg/m³	250 U	1200 U	240 U	140 U	47 U
trans-1,3-Dichloropropene	µg/m³	360 U	1700 U	340 U	190 U	67 U
Bromoform	µg/m³	3200 U	15000 U	3100 U	1800 U	610 U
4-Methyl-2-pentanone	µg/m³	1300 U	6100 U	1200 U	700 U	240 U
2-Hexanone	µg/m³	1300 U	6100 U	1200 U	700 U	240 U
Tetrachloroethene	µg/m³	530 U	2500 U	510 U	290 U	100 U
Toluene	µg/m³	300 U	1400 U	280 U	160 U	56 U
1,1,2,2-Tetrachloroethane	µg/m³	540 U	2600 U	520 U	290 U	100 U
Chlorobenzene	µg/m³	360 U	1700 U	350 U	200 U	68 U
Ethyl benzene	µg/m³	340 U	1600 U	330 U	180 U	64 U
Styrene	µg/m³	340 U	1600 U	320 U	180 U	63 U
Total Xylenes	µg/m³	340 U	1600 U	330 U	180 U	64 U
Vinyl Acetate	µg/m³	100 U	5200 U	1100 U	600 U	210 U

Note:
TCL Target Compound List.
U Non-detect at associated value.

TABLE 3.5

SUMMARY OF GROUNDWATER EXTRACTION WELL ANALYTICAL DATA
VAC AIR ALLOYS
FREWSBURG, NEW YORK

CARRY FIELD LOCATION on figures

Parameters	*Units*	*EW-13*	*EW-14*	*EW-15*	*EW-16*	*EW-17*	*EW-18*
Trichloroethene	µg/L	7,500	36,000	35,000	28,000	68,000 J	2,400
1,2-Dichloroethene	µg/L	1,500	1,900	13,000	1,700	3,100	540
Vinyl chloride	µg/L	ND	ND	ND	ND	ND	ND

Note:
J Estimated.
ND Non-Detect.

TABLE 3.6

SUMMARY OF CENTER SOIL AREA GROUNDWATER EFFLUENT ANALYTICAL DATA
VAC AIR ALLOYS
FREWSBURG, NEW YORK

Parameters	*Units*	*Jan. 2002* [1]	*Oct. 2002* [2]	*Dec. 2002* [3]
Trichloroethene	µg/L	22,000	8,300	37,000
1,2-Dichloroethene	µg/L	1,400	8,100	5,500
Vinyl chloride	µg/L	ND2000	790	420

Notes:

(1) Both groundwater and vapor extraction operating.

(2) Sample collected within 24 hours of restarting groundwater following a 5-day shut down.

(3) Only groundwater extraction operation.

µg/L Micrograms per Liter.

TABLE 3.7

SUMMARY OF NON-ROUTINE MAINTENANCE
VAC AIR ALLOYS
FREWSBURG, NEW YORK

1/30/2002	Replaced door on air stripper.
3/21/2002	Replaced sewer bedding pump.

TABLE 5.1

SUMMARY OF GEOCHEMICAL ANALYTICAL RESULTS

VACAIR ALLOYS

FREWSBURG, NEW YORK

Sample Location:		MW-1	MW-8		MW-10		MW-11	EW-16	EW-18	PZ-1-96
Sample Date:		Oct-02	Oct-02	Dec-02	Oct-02	Dec-02	Oct-02	Oct-02	Oct-02	Dec-02
Laboratory Analyses										
Ethane	µg/L	ND0.50	ND0.50	NA	ND0.50/ND0.50	NA	42J	ND0.50	0.68	NA
Ethene	µg/L	ND0.50	ND0.50	NA	ND0.50/ND0.50	NA	5.3	ND0.50	30J	NA
Methane	µg/L	6.7	ND0.50	NA	4.6/4.4	NA	38	13	36	NA
Total Iron	µg/L	1050	873	NA	36400/76600	NA	44900	197000	418	NA
Total Manganese	µg/L	153	588	NA	1980/2570	NA	1570	4810	753	NA
Dissolved Iron	µg/L	134	112	NA	293/261	NA	1310	1490	254	NA
Dissolved Manganese	µg/L	85.7	18.4	NA	135/121	NA	595	768	732	NA
Ammonia Nitrogen	mg/L	ND0.1	ND0.1	NA	ND0.1/ND0.1	NA	0.35	0.17	0.48	NA
Chloride	mg/L	14	20.2	NA	8.2/9.1	NA	16.5	21.7	64.8	NA
Dissolved Organic Carbon	mg/L	ND1.0	ND1.0	NA	ND1.0/ND1.0	NA	2.6	2.5	1.8	NA
Nitrate as N	mg/L	ND0.05	2.3	NA	ND0.50/ND0.50	NA	ND0.05	ND0.05	0.074	NA
Nitrite	mg/L	0.057	ND0.05	NA	ND0.05/0.071	NA	ND0.05	ND0.05	0.14	NA
Phosphate as P, Ortho	mg/L	ND0.05	ND0.05	NA	ND0.05/0.15	NA	ND0.05	ND0.05	ND0.05	NA
Sulfate	mg/L	9.9	21.7	NA	35.9/35.7	NA	21.3	37.4	34.8	NA
Total Alkalinity	mg/L	226	268	NA	122/127	NA	215	198	270	NA
Total Kjeldahl Nigrogen	mg/L	5.4	4.3	NA	ND3.0/5.4	NA	ND3.0	3.8	3.8	NA
Field Analyses										
pH	S.U.	6.29	5.99	6.73	7.49	7.17	7.13	7.31	7.41	6.49
Conductivity	mS/cm	613	793	519	415	249	588	600	922	709
Temperature	°C	10.2	12.6	12.5	12.5	15.0	16.2	14.1	15.5	14.7
Turbidity	NTU	8	4	NM	693	NM	37	364	22	NM
Dissolved oxygen	mg/L	10.89	9.13	140	9.69	0	8.07	8.85	8.62	0
Oxidation/Reduction Potentia	mV	300	325	250	245	-151	270	250	280	252

Notes:

°C	Degree Centrigrade.
mg/L	Milligrams per Liter.
mS/cm	Millisemens per centimeter.
mV	Millivolts.
NA	Not Analyzed.
NDx	Not detected at or above x.
NM	Not Measured.
NTU	Nephelometric Turbidity Unit.
S.U.	Standard Unit.

APPENDIX A

FOURTH QUARTER 2002 MONITORING REPORT

-2326

December 2002

NYS Department of Environmental Conservation
Division of Environmental Remediation, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999
Attn: Greg Sutton

Re: Quarterly Monitoring Report
Keywell L.L.C. – Vac Air Division
Site # 907016

Dear Mr. Sutton:

Enclosed is the ***Quarterly Report*** from ***October 1, 2002 – December 31, 2002*** for your review and approval. This submittal has been prepared in accordance with the approved final remedial design report for the Frewsburg site.

Please contact the undersigned with any questions on this submission.

Sincerely,

Dennis C. Trostle
Vice President

cc: J. M. Lozier, Keywell L.L.C. (w/o encl.)
B. White, Karaganis & White
R. Gostek, Keywell L.L.C.
C. Barron, CRA
C. O'Connor, NYSDEC, DOH

DCT/pl
Encl.

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1. Introduction

This Quarterly Status Report summarizes the Operation and Maintenance (O&M) activities performed at the Keywell L.L.C., Vac Air site (Site) for the reporting period from October 1, 2002 of the Site's groundwater remedial system through December 31, 2002. O & M activities performed during this reporting period include routine inspections, hydraulic monitoring, groundwater sampling and the implementation of other routine O & M activities.

The O & M activities were performed in accordance with the "Operations and Maintenance Plan and the Sampling, Analysis and Monitoring Plan (SAMP) in the approved Final Remedial Design Report for the Site.

2. Groundwater Extraction and Treatment System

2.1 Routine Operations

2.1.1 Operator Training

Keywell employees will operate, monitor and maintain the groundwater extraction and treatment system. Employees trained and familiar with the Site and the treatment plant operations are:

- Chuck Becker
- Kevin Niles
- Dennis Trostle

2.1.2 Sampling

All samples for this time period were collected by Site employees and shipped to Severn Trent Services Inc. in Pittsburgh PA for analysis. All sample collection, handling and analyses were performed in accordance with the SAMP.

2.2 Groundwater Treatment System Performance and Discharge Monitoring

Treated groundwater samples were analyzed as per revised schedule located in Appendix D. As an added preventive, VOC's were performed in addition to DEC requirements. Hydraulic Monitoring and Groundwater Quality Monitoring were analyzed as per the revised Operations, Maintenance, Monitoring and Inspections Schedule, Table 5.1 found in Appendix D. Section 2.6 presents the data for the samples collected. Analytical results show compliance with effluent discharge requirements.

2.3 Groundwater/Creek Hydraulic Monitoring

Appendix A1 and A2 presents all water level readings and tabulations for this time period. During this time period fourteen (14) monitoring wells, eighteen (18) extraction wells and three (3) piezometers water level readings were taken as per Table 5.1 found in Appendix D.

2.4 Groundwater Quality Monitoring

Appendix B presents the validated groundwater monitoring well data collected in October 2002.

2.5 Monthly Flow Rate Data and Maximum Daily Flow Rates

Quarterly Reporting Period	End of Month Flow (gal.)	Total Month Flow (gal.)	Maximum Daily Flow (gpm)
October	23,311,690	303,990	19.2
November	23,594,170	282,480	10.5
December	23,961,847	367,677	13.3
Monthly Average		318,049	14.3

2.6 Discharge Loadings from the Facility

On 10/24/02, 11/7/02 and 12/5/02 a test was performed on the effluent of the Groundwater Treatment System. The flow those days were:

October 24, 2002	9,806 gallons (6.8 GPM)
November 7, 2002	9,416 gallons (6.5 GPM)
December 5, 2002	9,596 gallons (6.7 GPM)

Discharge Loadings are as follows:

COMPOUNDS DETECTED	UNITS	10-24-02 RESULTS	10-24-02 # / DAY DISCHARGED	11-7-02 Results	11-7-02 # / DAY DISCHARGED	Results	12-5- # / DAY DISCHAR
VOC's	ug/L	ND<1	<.00008	ND<1	<.00008	ND<1	<.000
Oil & Grease	mg/L						
Aluminum	ug/L						
Iron	ug/L						
Zinc	ug/L						
pH		8.7		6.2			8.4

2.7. Preventative Maintenance

10/9/02 – Hosed down inside of air stripper and phase separator.
11/11/02 – Cleaned inside of water pipe between phase separator and air striper.

3. SVE System

Carol do you want to handle?

4. O & M Activities

4.1 Daily Inspections

Daily inspections and logs are being maintained. Except as noted under 2.7 Preventative Maintenance, all operations and systems are functioning in accordance with the system design.

4.2 Phase Separator

LNAPL collection is minimal (less than one (1) ounce per week).

4.3 Seep Inspections

Prior to system startup, seeps occurred at the break in the slope east of the existing oil/water separator. Routine seep inspections indicated continued absence of groundwater seeps.

4.4 Sediment Removal of Stormwater Systems

Inspection of the storm water systems revealed no excess sediment collection.

4.5 Bag Filter Change (Groundwater Treatment System)

Bag filter change outs occur on an "as needed" basis. Currently filter bags are changed approximately one time every two (2) – three (3) days. Change outs occurred four (4) times in October, five (5) times in November and six (6) times in December.

4.6 Air Stripper

The air stripper was cleaned on 10/9/02.

4.7 Miscellaneous Maintenance

No maintenance required.

4.8 Routine Inspections

Routine inspections of the groundwater extraction and treatment system components, including the piping, Cad Ox unit, air compressor, air system, and general Site grounds, were performed during the reporting period. All systems were operating within design parameters.

5. Anticipated Work Schedule for Following Quarter

CRA will continue to run tests on SVE system.

TABLE 1
VOC GROUNDWATER TREATMENT PLANT INFLUENT/EFFLUENT DATA

		INFLUENT		EFFLUENT	
DATE	UNITS	TCE	DCE	TCE	DCE
10/10/02	ug/L			ND<1	ND<1
10/24/02	ug/L	9400	9600	ND<1	ND<1
11/7/02	ug/L	14000	6200	ND<1	ND<1
11/21/02	ug/L			ND<1	ND<1
12/5/02	ug/L	15000	5400	ND<1	ND<1
12/16/02	ug/L			ND<1	ND<1

J = Estimated result. Result is less than RL

APPENDIX A1 & A2

APPENDIX A1
GROUNDWATER HYDRAULIC MONITORING DATA (2002)
MONITORING WELLS AND PIEZOMETERS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

Well	Northing	Easting	T.O.C. Elevation	10/24/02 Level	10/24/02 Elevation
MW-1			1260.60	5.35	1255.25
MW-2	5898	5511.1	1251.60	11.91	1239.69
MW-3	5679.3	5188.5	1252.30	11.21	1241.09
MW-4	5501.5	5167.2	1250.10	4.21	1245.89
MW-4D	5510.6	5167.17	1249.37	11.86	1237.51
MW-5	5136.1	5061.9	1256.50	7.97	1248.53
MW-5D	5119.56	5061.06	1255.14	15.45	1239.69
MW-6	5596.5	5805.5	1253.70	7.30	1246.40
MW-7	5340.06	4973.69	1253.76	8.05	1245.71
MW-8			1256.65	4.85	1251.80
MW-9	5640.89	5370.69	1249.2	7.80	1241.40
MW-10	5271.81	5497.41	1253.5	5.71	1247.79
MW-11	5387.37	5578.29	1251.02	3.87	1247.15
MW-12			1243.08	1.52	1241.56
MW-13	5053	5616	1247.8	5.88	1241.92
MW-14	5121	5709	1247.46	8.80	1238.66
PZ-1-96	5411.06	5548.72	1251.09	6.42	1244.67
PZ-2	5725	5720	1247.43	4.92	1242.51
PZ-3			1250.82	6.17	1244.65

APPENDIX A2
GROUNDWATER HYDRAULIC MONITORING DATA (2002)
EXTRACTON AND SVE WELLS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

	T.O.C.	10/24/02		11/8/02	
Well	Elevation (ft. AMSL)	Level	Elevation	Level	Elevation
EW-1	1248.63	23.06	1225.57		
EW-2	1248.77	22.98	1225.79		
EW-3	1250.29	22.74	1227.55		
EW-4	1251.11	22.54	1228.57		
EW-5	1250.32	22.67	1227.65	22.68	1227.64
EW-6	1252.14	22.22	1229.92		
EW-7	1251.09	23.01	1228.08		
EW-8	1251.39	22.17	1229.22		
EW-9	1251.52	22.73	1228.79		
EW-10	1250.45	22.83	1227.62		
EW-11	1250.37	23.22	1227.15		
EW-12	1249.11	23.49	1225.62	22.96	1226.15
EW-13	1251.64	23.14	1228.50	22.87	1228.77
EW-14	1251.34	23.28	1228.06	22.96	1228.38
EW-15	1251.17	22.98	1228.19	22.88	1228.29
EW-16	1251.29	22.88	1228.41	22.73	1228.56
EW-17	1251	22.92	1228.08	22.78	1228.22
EW-18	1251.41	22.01	1229.40	22.12	1229.29
Creek		19.37		20.12	

APPENDIX B

, 2003

Analytical Data Assessment and Validation
Quarterly Groundwater Sampling
Keywell L.L.C. – Vac Air Division Site
Frewsburg, New York
October – December 2002

The following memo details an assessment and validation of analytical results reported by Severn Trent for groundwater samples collected at the Keywell L.L.C. – Vac Air Site in April 2002 for target compound list (TCL) volatile organic compounds (VOCs) testing. The analytical method used by the laboratory was SW-846 8260B referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, September 1986 and subsequent revisions.

A sample collection summary is presented in Table 1 of Appendix B. The sample results are presented in Table 2 of Appendix B. Evaluation of these data was based on information obtained from the finished data sheets, chain of custody forms, method blanks, and recovery data for surrogate spikes, blank spikes, matrix spikes, and internal standards.

The Quality Assurance/Quality Control (QA/AC) criteria by which these data have been assessed are outlined in the analytical methods, the site-specific Quality Assurance Project Plan (QAPP) in Appendix G of the "Final Remedial Design Report", June 1997, (Attachment G-3), and the document "National Functional Guidelines for Organic Data Review", February 1994, prepared by the United States Environmental Protection Agency (USEPA) Office of Emergency and Remedial Response. The validation document will be referred to as the "Guidelines".

1.0 SAMPLE HOLDING TIMES

In accordance with the "QAPP", water samples preserved with hydrochloric acid to a pH of less than two must be analyzed for VOCs within 14 days of collection. Upon review of the chain of custody documents and analysis reports, it was determined that all investigative samples were analyzed for VOCs within the holding time.

2.0 SURROGATE SPIKE RECOVERIES

Laboratory performance on individual samples is assessed on the basis of surrogate spike recoveries. All water samples submitted for analysis were spiked with the surrogate compounds 4-Bromofluorobenzene, dibromofluoromethane, 1,2-Dichloroethane-d4, and toluene-d_8. All recoveries were within the laboratory control limits.

3.0 INTERNAL STANDARD ANALYSIS

Area count of the internal standards for each sample were within – 50 to +100 percent of the area counts of the daily calibration standard.

4.0 LABORATORY BLANK ANALYSIS

The purpose of assessing the results of laboratory blank analyses to determine the existence and magnitude of sample contamination introduced in the laboratory. Method blanks were reported for each analysis date. Methylene chloride was detected for the blank ran on 10/29/02. The result was flagged with a "J" qualifier. Methylene chloride was not detected in any of the samples. Acetone and methylene chloride were also detected for the blank ran on 10/31/02. The results were flagged with a "J" qualifier. Acetone or methylene chloride was not detected in the samples associated with this test. All results were reported.

5.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS (MS/MSD)

To assess the effects of sample matrices on analytical efficiency, samples are spiked with VOCs in duplicate. The recoveries of MS/MSD analyses are used to evaluate analytical accuracy, while the relative percent difference (RPD) values between the MS and MSD are used to evaluate analytical precision.

MS/MSD analyses were performed as specified in Table. 1. The relative percent difference between the matrix spike and the matrix spike duplicate of sample GW-2326-1002-001 was outside of the control limits for 1,2-dichloroethene. The spike recoveries were within the control limits.

6.0 BLANK SPIKE (BS) ANALYSIS

Blank spikes are analyzed as samples to assess the analytical efficiency of the method employed, independent of sample matrix effects. Blank spikes were prepared and analyzed, and all recoveries were within laboratory control limits.

7.0 FIELD QA/QC – TRIP BLANK/RINSE BLANK ANALYSES

The purpose of the trip blank analysis is to determine the existence and magnitude of contamination resulting from field sampling activities, sample transport, and storage. Two trip blanks were submitted for analysis with the investigative samples. In one blank all results were non-detect, in the other blank chloromethane and Trichloroethene were detected below the reporting limits. Results were flagged with a "J" qualifier.

8.0 FIELD QA/QC – FIELD DUPLICATE ANALYSIS

To assess sampling and analytical precision, sample GW-2326-0402-010 was collected as a filed duplicate of sample GW-2326-0402-008 and submitted "blind" to the laboratory for analysis. Sample results showed acceptable agreement, demonstrating good sampling and analytical precision.

9.0 CONCLUSION

Based on this QA/QC assessment, the data reported by Severn Trent are acceptable for their intended use without further qualification.

_____
Vice President

_____
Date

TABLE 1

Sample ID	Location	Date	Analysis	Comments
GW-2326-1002-004	MW1	10/23/02	TCL Volatiles	
GW-2326-1002-009	MW2	10/23/02	TCL Volatiles	
GW-2326-1002-011	MW3	10/22/02	TCL Volatiles	
GW-2326-1002-018	MW4	10/22/02	TCL Volatiles	
GW-2326-1002-013	MW4D	10/22/02	TCL Volatiles	
GW-2326-1002-001	MW5	10/22/02	TCL Volatiles	
GW-2326-1002-007	MW5D	10/22/02	TCL Volatiles	
GW-2326-1002-016	MW6	10/23/02	TCL Volatiles	
GW-2326-1002-010	MW7	10/22/02	TCL Volatiles	MS-MSD
GW-2326-1002-014	MW8	10/23/02	TCL Volatiles	
GW-2326-1002-005	MW9	10/24/02	TCL Volatiles	
GW-2326-1002-019	MW10	10/23/02	TCL Volatiles	
GW-2326-1002-012	MW11	10/23/02	TCL Volatiles	
GW-2326-1002-002	MW12	10/22/02	TCL Volatiles	
GW-2326-1002-008	MW13	10/22/02	TCL Volatiles	
GW-2326-1002-017	MW14	10/24/02	TCL Volatiles	
GW-2326-1002-006	Creek #1	10/24/02	TCL Volatiles	
GW-2326-1002-015	Rinse Blank	10/24/02	TCL Volatiles	
GW-2326-1002-003	Blind Duplicate	10/22/02	TCL Volatiles	MW4D

Notes:	
-	Not Applicable
MS	Matrix Spike
MSD	Matrix Spike Dulicate

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	Sample ID:	GW2326-1002-001	GW2326-1002-002	GW2326-1002-007	GW2326-1002-008	GW2326-1002-010	GW2326-1002-011
	Location ID:	**MW5**	**MW12**	**MW5D**	**MW13**	**MW7**	**MW3**
	Collection Date:	10/22/02	10/22/02	10/22/02	10/22/02	10/22/02	10/22/02
Parameters	*Units*						
TCL Volatiles							
cis-1,2 Dichloroethene	ug/L	ND<1	110	ND<1	230	ND<1	270
trans-1,2-Dichloroethene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Acetone	ug/L	ND<10	ND<1000	ND<10	ND<250	ND<10	N<D400
Benzene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	N<D40
Bromodichloromethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	N<D40
Bromoform	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Bromomethane	ug/L	ND<2	ND<200	ND<2	ND<50	ND<2	ND<80
2-Butanone MEK	ug/L	ND<5	ND<500	ND<5	ND<120	ND<5	ND<200
Carbon disulfide	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Carbon tetrachloride	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Chlorobenzene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Dibromochloromethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Chloroethane	ug/L	ND<2	ND<200	ND<2	ND<50	ND<2	ND<80
Chloroform	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Chloromethane	ug/L	.32 J	ND<200	.28J	ND<50	.32 J	ND<80
1,1-Dichloroethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,2-Dichloroethane	ug/L	ND<1	ND<100	ND<1	ND<50	ND<1	ND<40
1,1-Dichloroethene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,2-Dichloropropane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
cis-1,3-Dichloropropene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
trans-1,3-Dichloropropene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Ethylbenzene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
2-Hexanone	ug/L	ND<5	ND<500	ND<5	ND<120	ND<5	ND<200
Methylene chloride	ug/L	ND<2	ND<200	ND<2	ND<50	ND<2	ND<80

Notes:

ND-Non Detect at associated value

E-Estimated result. Result concentration exceeds the calibration range.

J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	Sample ID:	GW2326-1002-001	GW2326-1002-002	GW2326-1002-007	GW2326-1002-008	GW2326-1002-010	GW2326-1002-011
	Location ID:	**MW5**	**MW12**	**MW5D**	**MW13**	**MW7**	**MW3**
	Collection Date:	10/22/02	10/22/02	10/22/02	10/22/02	10/22/02	10/22/02
Parameters	Units						
TCL Volatiles							
4-Methyl-2-pentanone	ug/L	ND<5	ND<500	ND<5	ND<120	ND<5	ND<200
Styrene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,1,2,2-Tetrachloroethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Tetrachloroethene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Toluene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,1,1-Trichloroethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,1,2-Trichloroethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Trichloroethene	ug/L	ND<1	ND<100	ND<1	760	ND<1	830
Vinyl chloride	ug/L	ND<2	ND<200	ND<2	ND<50	ND<2	ND<80
Xylene (total)	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40

Notes:
ND-Non Detect at associated value
E-Estimated result. Result concentration exceeds the calibration range.
J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	GW2326-1002-013	GW2326-1002-018	GW2326-1002-004	GW2326-1002-005	GW2326-1002-006	GW2326-1002-009	GW2326-1002-012
	MW4D	MW4	MW1	MW9	Creek #1	MW2	MW11
	10/22/02	10/22/02	10/23/02	10/24/02	10/24/02	10/23/02	10/23/02
Parameters							
TCL Volatiles							
cis-1,2 Dichloroethene	ND<1	310	ND<1	3700	ND<1	52000	12000
trans-1,2-Dichloroethene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Acetone	ND<10	ND<1000	ND<10	ND<2000	2.6J	ND<20000	ND<20000
Benzene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Bromodichloromethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Bromoform	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Bromomethane	ND<2	ND<200	ND<2	ND<400	ND<2	ND<4000	ND<4000
2-Butanone	ND<5	ND<500	ND<5	ND<1000	ND<5	ND<10000	ND<10000
Carbon disulfide	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Carbon tetrachloride	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Chlorobenzene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Dibromochloromethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Chloroethane	ND<2	ND<200	ND<2	ND<400	ND<2	ND<4000	ND<4000
Chloroform	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Chloromethane	.32 J	ND<200	ND<2	ND<400	.32 J	ND<4000	ND<4000
1,1-Dichloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,2-Dichloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,1-Dichloroethene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,2-Dichloropropane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
cis-1,3-Dichloropropene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
trans-1,3-Dichloropropene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Ethylbenzene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
2-Hexanone	ND<5	ND<500	ND<5	ND<1000	ND<5	ND<10000	ND<10000
Methylene chloride	ND<2	ND<200	ND<2	ND<400	ND<2	ND<4000	ND<4000

Notes:

ND-Non Detect at associated value

E-Estimated result. Result concentration exceeds the calibration range.

J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	GW2326-1002-013	GW2326-1002-018	GW2326-1002-004	GW2326-1002-005	GW2326-1002-006	GW2326-1002-009	GW2326-1002-012
	MW4D	MW4	MW1	MW9	Creek #1	MW2	MW11
	10/22/02	10/22/02	10/23/02	10/24/02	10/24/02	10/23/02	10/23/02
Parameters							
TCL Volatiles							
4-Methyl-2-pentanone	ND<5	ND<500	ND<5	ND<1000	ND<5	ND<10000	ND<10000
Styrene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,1,2,2-Tetrachloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Tetrachloroethene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Toluene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,1,1-Trichloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,1,2-Trichloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Trichloroethene	ND<1	3900	.20J	ND<200	.20J	ND<2000	49000
Vinyl chloride	ND<2	ND<200	ND<2	ND<400	ND<2	11000	ND<4000
Xylene (total)	ND<1	ND<100	ND<1	MD<200	ND<1	ND<2000	MD<2000

Notes:
ND-Non Detect at associated value
E-Estimated result. Result concentration exceeds the calibration range.
J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

AD

	GW2326-1002-014	GW2326-1002-015	GW2326-1002-016	GW2326-1001-017	GW2326-1001-019	GW2326-1002-003
	MW8	Rinse Blank	MW6	MW14	MW10	Blind Dup
	10/23/02	10/23/02	10/23/02	10-214-02	10/23/02	10/22/02
Parameters						
TCL Volatiles						
cis-1,2 Dichloroethene	ND<1	ND<1	ND<1	230	ND<1	ND<1
trans-1,2-Dichloroethene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Acetone	ND<10	ND<10	ND<10	ND<1500	ND<10	ND<10
Benzene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Bromodichloromethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Bromoform	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Bromomethane	ND<2	ND<2	ND<2	ND<300	ND<2	ND<2
2-Butanone	ND<5	ND<5	ND<5	ND<750	ND<5	ND<5
Carbon disulfide	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Carbon tetrachloride	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Chlorobenzene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Dibromochloromethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Chloroethane	ND<2	ND<2	ND<2	ND<300	.33J	ND<2
Chloroform	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Chloromethane	ND<2	ND<2	ND<2	ND<300	ND<2	.32 J
1,1-Dichloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,2-Dichloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,1-Dichloroethene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,2-Dichloropropane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
cis-1,3-Dichloropropene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
trans-1,3-Dichloropropene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Ethylbenzene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
2-Hexanone	ND<5	ND<5	ND<5	ND<750	ND<5	ND<5
Methylene chloride	ND<2	ND<2	ND<2	ND<300	ND<2	ND<2

Notes:

ND-Non Detect at associated value

E-Estimated result. Result concentration exceeds the calibration range.

J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	GW2326-1002-014	GW2326-1002-015	GW2326-1002-016	GW2326-1001-017	GW2326-1001-019	GW2326-1002-003
	MW8	**Rinse Blank**	**MW6**	**MW14**	**MW10**	***Blind Dup***
	10/23/02	*10/23/02*	*10/23/02*	*10-214-02*	*10/23/02*	*10/22/02*
Parameters						
TCL Volatiles						
4-Methyl-2-pentanone	ND<5	ND<5	ND<5	ND<750	ND<5	ND<5
Styrene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,1,2,2-Tetrachloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Tetrachloroethene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Toluene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,1,1-Trichloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,1,2-Trichloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Trichloroethene	ND<1	ND<1	ND<1	2800	ND<1	.37J
Vinyl chloride	ND<2	ND<2	ND<2	ND<300	ND<2	ND<2
Xylene (total)	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1

Notes:
ND-Non Detect at associated value
E-Estimated result. Result concentration exceeds the calibration range.
J-Estimated result. Result is less than RL.

APPENDIX C

SVE Report

APPENDIX D

TABLE 5.1

MONITORING SCHEDULE
VAC AIR
FREWSBURG NY

Monitoring Task	*Frequency*
1, Hydraulic Monitoring	
• EW-5 and EW-12	Monthly
• Extraction and SVE Wells	Quarterly
• Monitoring Wells & Piezometers	Quarterly
2. Groundwater Quality Monitoring	
• Monitoring Wells	Annual (MW-1, MW-4D, MW-5, MW-5D, MW-6, MW-7, MW-8, MW-10) To be done in October
	Semi-Annual (MW-2, MW-3 MW-4, MW-9, MW-11, MW-12, MW-13, MW-14) To be in April & October
• Conewango Creek	None
3. Discharge Effluent Monitoring	
• pH	Monthly
• Oil and Grease, Aluminum, Iron, and Zinc	Semi-Annually
• Volatile Organic compounds (VOC)	Monthly

Notes:

NR Not Required

2a (1/89)

TABLE 2.1

DER Site No.: 907016

VacAir Alloys Site, Carroll(T), Chautauqua County

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning January 1, 1997

and lasting until December 31, 2002

the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

Outfall Number & Effluent Parameter	Discharge Limitations Daily Avg.	Daily Max.	Units	Minimum Monitoring Requirements Measurement Frequency	Sample Type
Outfall 001 - Air Stripper Treatment and Discharge of Contaminated Groundwater					
Flow	Monitor	50,000	GPD	Daily	Totalizer
pH (range)	Monitor	6.0-9.0	SU	Weekly	Grab
Oil & Grease	Monitor	15	mg/l	Monthly	Grab
Aluminum, Total	Monitor	2700	ug/l	Monthly	Grab
Iron, Total	Monitor	2000	ug/l	Monthly	Grab
Zinc, Total	Monitor	400	ug/l	Monthly	Grab
VOCs[1]	Monitor	10	ug/l	Monthly	Grab

Special Conditions and Notes:

(1) VOCs are defined as all Target Compound List (TCL) compounds detected by EPA method 8260. Each individual compound detected by this method must be at or below 5 ug/l in order to demonstrate compliance with these limitations. The laboratory must be ELAP certified and Contract Laboratory Protocols procedures (ASP #95-1) must be utilized.

(2) Authorization to discharge is valid only for the period noted above but may be renewed if appropriate. A request for renewal must be received 6 months prior to the expiration date to allow for review of monitoring data and reassessment of monitoring requirements.

(3) Only site generated groundwater is authorized for treatment and discharge.

(4) Monitoring location - Samples and measurements, shall be taken from the treated effluent of the Air Stripper Unit prior to discharge to Conewango Creek.

2a (1/89) TABLE 2.1 DER Site No.: 907016

Part 1, Page 1 of 1

VacAir Alloys Site, Carroll(T), Chautauqua County

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning January 1, 1997

and lasting until December 31, 2002

the discharges from the permitted facility shall be limited and monitored by the permittee as specified below:

Outfall Number & Effluent Parameter	Discharge Limitations Daily Avg.	Daily Max.	Units	Minimum Monitoring Requirements Measurement Frequency	Sample Type
Outfall 001 - Air Stripper Treatment and Discharge of Contaminated Groundwater					
Flow	Monitor	50,000	GPD	Daily	Totalize
pH (range)	Monitor	6.0-9.0	SU	Weekly	Grab
Oil & Grease	Monitor	15	mg/l	Monthly	Grab
Aluminum, Total	Monitor	2700	ug/l	Monthly	Grab
Iron, Total	Monitor	2000	ug/l	Monthly	Grab
Zinc, Total	Monitor	400	ug/l	Monthly	Grab
VOCs(1)	Monitor	10	ug/l	Monthly	Grab

Special Conditions and Notes:

(1) VOCs are defined as all Target Compound List (TCL) compounds detected by EPA method 8260. Each individual compound detected by this method must be at or below 5 ug/l in order to demonstrate compliance wi these limitations. The laboratory must be ELAP certified and Contract Laboratory Protocols procedures (ASP #95-1) must be utilized.

(2) Authorization to discharge is valid only for the period noted above but may be renewed if appropriate. A reque for renewal must be received 6 months prior to the expiration date to allow for review of monitoring data and reassessment of monitoring requirements.

(3) Only site generated groundwater is authorized for treatment and discharge.

(4) Monitoring location - Samples and measurements, shall be taken from the treated effluent of the Air Stripper U prior to discharge to Conewango Creek.

New York State Department of Environmental Conservation Division of Environmental Remediation, Region 9
270 Michigan Avenue, Buffalo, New York, 14203-2999
Phone: (716) 851-7220 • FAX: (716) 851-7226
Website: www.dec.state.ny.us

John P. Cahill
Commissioner

February 29, 2000

Mr. Dennis Trostle
General Manager
P.O. Box 650
Frewsburg, New York 14738

Dear Mr. Trostle:

Vac Air Alloys Site
Carroll(T), Chautauqua County
Site No. 907016

I have completed a review of the report entitled, "Quarterly Monitoring Data Report - October 1, 1999 through December 31, 1999 and Performance Evaluation Report", dated February 17, 2000 by Conestoga-Rovers & Associates. The report and your continuing investigation of the Soil Vapor Extraction (SVE) System adequately addresses the concerns expressed in my letter of December 21, 1999.

As we discussed on February 29, 2000, the report is satisfactory. It was noted, however, that there are several items that are conflicting in the report, specifically dealing with the proposed monitoring requirements in Section 5.2.2.2 and Table 5.1. To clarify the revised monitoring frequencies that we discussed, a revised Table 5.1 is attached.

As we also discussed, Keywell will continue to refine the operation of the SVE unit and provide a progress report with the submission of the next quarterly report. If you have any questions, please feel free to contact me at (716)851-7220.

Sincerely,

Gregory P. Sutton, P.E.
Project Engineer
Hazardous Waste Remediation

GPS/lj

cc: Mr. Martin Doster, NYSDEC, DER
Mr. Cameron O'Connor, NYSDOH

APPENDIX B

EFFLUENT MONITORING DATA AND CALCULATED DISCHARGE LOADINGS

TABLE 1
VOC GROUNDWATER TREATMENT PLANT INFLUENT/EFFLUENT DATA

		INFLUENT		EFFLUENT	
DATE	UNITS	TCE	DCE	TCE	DCE
1/10/02	ug/L	21000	2300	ND<1	ND<1
1/24/02	ug/L	23000	5200	2	3.1
2/14/02	ug/L	17000	4800	ND<1	ND<1
2/28/02	ug/L			ND<1	ND<1
3/7/02	ug/L	28000	6100	ND<1	ND<1
3/21/02	ug/L			ND<1	ND<1

TABLE 1
VOC GROUNDWATER TREATMENT PLANT INFLUENT/EFFLUENT DATA

		INFLUENT		EFFLUENT	
DATE	UNITS	TCE	DCE	TCE	DCE
4/4/02	ug/L	21000	6900	9.9	17
4/15/02	ug/L			ND<1	ND<1
5/2/02	ug/L	27000	6700	ND<1	ND<1
5/20/02	ug/L			.43J	ND<1
6/6/02	ug/L	22000	4500	ND<1	ND<1
6/20/02	ug/L			ND<1	ND<1

TABLE 1
VOC GROUNDWATER TREATMENT PLANT INFLUENT/EFFLUENT DATA

		INFLUENT		EFFLUENT	
DATE	UNITS	TCE	DCE	TCE	DCE
7/11/02	ug/L			ND<1	ND<1
7/24/02	ug/L	17000	8600	ND<1	ND<1
8/16/02	ug/L	17000	4500	ND<1	ND<1
8/26/02	ug/L			ND<1	ND<1
9/5/02	ug/L	17000	4200	ND<1	ND<1
9/26/02	ug/L			ND<1	ND<1

TABLE 1

VOC GROUNDWATER TREATMENT PLANT INFLUENT/EFFLUENT DATA

		INFLUENT		EFFLUENT	
DATE	UNITS	TCE	DCE	TCE	DCE
10/10/02	ug/L			ND<1	ND<1
10/24/02	ug/L	9400	9600	ND<1	ND<1
11/7/02	ug/L	14000	6200	ND<1	ND<1
11/21/02	ug/L			ND<1	ND<1
12/5/02	ug/L	15000	5400	ND<1	ND<1
12/16/02	ug/L			ND<1	ND<1

J = Estimated result. Result is less than RL

Discharge Loadings are as follows:

		1/11/02	1/11/02	2/15/02	2/15/02	3/8/02	3/8/02
COMPOUNDS DETECTED	UNITS	RESULTS	# / DAY DISCHARGED	Results	# / DAY DISCHARGED	Results	# / DAY DISCHARGED
VOC's	ug/L	ND<1	<.00010	ND<1	<.000125	ND<1	<.000131
Oil & Grease	mg/L	ND<5	<.50				<.00010
Aluminum	ug/L	64.0	.0066				
Iron	ug/L	907	.095				
Zinc	ug/L	14.4	.002				
pH		8.2		8.3		8.2	

Discharge Loadings are as follows:

		4-15-02	4-15-02	5-2-02	5-2-02	6-6-02	6-6-02
COMPOUNDS DETECTED	UNITS	RESULTS	# / DAY DISCHARGED	Results	# / DAY DISCHARGED	Results	# / DAY DISCHARGED
VOC's	ug/L	ND<1	<.00016	ND<1	<.00015	ND<1	<.00020
Oil & Grease	mg/L						
Aluminum	ug/L						
Iron	ug/L						
Zinc	ug/L						
pH		8.2		8.2		8.4	

Discharge Loadings are as follows:

		7/11/02	7/11/02	8/8/02	8/8/02	9/5/02	9/5/02
COMPOUNDS DETECTED	UNITS	RESULTS	# / DAY DISCHARGED	Results	# / DAY DISCHARGED	Results	# / DAY DISCHARGEI
VOC's	ug/L	ND<1	<.00011	ND<1	<.00008	ND<1	<.00016
Oil & Grease	mg/L	ND<5	<.50				
Aluminum	ug/L	ND<200	<.02				
Iron	ug/L	ND<100	<.01				
Zinc	ug/L	ND<20	<.002				
pH		7.4		8.1		8.6	

APPENDIX C

HYDRAULIC MONITORING DATA

APPENDIX A1
GROUNDWATER HYDRAULIC MONITORING DATA (2001)
MONITORING WELLS AND PIEZOMETERS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

Well	Northing	Easting	T.O.C. Elevation	1/23/02 Level	1/23/02 Elevation
MW-1			1260.60	5.56	1255.04
MW-2	5898	5511.1	1251.60	11.98	1239.62
MW-3	5679.3	5188.5	1252.30	11.67	1240.63
MW-4	5501.5	5167.2	1250.10	5.43	1244.67
MW-4D	5510.6	5167.17	1249.37	11.96	1237.41
MW-5	5136.1	5061.9	1256.50	8.42	1248.08
MW-5D	5119.56	5061.06	1255.14	15.06	1240.08
MW-6	5596.5	5805.5	1253.70	8.11	1245.59
MW-7	5340.06	4973.69	1253.76	7.64	1246.12
MW-8			1256.65	4.83	1251.82
MW-9	5640.89	5370.69	1249.2	7.46	1241.74
MW-10	5271.81	5497.41	1253.5	6.52	1246.98
MW-11	5387.37	5578.29	1251.02	6.36	1244.66
MW-12			1243.08	1.83	1241.25
MW-13	5053	5616	1247.8	5.44	1242.36
MW-14	5121	5709	1247.46	9.02	1238.44
PZ -1-96	5411.06	5548.72	1251.09	8.78	1242.31
PZ- 2	5725	5720	1247.43	5.21	1242.22
PZ-3			1250.82	4.21	1246.61

APPENDIX A2
GROUNDWATER HYDRAULIC MONITORING DATA (2001)
EXTRACTON AND SVE WELLS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

	T.O.C.	1/23/02		2/19/02		3/7/02	
Well	Elevation (ft. AMSL)	Level	Elevation	Level	Elevation	Level	Elevation
EW-1	1248.63	22.56	1226.07				
EW-2	1248.77	21.53	1227.24				
EW-3	1250.29	22.64	1227.65				
EW-4	1251.11	23.58	1227.53				
EW-5	1250.32	22.14	1228.18	21.44	1228.88	23.06	1227.26
EW-6	1252.14	22.63	1229.51				
EW-7	1251.09	22.14	1228.95				
EW-8	1251.39	22.48	1228.91				
EW-9	1251.52	22.89	1228.63				
EW-10	1250.45	22.61	1227.84				
EW-11	1250.37	23.59	1226.78				
EW-12	1249.11	22.91	1226.20	21.82	1227.29	22.94	1226.17
EW-13	1251.64	23.53	1228.11				
EW-14	1251.34	23.17	1228.17				
EW-15	1251.17	22.63	1228.54				
EW-16	1251.29	22.76	1228.53				
EW-17	1251	21.62	1229.38				
EW-18	1251.41	20.42	1230.99				
~~CREEK~~	1250.69	18.74	1231.95	14.43	1236.26	14.72	1235.97

APPENDIX A1
GROUNDWATER HYDRAULIC MONITORING DATA (2002)
MONITORING WELLS AND PIEZOMETERS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

Well	Northing	Easting	T.O.C. Elevation	4/4/02 Level	4/4/02 Elevation
MW-1			1260.60	4.71	1255.89
MW-2	5898	5511.1	1251.60	9.84	1241.76
MW-3	5679.3	5188.5	1252.30	11.16	1241.14
MW-4	5501.5	5167.2	1250.10	4.10	1246.00
MW-4D	5510.6	5167.17	1249.37	7.44	1241.93
MW-5	5136.1	5061.9	1256.50	7.18	1249.32
MW-5D	5119.56	5061.06	1255.14	9.64	1245.50
MW-6	5596.5	5805.5	1253.70	6.74	1246.96
MW-7	5340.06	4973.69	1253.76	8.01	1245.75
MW-8			1256.65	4.30	1252.35
MW-9	5640.89	5370.69	1249.2	6.15	1243.05
MW-10	5271.81	5497.41	1253.5	6.28	1247.22
MW-11	5387.37	5578.29	1251.02	7.02	1244.00
MW-12			1243.08	0.00	1243.08
MW-13	5053	5616	1247.8	3.98	1243.82
MW-14	5121	5709	1247.46	5.68	1241.78
PZ-1-96	5411.06	5548.72	1251.09	11.4	1239.69
PZ-2	5725	5720	1247.43	4.12	1243.31
PZ-3			1250.82	5.74	1245.08

APPENDIX A2
GROUNDWATER HYDRAULIC MONITORING DATA (2002)
EXTRACTON AND SVE WELLS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

	T.O.C.	4/4/02		5/6/02		6/19/02	
Well	Elevation (ft. AMSL)	Level	Elevation	Level	Elevation	Level	Elevation
EW-1	1248.63	20.39	1228.24				
EW-2	1248.77	20.63	1228.14				
EW-3	1250.29	22.12	1228.17				
EW-4	1251.11	22.94	1228.17				
EW-5	1250.32	22.15	1228.17	22.78	1227.54	23.73	1226.59
EW-6	1252.14	23.94	1228.20				
EW-7	1251.09	23.13	1227.96				
EW-8	1251.39	23.19	1228.20				
EW-9	1251.52	23.35	1228.17				
EW-10	1250.45	22.28	1228.17				
EW-11	1250.37	21.87	1228.50				
EW-12	1249.11	20.94	1228.17	23.01	1226.10	23.17	1225.94
EW-13	1251.64	23.47	1228.17				
EW-14	1251.34	22.57	1228.77				
EW-15	1251.17	22.50	1228.67				
EW-16	1251.29	22.59	1228.70				
EW-17	1251	22.56	1228.44				
EW-18	1251.41	21.03	1230.38				
CREEK	1250.69	13.62	1237.07	19.27	1231.42	17.63	1233.06

APPENDIX A1
GROUNDWATER HYDRAULIC MONITORING DATA (2002)
MONITORING WELLS AND PIEZOMETERS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

Well	Northing	Easting	T.O.C. Elevation	7/12/02 Level	7/12/02 Elevation
MW-1			1260.60	5.12	1255.48
MW-2	5898	5511.1	1251.60	10.62	1240.98
MW-3	5679.3	5188.5	1252.30	9.74	1242.56
MW-4	5501.5	5167.2	1250.10	5.36	1244.74
MW-4D	5510.6	5167.17	1249.37	9.12	1240.25
MW-5	5136.1	5061.9	1256.50	8.1	1248.40
MW-5D	5119.56	5061.06	1255.14	11.63	1243.51
MW-6	5596.5	5805.5	1253.70	8.48	1245.22
MW-7	5340.06	4973.69	1253.76	8.36	1245.40
MW-8			1256.65	5.17	1251.48
MW-9	5640.89	5370.69	1249.2	7.52	1241.68
MW-10	5271.81	5497.41	1253.5	6.48	1247.02
MW-11	5387.37	5578.29	1251.02	7.12	1243.90
MW-12			1243.08	1.92	1241.16
MW-13	5053	5616	1247.8	4.96	1242.84
MW-14	5121	5709	1247.46	9.1	1238.36
PZ-1-96	5411.06	5548.72	1251.09	6.54	1244.55
PZ-2	5725	5720	1247.43	5.11	1242.32
PZ-3			1250.82	7.42	1243.40

APPENDIX A2
GROUNDWATER HYDRAULIC MONITORING DATA (2002)
EXTRACTON AND SVE WELLS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

	T.O.C.	7/12/02		8/9/02		9/11/02	
Well	Elevation (ft. AMSL)	Level	Elevation	Level	Elevation	Level	Elevation
EW-1	1248.63	22.98	1225.65				
EW-2	1248.77	22.76	1226.01				
EW-3	1250.29	22.64	1227.65				
EW-4	1251.11	22.56	1228.55				
EW-5	1250.32	22.41	1227.91	22.83	1227.49	21.36	1228.96
EW-6	1252.14	22.26	1229.88				
EW-7	1251.09	22.84	1228.25				
EW-8	1251.39	22.02	1229.37				
EW-9	1251.52	22.16	1229.36				
EW-10	1250.45	22.46	1227.99				
EW-11	1250.37	23.14	1227.23				
EW-12	1249.11	23.56	1225.55	23.12	1225.99	22.47	1226.64
EW-13	1251.64	23.12	1228.52				
EW-14	1251.34	23.27	1228.07				
EW-15	1251.17	22.96	1228.21				
EW-16	1251.29	22.84	1228.45				
EW-17	1251	23.46	1227.54				
EW-18	1251.41	21.88	1229.53				
Creek	1250.69	20.63	1230.06				

APPENDIX A1
GROUNDWATER HYDRAULIC MONITORING DATA (2002)
MONITORING WELLS AND PIEZOMETERS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

Well	Northing	Easting	T.O.C. Elevation	10/24/02 Level	10/24/02 Elevation
MW-1			1260.60	5.35	1255.25
MW-2	5898	5511.1	1251.60	11.91	1239.69
MW-3	5679.3	5188.5	1252.30	11.21	1241.09
MW-4	5501.5	5167.2	1250.10	4.21	1245.89
MW-4D	5510.6	5167.17	1249.37	11.86	1237.51
MW-5	5136.1	5061.9	1256.50	7.97	1248.53
MW-5D	5119.56	5061.06	1255.14	15.45	1239.69
MW-6	5596.5	5805.5	1253.70	7.30	1246.40
MW-7	5340.06	4973.69	1253.76	8.05	1245.71
MW-8			1256.65	4.85	1251.80
MW-9	5640.89	5370.69	1249.2	7.80	1241.40
MW-10	5271.81	5497.41	1253.5	5.71	1247.79
MW-11	5387.37	5578.29	1251.02	3.87	1247.15
MW-12			1243.08	1.52	1241.56
MW-13	5053	5616	1247.8	5.88	1241.92
MW-14	5121	5709	1247.46	8.80	1238.66
PZ -1-96	5411.06	5548.72	1251.09	6.42	1244.67
PZ- 2	5725	5720	1247.43	4.92	1242.51
PZ-3			1250.82	6.17	1244.65

APPENDIX A2
GROUNDWATER HYDRAULIC MONITORING DATA (2002)
EXTRACTON AND SVE WELLS
KEYWELL - VAC AIR DIVISION
FREWSBURG, NY

	T.O.C.	10/24/02		11/8/02		12/13/02	
Well	**Elevation** (ft. AMSL)	**Level**	**Elevation**	**Level**	**Elevation**	**Level**	**Elevation**
EW-1	1248.63	23.06	1225.57				
EW-2	1248.77	22.98	1225.79				
EW-3	1250.29	22.74	1227.55				
EW-4	1251.11	22.54	1228.57				
EW-5	1250.32	22.67	1227.65	22.68	1227.64	23.12	1227.20
EW-6	1252.14	22.22	1229.92				
EW-7	1251.09	23.01	1228.08				
EW-8	1251.39	22.17	1229.22				
EW-9	1251.52	22.73	1228.79				
EW-10	1250.45	22.83	1227.62				
EW-11	1250.37	23.22	1227.15				
EW-12	1249.11	23.49	1225.62	22.96	1226.15	23.02	1226.09
EW-13	1251.64	23.14	1228.50	22.87	1228.77	22.96	1228.68
EW-14	1251.34	23.28	1228.06	22.96	1228.38	23.02	1228.32
EW-15	1251.17	22.98	1228.19	22.88	1228.29	22.89	1228.28
EW-16	1251.29	22.88	1228.41	22.73	1228.56	22.82	1228.47
EW-17	1251	22.92	1228.08	22.78	1228.22	22.88	1228.12
EW-18	1251.41	22.01	1229.40	22.12	1229.29	21.96	1229.45
Creek		19.37		20.12		15.8	

APPENDIX D

ANALYTICAL DATA ASSESSMENT AND VALIDATION REPORTS

July 9, 2002

Analytical Data Assessment and Validation
Quarterly Groundwater Sampling
Keywell L.L.C. – Vac Air Division Site
Frewsburg, New York
October 2001

The following memo details an assessment and validation of analytical results reported by Severn Trent for groundwater samples collected at the Keywell L.L.C. – Vac Air Site in April 2002 for target compound list (TCL) volatile organic compounds (VOCs) testing. The analytical method used by the laboratory was SW-846 8260B referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, September 1986 and subsequent revisions.

A sample collection summary is presented in Table 1 of Appendix B. The sample results are presented in Table 2 of Appendix B. Evaluation of these data was based on information obtained from the finished data sheets, chain of custody forms, method blanks, and recovery data for surrogate spikes, blank spikes, matrix spikes, and internal standards.

The Quality Assurance/Quality Control (QA/AC) criteria by which these data have been assessed are outlined in the analytical methods, the site-specific Quality Assurance Project Plan (QAPP) in Appendix G of the "Final Remedial Design Report", June 1997, (Attachment G-3), and the document "National Functional Guidelines for Organic Data Review", February 1994, prepared by the United States Environmental Protection Agency (USEPA) Office of Emergency and Remedial Response. The validation document will be referred to as the "Guidelines".

1.0 SAMPLE HOLDING TIMES

In accordance with the "QAPP", water samples preserved with hydrochloric acid to a pH of less than two must be analyzed for VOCs within 14 days of collection. Upon review of the chain of custody documents and analysis reports, it was determined that all investigative samples were analyzed for VOCs within the holding time.

2.0 SURROGATE SPIKE RECOVERIES

Laboratory performance on individual samples is assessed on the basis of surrogate spike recoveries. All water samples submitted for analysis were spiked with the surrogate compounds 4-Bromofluorobenzene, dibromofluoromethane, 1,2-Dichloroethane-d4, and toluene-d_8. All recoveries were within the laboratory control limits.

3.0 INTERNAL STANDARD ANALYSIS

Area count of the internal standards for each sample were within – 50 to +100 percent of the area counts of the daily calibration standard.

4.0 LABORATORY BLANK ANALYSIS

The method blank for batch 2120343 had methylene chloride detected below the reporting limit but above the MDL. The result was flagged with a "J" qualifier. Any sample associated with this blank that had methylene chloride detected had the result flagged with a "B" qualifier.

5.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS (MS/MSD)

To assess the effects of sample matrices on analytical efficiency, samples are spiked with VOCs in duplicate. The recoveries of MS/MSD analyses are used to evaluate analytical accuracy, while the relative percent difference (RPD) values between the MS and MSD are used to evaluate analytical precision.

The matrix spike and matrix spike duplicate of sample GW2326-0402-006 recovered above the control limits for trichloroethene. The matrix spike duplicate of sample GW2326-0402-008 recovered above the control limits for trichloroethene.

6.0 BLANK SPIKE (BS) ANALYSIS

Blank spikes are analyzed as samples to assess the analytical efficiency of the method employed, independent of sample matrix effects. Blank spikes were prepared and analyzed, and all recoveries were within laboratory control limits.

7.0 FIELD QA/QC – TRIP BLANK/RINSE BLANK ANALYSES

The purpose of the trip blank analysis is to determine the existence and magnitude of contamination resulting from field sampling activities, sample transport, and storage. One trip blank was submitted for analysis with the investigative samples. All results were non-detect.

8.0 FIELD QA/QC – FIELD DUPLICATE ANALYSIS

To assess sampling and analytical precision, sample GW-2326-0402-010 was collected as a filed duplicate of sample GW-2326-0402-008 and submitted "blind" to the laboratory for analysis. Sample results showed acceptable agreement, demonstrating good sampling and analytical precision.

9.0 CONCLUSION

Based on this QA/QC assessment, the data reported by Severn Trent are acceptable for their intended use without further qualification.

Dennis C. Hostetler
Vice President

7/9/02
Date

GROUNDWATER MONITORING WELLS SAMPLE KEY

Sample ID	*Location*	*Date*	*Analysis*	*Comments*
GW-2326-0402-002	MW2	4/22/02	TCL Volatiles	
GW-2326-0402-003	MW3	4/22/02	TCL Volatiles	
GW-2326-0402-008	MW4	4/22/02	TCL Volatiles	
GW-2326-0402-001	MW9	4/23/02	TCL Volatiles	
GW-2326-0402-005	MW11	4/22/02	TCL Volatiles	
GW-2326-0402-006	MW12	4/22/02	TCL Volatiles	MS-MSD
GW-2326-0402-007	MW13	4/22/02	TCL Volatiles	
GW-2326-0402-004	MW14	4/23/02	TCL Volatiles	
GW-2326-0402-010	Blind Dup	4/22/02	TCL Volatiles	MW4
GW-2326-0402-009	Rinse Blank	4/23/02	TCL Volatiles	

Notes:	
-	Not Applicable
MS	Matrix Spike
MSD	Matrix Spike Dulicate

Analytical Summary Quarterly Groundwater Sampling
Vac Air Frewsburg NY
Second Quarter 2002

	Sample ID:	GW2326-0402-002	GW2326-0402-003	GW2326-0402-008	GW2326-0402-001	GW2326-0402-005
	Location ID:	**MW2**	**MW3**	**MW4**	**MW9**	**MW11**
	Collection Date:	4/22/02	4/22/02	4/22/02	4/23/02	4/22/02
Parameters	Units	✓	✓	✓	✓	✓
TCL Volatiles						
cis-1,2 Dichloroethene	ug/L	3600	410	230/210	2700	2100
trans-1,2-Dichloroethene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Acetone	ug/L	ND<1000	ND<250	250 J/310 J	ND<1000	250 J
Benzene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Bromodichloromethane	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Bromoform	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Bromomethane	ug/L	ND<200	ND<50	ND<200	ND<200	ND<200
2-Butanone	ug/L	ND<500	ND<120	ND<500	ND<500	ND<500
Carbon disulfide	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Carbon tetrachloride	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Chlorobenzene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Dibromochloromethane	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Chloroethane	ug/L	ND<200	ND<50	ND<200	ND<200	ND<200
Chloroform	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Chloromethane	ug/L	ND<200	ND<50	ND<200	ND<200	ND<200
1,1-Dichloroethane	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
1,2-Dichloroethane	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
1,1-Dichloroethene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
1,2-Dichloropropane	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
cis-1,3-Dichloropropene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
trans-1,3-Dichloropropene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Ethylbenzene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
2-Hexanone	ug/L	ND<500	ND<120	ND<500	ND<500	ND<500
Methylene chloride	ug/L	45 J,B	ND<50	ND<200	ND<200	ND<200

Analytical Summary Quarterly Groundwater Sampling
Vac Air Frewsburg NY
Second Quarter 2002

	Sample ID:	GW2326-0402-002	GW2326-0402-003	GW2326-0402-008	GW2326-0402-001	GW2326-0402-005
	Location ID:	**MW2**	**MW3**	**MW4**	**MW9**	**MW11**
	Collection Date:	4/22/02	4/22/02	4/22/02	4/23/02	4/22/02
Parameters	Units					
TCL Volatiles						
4-Methyl-2-pentanone	ug/L	ND<500	ND<120	ND<500	ND<500	ND<500
Styrene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
1,1,2,2-Tetrachloroethane	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Tetrachloroethene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Toluene	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
1,1,1-Trichloroethane	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
1,1,2-Trichloroethane	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100
Trichloroethene	ug/L	ND<100	900	2700	ND<100	2000
Vinyl chloride	ug/L	1200	ND<50	ND<200	330	67 J
Xylene (total)	ug/L	ND<100	ND<25	ND<100	ND<100	ND<100

Notes:

ND - Non-detect at associated value

E-Estimated result. Result concentration exceeds the calibration range.

J-Estimated resutl. Result is less than RL.

Analytical Summary Quarterly Groundwater Sampling
Vac Air Frewsburg NY
Second Quarter 2002

MW-4

	GW2326-0402-006	GW2326-0402-007	GW2326-0402-004	GW2326-0402-010
	MW12	**MW13**	**MW14**	**Blind Dup**
	4/22/02	4/22/02	4/23/02	4/22/02
Parameters				
TCL Volatiles				
cis-1,2 Dichloroethene	80 J	180	320	210
trans-1,2-Dichloroethene	ND<250	ND<50	ND<100	ND<100
Acetone	650 J	130 J	ND<1000	310 J
Benzene	ND<250	ND<50	ND<100	ND<100
Bromodichloromethane	ND<250	ND<50	ND<100	ND<100
Bromoform	ND<250	ND<50	ND<100	ND<100
Bromomethane	ND<500	ND<100	ND<200	ND<200
2-Butanone	ND<1200	ND<250	ND<500	ND<500
Carbon disulfide	ND<250	ND<50	ND<100	ND<100
Carbon tetrachloride	ND<250	ND<50	ND<100	ND<100
Chlorobenzene	ND<250	ND<50	ND<100	ND<100
Dibromochloromethane	ND<250	ND<50	ND<100	ND<100
Chloroethane	ND<500	ND<100	ND<200	ND<200
Chloroform	ND<250	ND<50	ND<100	ND<100
Chloromethane	ND<500	ND<100	ND<200	ND<200
1,1-Dichloroethane	ND<250	ND<50	ND<100	ND<100
1,2-Dichloroethane	ND<250	ND<50	ND<100	ND<100
1,1-Dichloroethene	ND<250	ND<50	ND<100	ND<100
1,2-Dichloropropane	ND<250	ND<50	ND<100	ND<100
cis-1,3-Dichloropropene	ND<250	ND<50	ND<100	ND<100
trans-1,3-Dichloropropene	ND<250	ND<50	ND<100	ND<100
Ethylbenzene	ND<250	ND<50	ND<100	ND<100
2-Hexanone	ND<1200	ND<250	ND<500	ND<500
Methylene chloride	ND<500	ND<100	ND<200	ND<200

Analytical Summary Quarterly Groundwater Sampling
Vac Air Frewsburg NY
Second Quarter 2002

	GW2326-0402-006	GW2326-0402-007	GW2326-0402-004	GW2326-0402-010
	MW12	**MW13**	**MW14**	**Blind Dup**
	4/22/02	4/22/02	4/23/02	4/22/02
Parameters				
TCL Volatiles				
4-Methyl-2-pentanone	ND<1200	ND<250	ND<500	ND<500
Styrene	ND<250	ND<50	ND<100	ND<100
1,1,2,2-Tetrachloroethane	ND<250	ND<50	ND<100	ND<100
Tetrachloroethene	ND<250	ND<50	ND<100	ND<100
Toluene	ND<250	ND<50	ND<100	ND<100
1,1,1-Trichloroethane	ND<250	ND<50	ND<100	ND<100
1,1,2-Trichloroethane	ND<250	ND<50	ND<100	ND<100
Trichloroethene	5100	1100	3300	2500
Vinyl chloride	ND<500	ND<100	ND<200	ND<200
Xylene (total)	ND<250	ND<50	ND<100	ND<100

Notes:

ND - Non-detect at associated value

E-Estimated result. Result concentration exc

J-Estimated resutl. Result is less than RL.

January 7, 2003

Analytical Data Assessment and Validation
Quarterly Groundwater Sampling
Keywell L.L.C. -- Vac Air Division Site
Frewsburg, New York
October – December 2002

The following memo details an assessment and validation of analytical results reported by Severn Trent for groundwater samples collected at the Keywell L.L.C. – Vac Air Site in April 2002 for target compound list (TCL) volatile organic compounds (VOCs) testing. The analytical method used by the laboratory was SW-846 8260B referenced from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, September 1986 and subsequent revisions.

A sample collection summary is presented in Table 1 of Appendix B. The sample results are presented in Table 2 of Appendix B. Evaluation of these data was based on information obtained from the finished data sheets, chain of custody forms, method blanks, and recovery data for surrogate spikes, blank spikes, matrix spikes, and internal standards.

The Quality Assurance/Quality Control (QA/AC) criteria by which these data have been assessed are outlined in the analytical methods, the site-specific Quality Assurance Project Plan (QAPP) in Appendix G of the "Final Remedial Design Report", June 1997, (Attachment G-3), and the document "National Functional Guidelines for Organic Data Review", February 1994, prepared by the United States Environmental Protection Agency (USEPA) Office of Emergency and Remedial Response. The validation document will be referred to as the "Guidelines".

1.0 SAMPLE HOLDING TIMES

In accordance with the "QAPP", water samples preserved with hydrochloric acid to a pH of less than two must be analyzed for VOCs within 14 days of collection. Upon review of the chain of custody documents and analysis reports, it was determined that all investigative samples were analyzed for VOCs within the holding time.

2.0 SURROGATE SPIKE RECOVERIES

Laboratory performance on individual samples is assessed on the basis of surrogate spike recoveries. All water samples submitted for analysis were spiked with the surrogate compounds 4-Bromofluorobenzene, dibromofluoromethane, 1,2-Dichloroethane-d4, and toluene-d_8. All recoveries were within the laboratory control limits.

3.0 INTERNAL STANDARD ANALYSIS

Area count of the internal standards for each sample were within – 50 to +100 percent of the area counts of the daily calibration standard.

4.0 LABORATORY BLANK ANALYSIS

The purpose of assessing the results of laboratory blank analyses to determine the existence and magnitude of sample contamination introduced in the laboratory. Method blanks were reported for each analysis date. Methylene chloride was detected for the blank ran on 10/29/02. The result was flagged with a "J" qualifier. Methylene chloride was not detected in any of the samples. Acetone and methylene chloride were also detected for the blank ran on 10/31/02. The results were flagged with a "J" qualifier. Acetone or methylene chloride was not detected in the samples associated with this test. All results were reported.

5.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE ANALYSIS (MS/MSD)

To assess the effects of sample matrices on analytical efficiency, samples are spiked with VOCs in duplicate. The recoveries of MS/MSD analyses are used to evaluate analytical accuracy, while the relative percent difference (RPD) values between the MS and MSD are used to evaluate analytical precision.

MS/MSD analyses were performed as specified in Table. 1. The relative percent difference between the matrix spike and the matrix spike duplicate of sample GW-2326-1002-001 was outside of the control limits for 1,2-dichloroethene. The spike recoveries were within the control limits.

6.0 BLANK SPIKE (BS) ANALYSIS

Blank spikes are analyzed as samples to assess the analytical efficiency of the method employed, independent of sample matrix effects. Blank spikes were prepared and analyzed, and all recoveries were within laboratory control limits.

7.0 FIELD QA/QC – TRIP BLANK/RINSE BLANK ANALYSES

The purpose of the trip blank analysis is to determine the existence and magnitude of contamination resulting from field sampling activities, sample transport, and storage. Two trip blanks were submitted for analysis with the investigative samples. In one blank all results were non-detect, in the other blank chloromethane and Trichloroethene were detected below the reporting limits. Results were flagged with a "J" qualifier.

8.0 FIELD QA/QC – FIELD DUPLICATE ANALYSIS

To assess sampling and analytical precision, sample GW-2326-0402-010 was collected as a filed duplicate of sample GW-2326-0402-008 and submitted "blind" to the laboratory for analysis. Sample results showed acceptable agreement, demonstrating good sampling and analytical precision.

9.0 CONCLUSION

Based on this QA/QC assessment, the data reported by Severn Trent are acceptable for their intended use without further qualification.

_____
Vice President

_____
Date

TABLE 1

Sample ID	Location	Date	Analysis	Comments
GW-2326-1002-004	MW1	10/23/02	TCL Volatiles	
GW-2326-1002-009	MW2	10/23/02	TCL Volatiles	
GW-2326-1002-011	MW3	10/22/02	TCL Volatiles	
GW-2326-1002-018	MW4	10/22/02	TCL Volatiles	
GW-2326-1002-013	MW4D	10/22/02	TCL Volatiles	
GW-2326-1002-001	MW5	10/22/02	TCL Volatiles	
GW-2326-1002-007	MW5D	10/22/02	TCL Volatiles	
GW-2326-1002-016	MW6	10/23/02	TCL Volatiles	
GW-2326-1002-010	MW7	10/22/02	TCL Volatiles	MS-MSD
GW-2326-1002-014	MW8	10/23/02	TCL Volatiles	
GW-2326-1002-005	MW9	10/24/02	TCL Volatiles	
GW-2326-1002-019	MW10	10/23/02	TCL Volatiles	
GW-2326-1002-012	MW11	10/23/02	TCL Volatiles	
GW-2326-1002-002	MW12	10/22/02	TCL Volatiles	
GW-2326-1002-008	MW13	10/22/02	TCL Volatiles	
GW-2326-1002-017	MW14	10/24/02	TCL Volatiles	
GW-2326-1002-006	Creek #1	10/24/02	TCL Volatiles	
GW-2326-1002-015	Rinse Blank	10/24/02	TCL Volatiles	
GW-2326-1002-003	Blind Duplicate	10/22/02	TCL Volatiles	MW4D

Notes:	
-	Not Applicable
MS	Matrix Spike
MSD	Matrix Spike Dulicate

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	Sample ID:	GW2326-1002-001	GW2326-1002-002	GW2326-1002-007	GW2326-1002-008	GW2326-1002-010	GW2326-1002-011
	Location ID:	MW5	MW12	MW5D	MW13	MW7	MW3
	Collection Date:	10/22/02	10/22/02	10/22/02	10/22/02	10/22/02	10/22/02
Parameters	Units						
TCL Volatiles							
cis-1,2 Dichloroethene	ug/L	ND<1	110	ND<1	230	ND<1	270
trans-1,2-Dichloroethene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Acetone	ug/L	ND<10	ND<1000	ND<10	ND<250	ND<10	N<D400
Benzene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	N<D40
Bromodichloromethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	N<D40
Bromoform	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Bromomethane	ug/L	ND<2	ND<200	ND<2	ND<50	ND<2	ND<80
2-Butanone MEK	ug/L	ND<5	ND<500	ND<5	ND<120	ND<5	ND<200
Carbon disulfide	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Carbon tetrachloride	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Chlorobenzene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Dibromochloromethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Chloroethane	ug/L	ND<2	ND<200	ND<2	ND<50	ND<2	ND<80
Chloroform	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Chloromethane	ug/L	.32 J	ND<200	.28J	ND<50	.32 J	ND<80
1,1-Dichloroethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,2-Dichloroethane	ug/L	ND<1	ND<100	ND<1	ND<50	ND<1	ND<40
1,1-Dichloroethene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,2-Dichloropropane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
cis-1,3-Dichloropropene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
trans-1,3-Dichloropropene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Ethylbenzene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
2-Hexanone	ug/L	ND<5	ND<500	ND<5	ND<120	ND<5	ND<200
Methylene chloride	ug/L	ND<2	ND<200	ND<2	ND<50	ND<2	ND<80

Notes:

ND-Non Detect at associated value

E-Estimated result. Result concentration exceeds the calibration range.

J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	Sample ID:	GW2326-1002-001	GW2326-1002-002	GW2326-1002-007	GW2326-1002-008	GW2326-1002-010	GW2326-1002-011
	Location ID:	**MW5**	**MW12**	**MW5D**	**MW13**	**MW7**	**MW3**
	Collection Date:	10/22/02	10/22/02	10/22/02	10/22/02	10/22/02	10/22/02
Parameters	Units						
TCL Volatiles							
4-Methyl-2-pentanone	ug/L	ND<5	ND<500	ND<5	ND<120	ND<5	ND<200
Styrene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,1,2,2-Tetrachloroethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Tetrachloroethene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Toluene	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,1,1-Trichloroethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
1,1,2-Trichloroethane	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40
Trichloroethene	ug/L	ND<1	ND<100	ND<1	760	ND<1	830
Vinyl chloride	ug/L	ND<2	ND<200	ND<2	ND<50	ND<2	ND<80
Xylene (total)	ug/L	ND<1	ND<100	ND<1	ND<25	ND<1	ND<40

Notes:
ND-Non Detect at associated value
E-Estimated result. Result concentration exceeds the calibration range.
J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	GW2326-1002-013	GW2326-1002-018	GW2326-1002-004	GW2326-1002-005	GW2326-1002-006	GW2326-1002-009	GW2326-1002-012
	MW4D	MW4	MW1	MW9	Creek #1	MW2	MW11
	10/22/02	10/22/02	10/23/02	10/24/02	10/24/02	10/23/02	10/23/02
Parameters							
TCL Volatiles							
cis-1,2 Dichloroethene	ND<1	310	ND<1	3700	ND<1	52000	12000
trans-1,2-Dichloroethene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Acetone	ND<10	ND<1000	ND<10	ND<2000	2.6J	ND<20000	ND<20000
Benzene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Bromodichloromethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Bromoform	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Bromomethane	ND<2	ND<200	ND<2	ND<400	ND<2	ND<4000	ND<4000
2-Butanone	ND<5	ND<500	ND<5	ND<1000	ND<5	ND<10000	ND<10000
Carbon disulfide	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Carbon tetrachloride	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Chlorobenzene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Dibromochloromethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Chloroethane	ND<2	ND<200	ND<2	ND<400	ND<2	ND<4000	ND<4000
Chloroform	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Chloromethane	.32 J	ND<200	ND<2	ND<400	.32 J	ND<4000	ND<4000
1,1-Dichloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,2-Dichloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,1-Dichloroethene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,2-Dichloropropane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
cis-1,3-Dichloropropene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
trans-1,3-Dichloropropene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Ethylbenzene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
2-Hexanone	ND<5	ND<500	ND<5	ND<1000	ND<5	ND<10000	ND<10000
Methylene chloride	ND<2	ND<200	ND<2	ND<400	ND<2	ND<4000	ND<4000

Notes:

ND-Non Detect at associated value

E-Estimated result. Result concentration exceeds the calibration range.

J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	GW2326-1002-013	GW2326-1002-018	GW2326-1002-004	GW2326-1002-005	GW2326-1002-006	GW2326-1002-009	GW2326-1002-012
	MW4D	**MW4**	**MW1**	**MW9**	**Creek #1**	**MW2**	**MW11**
	10/22/02	10/22/02	10/23/02	10/24/02	10/24/02	10/23/02	10/23/02
Parameters							
TCL Volatiles							
4-Methyl-2-pentanone	ND<5	ND<500	ND<5	ND<1000	ND<5	ND<10000	ND<10000
Styrene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,1,2,2-Tetrachloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Tetrachloroethene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Toluene	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,1,1-Trichloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
1,1,2-Trichloroethane	ND<1	ND<100	ND<1	ND<200	ND<1	ND<2000	ND<2000
Trichloroethene	ND<1	3900	.20J	ND<200	.20J	ND<2000	49000
Vinyl chloride	ND<2	ND<200	ND<2	ND<400	ND<2	11000	ND<4000
Xylene (total)	ND<1	ND<100	ND<1	MD<200	ND<1	ND<2000	MD<2000

Notes:
ND-Non Detect at associated value
E-Estimated result. Result concentration exceeds the calibration range.
J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

AD

	GW2326-1002-014	GW2326-1002-015	GW2326-1002-016	GW2326-1001-017	GW2326-1001-019	GW2326-1002-003
	MW8	Rinse Blank	MW6	MW14	MW10	Blind Dup
	10/23/02	10/23/02	10/23/02	10-214-02	10/23/02	10/22/02
Parameters						
TCL Volatiles						
cis-1,2 Dichloroethene	ND<1	ND<1	ND<1	230	ND<1	ND<1
trans-1,2-Dichloroethene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Acetone	ND<10	ND<10	ND<10	ND<1500	ND<10	ND<10
Benzene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Bromodichloromethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Bromoform	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Bromomethane	ND<2	ND<2	ND<2	ND<300	ND<2	ND<2
2-Butanone	ND<5	ND<5	ND<5	ND<750	ND<5	ND<5
Carbon disulfide	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Carbon tetrachloride	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Chlorobenzene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Dibromochloromethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Chloroethane	ND<2	ND<2	ND<2	ND<300	.33J	ND<2
Chloroform	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Chloromethane	ND<2	ND<2	ND<2	ND<300	ND<2	.32 J
1,1-Dichloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,2-Dichloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,1-Dichloroethene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,2-Dichloropropane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
cis-1,3-Dichloropropene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
trans-1,3-Dichloropropene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Ethylbenzene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
2-Hexanone	ND<5	ND<5	ND<5	ND<750	ND<5	ND<5
Methylene chloride	ND<2	ND<2	ND<2	ND<300	ND<2	ND<2

Notes:

ND-Non Detect at associated value

E-Estimated result. Result concentration exceeds the calibration range.

J-Estimated result. Result is less than RL.

TABLE 2
Analytical Summary Quarterly Groundwater Sampling
Vac Air Site Frewsburg NY
Fourth Quarter 2002

	GW2326-1002-014	GW2326-1002-015	GW2326-1002-016	GW2326-1001-017	GW2326-1001-019	GW2326-1002-003
	MW8	**Rinse Blank**	**MW6**	**MW14**	**MW10**	***Blind Dup***
	10/23/02	*10/23/02*	*10/23/02*	*10-214-02*	*10/23/02*	*10/22/02*
Parameters						
TCL Volatiles						
4-Methyl-2-pentanone	ND<5	ND<5	ND<5	ND<750	ND<5	ND<5
Styrene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,1,2,2-Tetrachloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Tetrachloroethene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Toluene	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,1,1-Trichloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
1,1,2-Trichloroethane	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1
Trichloroethene	ND<1	ND<1	ND<1	2800	ND<1	.37J
Vinyl chloride	ND<2	ND<2	ND<2	ND<300	ND<2	ND<2
Xylene (total)	ND<1	ND<1	ND<1	ND<150	ND<1	ND<1

Notes:
ND-Non Detect at associated value
E-Estimated result. Result concentration exceeds the calibration range.
J-Estimated result. Result is less than RL.

CONESTOGA-ROVERS & ASSOCIATES

2055 Niagara Falls Blvd., Suite #3
Niagara Falls, New York 14304
Telephone: (716) 297-6150 Fax: (716) 297-2265
www.CRAworld.com

MEMORANDUM

TO: Carol Dunnigan

REF. NO.: 2326

FROM: Susan Scrocchi/js/SCS

DATE: May 8, 2002

RE: Air Monitoring
VacAir SVE System

INTRODUCTION

Air samples were collected at the VacAir Site (Site) on April 18, 2002. Two samples were collected into 6L Summa canisters and were submitted to Air Toxics, LTD, located in Folsom, CA, for analysis of Target Compound List (TCL) volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-14.

The analytical results and Chains of Custody are attached. Data was evaluated based on information obtained from the Chain of Custody, final data sheets, surrogate recoveries, and laboratory control sample (LCS) results.

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) REVIEW:

The samples were analyzed within an appropriate holding time. Samples were received at the laboratory in good condition.

Method blanks were analyzed at the proper frequency and the results were non-detect.

Surrogate compounds were added to the sample prior to analysis. All recoveries were acceptable.

A LCS was analyzed on a daily basis. All recoveries were acceptable indicating adequate analytical efficiency.

CONCLUSION

All analytical results were acceptable for use.

TABLE 1

ANALYTICAL RESULTS SUMMARY
AIR MONITORING
VAC AIR
APRIL 2002

	Sample ID:	*VS-ODD-041802-DO*	*VS-EVEN-041802-DO*
	Collection Date:	*04/18/02*	*04/18/02*
Parameters	*Units*		
TCL Volatiles			
Chloromethane	µg/m^3	160 U	160 U
Bromomethane	µg/m^3	300 U	290 U
Vinyl chloride	µg/m^3	200 U	190 U
Chloroethane	µg/m^3	210 U	200 U
Methylene chloride	µg/m^3	270 U	260 U
Acetone	µg/m^3	750 U	720 U
Carbon disulfide	µg/m^3	980 U	940 U
1,1-Dichloroethene	µg/m^3	310 U	300 U
1,1-Dichloroethane	µg/m^3	320 U	310 U
trans-1,2-Dichloroethene	µg/m^3	1200 U	1200 U
Chloroform	µg/m^3	380 U	370 U
1,2-Dichloroethane	µg/m^3	320 U	310 U
2-Butanone	µg/m^3	930 U	890 U
1,1,1-Trichloroethane	µg/m^3	430 U	410 U
Carbon tetrachloride	µg/m^3	500 U	480 U
Bromodichloromethane	µg/m^3	2100 U	2000 U
1,2-Dichloropropane	µg/m^3	360 U	350 U
cis-1,3-Dichloropropene	µg/m^3	360 U	340 U
Trichloroethene	µg/m^3	100000	110000
Dibromochloromethane	µg/m^3	2700 U	2600 U
1,1,2-Trichloroethane	µg/m^3	430 U	410 U
Benzene	µg/m^3	250 U	240 U
trans-1,3-Dichloropropene	µg/m^3	360 U	340 U
Bromoform	µg/m^3	3200 U	3100 U
4-Methyl-2-pentanone	µg/m^3	1300 U	1200 U
2-Hexanone	µg/m^3	1300 U	1200 U
Tetrachloroethene	µg/m^3	530 U	510 U
Toluene	µg/m^3	300 U	280 U
1,1,2,2-Tetrachloroethane	µg/m^3	540 U	520 U
Chlorobenzene	µg/m^3	360 U	350 U
Ethyl benzene	µg/m^3	340 U	330 U
Styrene	µg/m^3	340 U	320 U
Total Xylenes	µg/m^3	340 U	330 U
Vinyl Acetate	µg/m^3	100 U	1100 U

Note:
TCL Target Compound List.
U Non-detect at associated value.

CHAIN OF CUSTODY RECORD

CC: Sue S.

CONESTOGA-ROVERS & ASSOCIATES	SHIPPED TO (Laboratory Name):	REFERENCE NUMBER: 2326
NIAGARA FALLS NY.	AIR TOXICS, LTD.	VACAIR SVE SYSTEM VAPOR SAMPLES

SAMPLER'S SIGNATURE: [signature] PRINTED NAME: DOUGLAS OSCAR

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. of Containers	PARAMETERS	REMARKS
	4/18/02	1300	VS-ODD-041802-TOO	VAPOR			SUMMA CANISTER
	4/18/02	1400	VS-EVEN-041802-TOO	VAPOR			SAMPLES FOR ANALYSIS.

TOTAL NUMBER OF CONTAINERS: 2

HEALTH/CHEMICAL HAZARDS

RELINQUISHED BY	DATE / TIME	RECEIVED BY	DATE / TIME
① [signature]	DATE: 4/19/02 TIME: 1630	①	DATE: TIME:
②	DATE: TIME:	②	DATE: TIME:
③	DATE: TIME:	③	DATE: TIME:

METHOD OF SHIPMENT: FED EX WAY BILL No.

		SAMPLE TEAM:	RECEIVED FOR LABORATORY BY:
White	–Fully Executed Copy	D. OSCAR	
Yellow	–Receiving Laboratory Copy		DATE: TIME:
Pink	–Shipper Copy		
Goldenrod	–Sampler Copy		

No CRA 10897

1001 (D) APR 28/97(NF) REV. 0 (F-15)

CONESTOGA-ROVERS & ASSOCIATES

2055 Niagara Falls Blvd., Suite #3
Niagara Falls, New York 14304
Telephone: (716) 297-6150 Fax: (716) 297-2265
www.CRAworld.com

MEMORANDUM

TO: Carol Dunnigan

REF. NO.: 2326

FROM: Susan Scrocchi/js/6 SCS

DATE: August 1, 2002

RE: Air Monitoring
VacAir SVE System

INTRODUCTION

Air samples were collected at the VacAir Site (Site) on July 2, 2002. Three (3) samples were collected into 6L Summa canisters and were submitted to Air Toxics, LTD, located in Folsom, CA, for analysis of Target Compound List (TCL) volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-14.

The analytical results and Chains of Custody are attached. Data was evaluated based on information obtained from the Chain of Custody, final data sheets, surrogate recoveries, laboratory control sample (LCS) results, and method blanks.

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) REVIEW:

The samples were analyzed within an appropriate holding time. Samples were received at the laboratory in good condition with the exception of sample ODD-070202-DO which was received with a faulty valve. All positive sample results are judged to be estimated.

Method blanks were analyzed at the proper frequency and the results were non-detect.

Surrogate compounds were added to the sample prior to analysis. All recoveries were acceptable.

A LCS was analyzed on a daily basis. All recoveries were acceptable indicating adequate analytical efficiency.

CONCLUSION

All analytical results were acceptable for use with the qualifications noted.

TABLE 1

ANALYTICAL RESULTS SUMMARY
AIR MONITORING
VAC AIR
APRIL 2002

	Sample ID:	*ODD-070202-DO*	*EVEN-070202-DO*	*EFFLUENT-070202-DO*
	Collection Date:	*07/02/02*	*07/02/02*	*07/02/02*
Parameters	*Units*			
TCL Volatiles				
Chloromethane	µg/m³	770 U	88 U	31 U
Bromomethane	µg/m³	1400 U	160 U	58 U
Vinyl chloride	µg/m³	950 U	110 U	38 U
Chloroethane	µg/m³	980 U	110 U	39 U
Methylene chloride	µg/m³	1300 U	150 U	52 U
Acetone	µg/m³	3500 U	400 U	140 U
Carbon disulfide	µg/m³	4600 U	530 U	180 U
1,1-Dichloroethene	µg/m³	1500 U	170 U	59 U
1,1-Dichloroethane	µg/m³	1500 U	170 U	60 U
trans-1,2-Dichloroethene	µg/m³	5900 U	680 U	240 U
Chloroform	µg/m³	1800 U	210 U	72 U
1,2-Dichloroethane	µg/m³	1500 U	170 U	60 U
2-Butanone	µg/m³	4400 U	500 U	180 U
1,1,1-Trichloroethane	µg/m³	2000 U	230 U	81 U
Carbon tetrachloride	µg/m³	2300 U	270 U	93 U
Bromodichloromethane	µg/m³	10000 U	1100 U	400 U
1,2-Dichloropropane	µg/m³	1700 U	200 U	68 U
cis-1,3-Dichloropropene	µg/m³	1700 U	190 U	67 U
Trichloroethene	µg/m³	340000 J	69000	21000
Dibromochloromethane	µg/m³	13000 U	1400 U	500 U
1,1,2-Trichloroethane	µg/m³	2000 U	230 U	81 U
Benzene	µg/m³	1200 U	140 U	47 U
trans-1,3-Dichloropropene	µg/m³	1700 U	190 U	67 U
Bromoform	µg/m³	15000 U	1800 U	610 U
4-Methyl-2-pentanone	µg/m³	6100 U	700 U	240 U
2-Hexanone	µg/m³	6100 U	700 U	240 U
Tetrachloroethene	µg/m³	2500 U	290 U	100 U
Toluene	µg/m³	1400 U	160 U	56 U
1,1,2,2-Tetrachloroethane	µg/m³	2600 U	290 U	100 U
Chlorobenzene	µg/m³	1700 U	200 U	68 U
Ethyl benzene	µg/m³	1600 U	180 U	64 U
Styrene	µg/m³	1600 U	180 U	63 U
Total Xylenes	µg/m³	1600 U	180 U	64 U
Vinyl Acetate	µg/m³	5200 U	600 U	210 U

Note:
TCL Target Compound List.
U Non-detect at associated value.

0207090

CHAIN OF CUSTODY RECORD

cc: S. SCROCCHI

CONESTOGA-ROVERS & ASSOCIATES	SHIPPED TO (Laboratory Name): AIR TOXICS, LTD.	REFERENCE NUMBER: 2326 VACAIR SVE SYSTEM VAPOR SAMPLES

SAMPLER'S SIGNATURE: PRINTED NAME:

	SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. of Containers	PARAMETERS: VOCs	REMARKS	
01A		7/2/02	1515	EVEN-070202-DDD	VAPOR	1	X	SUMMA	6.0" Hg
02A		↓	1615	ODD-070202-DDD	"	1	X	CANISTER	8.0" Hg
03A		↓	1630	EFFLUENT-070202-DDD	"	1	X	SAMPLES	2.5" Hg

CUSTODY SEAL INTACT? Y N NONE TEMP —

TOTAL NUMBER OF CONTAINERS

HEALTH/CHEMICAL HAZARDS:

RELINQUISHED BY:	DATE / TIME	RECEIVED BY:	DATE / TIME
① [signature]	DATE: 07/02/02 TIME: 1830	① [signature] - ATL	DATE: 7-3-02 TIME: 9:30
②	DATE: TIME:	②	DATE: TIME:
③	DATE: TIME:	③	DATE: TIME:

METHOD OF SHIPMENT: FEDEX WAY BILL No.

White —Fully Executed Copy
Yellow —Receiving Laboratory Copy
Pink —Shipper Copy
Goldenrod —Sampler Copy

SAMPLE TEAM: D. OSCAR

RECEIVED FOR LABORATORY BY:

DATE: TIME:

No CRA 07521

APPENDIX E

GROUNDWATER ANALYTICAL DATABASE

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

SW-1

TCL Volatiles	Collection Date: / Units	01/02/98	07/30/98	10/27/98	01/25/99	04/28/99	07/27/99	10/27/99	01/26/00	10/24/02
Chloromethane	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	0.32J
Vinyl chloride	µg/L	ND 2	ND 2	ND 2	ND 1	ND 2	ND 1	ND 2	ND 2	ND 2
Chloroethane	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2
Bromomethane	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2
1,1-Dichloroethene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Acetone	µg/L	ND 5	ND 15	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	2.6J
Carbon disulfide	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Methylene chloride	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2
trans-1,2-Dichloroethene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
1,1-Dichloroethane	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
cis-1,2-Dichloroethene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
1,2-Dichloroethene (Total)	µg/L	NR	NR	NR	NR	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 5
Chloroform	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
1,1,1-Trichloroethane	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Carbon tetrachloride	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Benzene	µg/L	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 1
1,2-Dichloroethane	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Trichloroethene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	0.20J
1,2-Dichloropropane	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Bromodichloromethane	µg/L	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
cis-1,3-Dichloropropene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Methyl isobutyl ketone	µg/L	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 5
Toluene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
trans-1,3-Dichloropropene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
1,1,2-Trichloroethane	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Tetrachloroethene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
2-Hexanone	µg/L	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10	ND 10	ND 10	ND 5
Dibromochloromethane	µg/L	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Chlorobenzene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Ethylbenzene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
p-Xylene/m-Xylene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
o-Xylene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Xylene (Total)	µg/L	NR	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
Bromoform	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1
1,1,2,2-Tetrachloroethane	µg/L	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1

Notes:

ND Non-detect at associated value.

NR Not Reported.

TCL Target Compound List.

VOC Volatile Organic Compounds.

MW-1

Collection Date:		04/30/91	12/16/92	12/22/97	07/30/98	10/27/98	01/25/99	04/28/99	07/26/99	10/27/99	01/25/00	10/25/00	10/23/01	10/23/02
TCL Volatiles	Units													
Chloromethane	µg/L	ND 10	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2	ND 2	ND 2
Vinyl chloride	µg/L	ND 10	ND 10	ND 2	ND 2	ND 2	ND 1	ND 2	ND 1	ND 2	ND 2	ND 2	ND 2	ND 2
Chloroethane	µg/L	ND 10	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2	ND 2	ND 2
Bromomethane	µg/L	ND 10	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2	ND 2	ND 2
1,1-Dichloroethene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Acetone	µg/L	ND 12	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10
Carbon disulfide	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Methylene chloride	µg/L	ND 17	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2	ND 2	ND 2
trans-1,2-Dichloroethene	µg/L	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	NR	ND 1	ND 1
1,1-Dichloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
cis-1,2-Dichloroethene	µg/L	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	NR	ND 1	ND 1
1,2-Dichloroethene (Total)	µg/L	ND 5	ND 10	NR	NR	NR	NR	NR	NR	NR	NR	1.1	NR	NR
Methyl ethyl ketone	µg/L	ND 10R	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5	ND 1	ND 5	ND 5	ND 5	ND 5	ND 5
Chloroform	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
1,1,1-Trichloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Carbon tetrachloride	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Benzene	µg/L	ND 5	ND 10	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 1	ND 1	ND 1
1,2-Dichloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Trichloroethene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	0.37J	ND 1	0.20J
1,2-Dichloropropane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Bromodichloromethane	µg/L	ND 5	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
cis-1,3-Dichloropropene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Methyl isobutyl ketone	µg/L	ND 10	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Toluene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
trans-1,3-Dichloropropene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
1,1,2-Trichloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Tetrachloroethene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
2-Hexanone	µg/L	ND 10	ND 10J	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5
Dibromochloromethane	µg/L	ND 5	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Chlorobenzene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Ethylbenzene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
p-Xylene/m-Xylene	µg/L	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	NR	NR	NR
o-Xylene	µg/L	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	NR	NR	NR
Xylene (Total)	µg/L	ND 5	ND 10	NR	NR	NR	NR	NR	NR	NR	NR	ND 1	ND 1	ND 1
Styrene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Bromoform	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
1,1,2,2-Tetrachloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

MW-2

Collection Date:		04/30/91	12/18/92	12/23/97	07/30/98	10/27/98	01/25/99	04/28/99	07/27/99	10/27/99	01/24/00	04/25/00	10/25/00	04/24/01
TCL Volatiles	Units													
Chloromethane	**µg/L**	**ND 100**	**ND 10**	**ND 1000**	**ND 2500**	**ND 5000**	**ND 500**	**ND 250**	**ND 1000**	**ND 2500**	**ND 5**	**ND 250**	**ND 10000**	**ND 100**
Vinyl chloride	µg/L	17000	1200	3000	7400	9300	2700	2100	14000	8300	3900	1600	49000	ND 100
Chloroethane	**µg/L**	**ND** 100	**ND** 10	**ND** 1000	**ND** 2500	**ND** 5000	**ND** 500	**ND** 250	**ND 1000**	**ND 2500**	**ND 5**	**ND 250**	**ND 10000**	**ND 100**
Bromomethane	µg/L	ND 100	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 10000	ND 100
1,1-Dichloroethene	µg/L	450	170	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	18	ND 250	ND 5000	ND 50
Acetone	µg/L	ND 320	ND 10J	ND 1000	ND 2500	ND 5000	ND 2500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 50000	ND 500
Carbon disulfide	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Methylene chloride	µg/L	ND 140	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 10000	ND 100
trans-1,2-Dichloroethene	µg/L	NA	NA	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 11	ND 250	NR	ND 50
1,1-Dichloroethane	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
cis-1,2-Dichloroethene	µg/L	NA	NA	31000	82000	100000	13000	8500	180000	49000	8100	4000	NR	2400
1,2-Dichloroethene (Total)	µg/L	170000	62000	NR	NR	NR	NR	NR	NR	NR	NR	NR	190000	NR
Methyl ethyl ketone	µg/L	ND 100R	ND 10J	ND 1000	ND 2500	ND 5000	ND 2500	ND 250	ND 5000	ND 2500	ND 5	ND 250	ND 25000	ND 250
Chloroform	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
1,1,1-Trichloroethane	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Carbon tetrachloride	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Benzene	µg/L	ND 50	11	ND 140	ND 350	ND 700	ND 500	ND 35	ND 140	ND 350	3	ND 35	ND 5000	ND 50
1,2-Dichloroethane	µg/L	19J	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Trichloroethene	µg/L	2600J	ND 2000	1000	3200	ND 5000	ND 500	ND 250	2500	ND 2500	52	ND 250	ND 5000	7700
1,2-Dichloropropane	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Bromodichloromethane	µg/L	ND 50	ND 10	ND 2000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 25000	ND 50
cis-1,3-Dichloropropene	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Methyl isobutyl ketone	µg/L	ND 100	ND 10J	ND 1000	ND 2500	ND 5000	ND 1000	ND 250	ND 2000	ND 2500	ND 5	ND 250	ND 25000	ND 250
Toluene	µg/L	12J	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
trans-1,3-Dichloropropene	µg/L	ND 50	ND	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
1,1,2-Trichloroethane	µg/L	13J	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Tetrachloroethene	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
2-Hexanone	µg/L	ND 100	ND 10J	ND 2000	2900	2900	ND 1000	ND 500	ND 2000	ND 5000	ND 10	ND 500	ND 25000	ND 250
Dibromochloromethane	µg/L	ND 50	ND 10	ND 2000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Chlorobenzene	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Ethylbenzene	µg/L	14J	6J	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
p-Xylene/m-Xylene	µg/L	NA	NA	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	NR	NR
o-Xylene	µg/L	NA	NA	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	NR	NR
Xylene (Total)	µg/L	ND 50	17	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND 5000	ND 50
Styrene	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
Bromoform	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50
1,1,2,2-Tetrachloroethane	µg/L	ND 50	ND 10	ND 1000	ND 2500	ND 5000	ND 500	ND 250	ND 1000	ND 2500	ND 5	ND 250	ND 5000	ND 50

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

		MW-2 (Cont'd.)				MW-3								
Collection Date:		10/23/01	04/22/02	10/23/02	12/16/02	04/30/91	12/21/92	12/23/97	07/30/98	10/27/98	01/25/99	04/27/99	07/27/99	10/27/99
TCL Volatiles	Units													
Chloromethane	**µg/L**	**ND 600**	**ND 200**	**ND 4000**		**ND 2000**	**ND 10**	**ND 250**	**ND 500**	**ND 120**	**ND 500**	**ND 250**	**ND 500**	**ND 500**
Vinyl chloride	µg/L	3400	1200	11000	1900	ND 2000	50	ND 100	ND 200	300	ND 500	130	ND 200	ND 200
Chloroethane	**µg/L**	**ND 300**	**ND 200**	**ND 4000**		ND 2000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Bromomethane	µg/L	ND 600	ND 200	ND 4000		ND 2000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
1,1-Dichloroethene	µg/L	ND 300	ND 100	ND 2000		ND 1000	6J	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Acetone	µg/L	ND 3000	ND 1000	ND 20000		ND 5100	ND 10J	ND 250	ND 500	ND 120	ND 2500	ND 250	ND 2500	ND 500
Carbon disulfide	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Methylene chloride	µg/L	ND 600	45JB	ND 4000		ND 3100	ND 10J	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
trans-1,2-Dichloroethene	µg/L	ND 300	ND 100	ND 2000		NA	NA	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
1,1-Dichloroethane	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
cis-1,2-Dichloroethene	µg/L	9800	3600	52000	7400	NA	NA	1200	980	2200	2200	1100	530	790
1,2-Dichloroethene (Total)	µg/L	NR	NR	NR	NR	1400	800J	NR	NR	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 1500	ND 500	ND 10000		ND 2000R	ND 10J	ND 250	ND 500	ND 120	ND 2500	ND 250	ND 2500	ND 500
Chloroform	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
1,1,1-Trichloroethane	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Carbon tetrachloride	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Benzene	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 35	ND 70	ND 18	ND 500	ND 35	ND 70	ND 70
1,2-Dichloroethane	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Trichloroethene	µg/L	ND 300	ND 100	ND 2000	ND 330	34000	26000	13000	4100J	4600	4000	2000	1900	3500
1,2-Dichloropropane	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Bromodichloromethane	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 500	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
cis-1,3-Dichloropropene	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Methyl isobutyl ketone	µg/L	ND 1500	ND 500	ND 10000		ND 2000	ND 10J	ND 250	ND 500	ND 120	ND 1000	ND 250	ND 1000	ND 500
Toluene	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
trans-1,3-Dichloropropene	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
1,1,2-Trichloroethane	µg/L	ND 300	ND 100	ND 2000		ND 1000	16	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Tetrachloroethene	µg/L	ND 300	ND 100	ND 2000		ND 1000	5J	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
2-Hexanone	µg/L	ND 1500	ND 500	ND 10000		ND 2000	ND 10J	ND 500	2900	2900	ND 1000	ND 250	ND 1000	ND 1000
Dibromochloromethane	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 500	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Chlorobenzene	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Ethylbenzene	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
p-Xylene/m-Xylene	µg/L	NR	NR	NR		NA	NA	NA	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
o-Xylene	µg/L	NR	NR	NR		NA	NA	NA	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Xylene (Total)	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	NR	NR	NR	NR	NR	NR	NR
Styrene	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
Bromoform	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500
1,1,2,2-Tetrachloroethane	µg/L	ND 300	ND 100	ND 2000		ND 1000	ND 10	ND 250	ND 500	ND 120	ND 500	ND 250	ND 500	ND 500

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

Collection Date:		MW-3 (Cont'd.)							MW-4					
TCL Volatiles	Units	01/24/00	04/25/00	10/25/00	04/24/01	10/23/01	04/22/02	10/22/02	04/30/91	12/21/92	12/19/97	07/30/98	10/27/98	01/25/99
Chloromethane	**µg/L**	**ND 500**	**ND 100**	**ND 100**	**ND 150**	**ND 100**	**ND 50**	**ND 80**	**2J**	**ND 10**	**ND 5**	**ND 500**	**ND 1000**	**ND 500**
Vinyl chloride	µg/L	ND 200	110	950J	70J	54J	ND 50	ND 80	8J	6J	ND 2	ND 200	ND 1000	ND 500
Chloroethane	µg/L	ND 500	ND 100	ND 100	ND 150	ND 100	ND 50	ND 80	ND 10	ND 10	ND 5	ND 500	ND 1000	ND 500
Bromomethane	µg/L	ND 500	ND 100	ND 100	ND 150	ND 100	ND 50	ND 80	ND 10	ND 10	ND 5	ND 500	ND 1000	ND 500
1,1-Dichloroethene	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	2J	4J	ND 5	ND 500	ND 1000	ND 500
Acetone	µg/L	ND 500	ND 100	ND 500	ND 750	ND 500	ND 250	ND 400	ND 25	ND 10J	ND 5	ND 500	ND 1000	ND 2500
Carbon disulfide	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
Methylene chloride	µg/L	ND 500	ND 100	ND 100	ND 150	ND 100	ND 50	ND 80	ND 5	ND 10J	ND 5	ND 500	ND 1000	ND 500
trans-1,2-Dichloroethene	µg/L	ND 500	ND 100	NR	ND 75	ND 50	ND 25	ND 40	NA	NA	ND 5	ND 500	ND 1000	ND 500
1,1-Dichloroethane	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
cis-1,2-Dichloroethene	µg/L	ND 500	750	NR	1400	950	410	270	NA	NA	400J	810	ND 1000	ND 500
1,2-Dichloroethene (Total)	µg/L	NR	NR	1100	NR	NR	NR	NR	940J	2300J	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 500	ND 100	ND 250	ND 380	ND 250	ND 120	ND 200	ND 10R	ND 10J	ND 5	ND 500	ND 1000	ND 2500
Chloroform	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	2J	ND 10	ND 5	ND 500	ND 1000	ND 500
1,1,1-Trichloroethane	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	3J	3J	ND 5	ND 500	ND 1000	ND 500
Carbon tetrachloride	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
Benzene	µg/L	ND 70	ND 14	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 0.7	ND 70	ND 140	ND 500
1,2-Dichloroethane	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	16000	ND 500
Trichloroethene	µg/L	3100	2000	1900	1500	1100	900	830	55000	74000	8600	17000	ND 1000	11000
1,2-Dichloropropane	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
Bromodichloromethane	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	4J	ND 10	ND 10	ND 500	ND 1000	ND 500
cis-1,3-Dichloropropene	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
Methyl isobutyl ketone	µg/L	ND 500	ND 100	ND 250	ND 380	ND 250	ND 120	ND 200	ND 10	ND 10J	ND 5	ND 500	ND 1000	ND 1000
Toluene	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
trans-1,3-Dichloropropene	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
1,1,2-Trichloroethane	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	29	ND 5	ND 500	ND 1000	ND 500
Tetrachloroethene	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	10	4J	ND 5	ND 500	ND 1000	ND 500
2-Hexanone	µg/L	ND 1000	ND 200	ND 250	ND 380	ND 250	ND 120	ND 200	ND 10	ND 10J	ND 10	ND 500	ND 1000	ND 1000
Dibromochloromethane	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 10	ND 500	ND 1000	ND 500
Chlorobenzene	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
Ethylbenzene	µg/L	ND 1000	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
p-Xylene/m-Xylene	µg/L	ND 500	ND 100	NR	NR	NR	NR	NR	NA	NA	ND 5	ND 500	ND 1000	ND 500
o-Xylene	µg/L	ND 500	ND 100	NR	NR	NR	NR	NR	NA	NA	ND 5	ND 500	ND 1000	ND 500
Xylene (Total)	µg/L	NR	NR	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	NR	NR	NR	NR
Styrene	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
Bromoform	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500
1,1,2,2-Tetrachloroethane	µg/L	ND 500	ND 100	ND 50	ND 75	ND 50	ND 25	ND 40	ND 5	ND 10	ND 5	ND 500	ND 1000	ND 500

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

MW-4 (Cont'd.)

Collection Date:		04/27/99	07/27/99	10/26/99	01/25/00	01/25/00 (Duplicate	04/25/00	04/25/00 (Duplicate	10/25/00	04/24/01	10/23/01	04/22/02	04/22/02 (Duplicate)	10/22/02
TCL Volatiles	*Units*													
Chloromethane	**µg/L**	**ND 500**	**ND 500**	**ND 500**	**ND 500**	**ND 500**	**ND 500**	**ND 1000**	**ND 250**	**ND 2**	**ND 600**	**ND 200**	**ND 200**	**ND 200**
Vinyl chloride	µg/L	ND 200	ND 200	ND 200	ND 200	ND 200	ND 200	ND 400	ND 500	ND 2	ND 600	ND 200	ND 200	ND 200
Chloroethane	**µg/L**	**ND 500**	**ND 500**	**ND 500**	**ND 500**	**ND 500**	**ND 500**	**ND 1000**	**ND 250**	**ND 2**	**ND 600**	**ND 200**	**ND 200**	**ND 200**
Bromomethane	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 2	ND 600	ND 200	ND 200	ND 200
1,1-Dichloroethene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Acetone	µg/L	ND 500	ND 2500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 2500	ND 1	ND 300	250	310J	ND 1000
Carbon disulfide	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Methylene chloride	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 2	ND 600	ND 200	ND 200	ND 200
trans-1,2-Dichloroethene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	NR	ND 1	ND 300	ND 100	ND 100	ND 100
1,1-Dichloroethane	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
cis-1,2-Dichloroethene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	520	ND 1000	NR	430	440	230	210	310
1,2-Dichloroethene (Total)	µg/L	NR	NR	NR	NR	NR	NR	NR	580	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 500	ND 2500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 1200	ND 5	ND 1500	ND 500	ND 500	ND 500
Chloroform	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 1	ND 300	ND 100	ND 100	ND 100
1,1,1-Trichloroethane	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Carbon tetrachloride	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Benzene	µg/L	ND 70	ND 70	ND 70	ND 70	ND 70	ND 70	ND 140	ND 250	ND 1	ND 3000	ND 100	ND 100	ND 100
1,2-Dichloroethane	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Trichloroethene	µg/L	8500	9400	11000	7000	6600	6900	8700	7100	4900	5700	2700	2500	3900
1,2-Dichloropropane	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Bromodichloromethane	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
cis-1,3-Dichloropropene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Methyl isobutyl ketone	µg/L	ND 500	ND 1000	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 1200	ND 5	ND 1500	ND 500	ND 500	ND 500
Toluene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
trans-1,3-Dichloropropene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
1,1,2-Trichloroethane	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Tetrachloroethene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
2-Hexanone	µg/L	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000	ND 1000	ND 2000	ND 1200	ND 5	1500	ND 500	ND 500	ND 500
Dibromochloromethane	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 1	ND 300	ND 100	ND 100	ND 100
Chlorobenzene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Ethylbenzene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
p-Xylene/m-Xylene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	NR	NR	NR	NR	NR	NR
o-Xylene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	NR	NR	NR	NR	NR	NR
Xylene (Total)	µg/L	NR	NR	NR	NR	NR	NR	NR	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Styrene	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
Bromoform	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100
1,1,2,2-Tetrachloroethane	µg/L	ND 500	ND 500	ND 500	ND 500	ND 500	ND 500	ND 1000	ND 250	ND 1	ND 300	ND 100	ND 100	ND 100

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

MW-4D

Collection Date:		04/15/92	12/18/92	12/18/92 (Duplicate)	01/14/93	01/14/93 (Duplicate)	12/19/97	07/30/98	10/27/98	01/25/99	04/27/99	07/27/99	10/26/99	01/25/00
TCL Volatiles	Units													
Chloromethane	**µg/L**	**ND 0.5**	**ND 10**	**ND 10**	**ND 10**	**ND 10**	**ND 5**	**ND 5**	**ND 5**	**ND 5**	**ND 5**	**ND 1**	**ND 5**	**ND 5**
Vinyl chloride	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 2	ND 2	ND 2	ND 5	ND 2	ND 1	ND 2	ND 2
Chloroethane	**µg/L**	**ND** 0.5	**ND** 10	**ND** 10	**ND** 10	**ND** 10	ND 5	ND 5	ND 5	ND **5**	ND **5**	ND **1**	**ND 5**	**ND 5**
Bromomethane	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1-Dichloroethene	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Acetone	µg/L	NA	ND 10J	ND 10J	7J	6J	28	ND 11	ND 5	ND 25	ND 5	ND 10	ND 5	ND 5
Carbon disulfide	µg/L	NA	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Methylene chloride	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
trans-1,2-Dichloroethene	µg/L	ND 0.5	NA	NA	NA	NA	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1-Dichloroethane	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
cis-1,2-Dichloroethene	µg/L	ND 0.5	NA	NA	NA	NA	ND 5	18	6	ND 5	ND 5	1	ND 5	ND 5
1,2-Dichloroethene (Total)	µg/L	NR	NR	10	ND 10	ND 10	NR	NR	NR	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	NA	ND 10J	ND 10J	ND 10	ND 10	ND 5	ND 5	NR	ND 25	ND 5	ND 10	ND 5	ND 5
Chloroform	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1,1-Trichloroethane	µg/L	ND 0.5	ND 10	ND 10	1J	1J	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Carbon tetrachloride	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Benzene	µg/L	3.6	ND 10	ND 10	ND 10	ND 10	ND 0.7	ND 0.7	ND 0.7	ND 5	ND 0.7	ND 0.7	ND 0.7	ND 0.7
1,2-Dichloroethane	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Trichloroethene	µg/L	ND 0.5	ND 10	4J	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 5	ND 5	ND 5
1,2-Dichloropropane	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Bromodichloromethane	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
cis-1,3-Dichloropropene	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Methyl isobutyl ketone	µg/L	NA	ND 10J	ND 10J	ND 10	ND 10	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5
Toluene	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
trans-1,3-Dichloropropene	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1,2-Trichloroethane	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Tetrachloroethene	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
2-Hexanone	µg/L	NA	ND 10J	ND 10J	ND 10	ND 10	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10	ND 10	ND 10
Dibromochloromethane	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Chlorobenzene	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Ethylbenzene	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
p-Xylene/m-Xylene	µg/L	ND 0.5	NA	NA	NA	NA	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
o-Xylene	µg/L	ND 0.5	NA	NA	NA	NA	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Xylene (Total)	µg/L	NR	NR	NR	ND 10	2J	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Bromoform	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1,2,2-Tetrachloroethane	µg/L	ND 0.5	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5

		MW-4D (Cont'd.)					MW-5							
Collection Date:		10/25/00	10/25/00 Duplicate	10/23/01	10/22/02	10/22/02 Duplicate	04/30/91	12/17/92	12/19/97	07/30/98	10/27/98	01/25/99	04/27/99	07/27/99
TCL Volatiles	Units													
Chloromethane	**µg/L**	**ND 2**	**ND 2**	**ND 2**	**0.32J**	**0.32J**	**ND 10**	**ND 10**	**ND 5**	**ND 5**	**ND 5**	**ND 1**	**ND 5**	**ND 1**
Vinyl chloride	µg/L	ND 2	ND 2	ND 2	ND 2	ND 2	ND 10	ND 10	ND 2	ND 2	ND 2	ND 1	ND 2	ND 1
Chloroethane	**µg/L**	**ND 2**	**ND 2**	**ND 2**	**ND 2**	ND 2	**ND 10**	**ND 10**	**ND 5**	**ND 5**	**ND 5**	**ND 1**	**ND 5**	**ND 1**
Bromomethane	µg/L	ND 2	ND 2	ND 2	ND 2	ND 2	ND 10	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
1,1-Dichloroethene	µg/L	1.3	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Acetone	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10	ND 10	ND 10J	24	ND 11	ND 5	ND 10	ND 5	ND 10
Carbon disulfide	µg/L	ND 1	ND 1	ND 1	ND 1	**ND 1**	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Methylene chloride	µg/L	ND 2	ND 2	ND 2	ND 2	ND 2	ND 7	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
trans-1,2-Dichloroethene	µg/L	NR	NR	NR	ND 1	ND 1	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
1,1-Dichloroethane	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
cis-1,2-Dichloroethene	µg/L	NR	NR	NR	NR	NR	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
1,2-Dichloroethene (Total)	µg/L	1.3	1.3	1.3	ND 1	ND 1	1J	ND 10	NR	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 5	ND 5	ND 5	ND 5	ND 5	ND 10R	ND 10J	6	ND 5	ND 5	ND 10	ND 5	ND 10
Chloroform	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
1,1,1-Trichloroethane	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Carbon tetrachloride	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Benzene	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7
1,2-Dichloroethane	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Trichloroethene	µg/L	21	22	22	ND 1	0.37J	41	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
1,2-Dichloropropane	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Bromodichloromethane	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1
cis-1,3-Dichloropropene	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Methyl isobutyl ketone	µg/L	ND 5	ND 5	ND 5	ND 5	ND 5	ND 10	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10
Toluene	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
trans-1,3-Dichloropropene	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
1,1,2-Trichloroethane	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Tetrachloroethene	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
2-Hexanone	µg/L	ND 5	ND 5	ND 5	ND 5	ND 5	ND 10	ND 10J	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10
Dibromochloromethane	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1
Chlorobenzene	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Ethylbenzene	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
p-Xylene/m-Xylene	µg/L	NR	NR	NR	NR	NR	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
o-Xylene	µg/L	NR	NR	NR	NR	NR	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Xylene (Total)	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	NR	NR	NR	NR	NR	NR
Styrene	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
Bromoform	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1
1,1,2,2-Tetrachloroethane	µg/L	ND 1	ND 1	ND 1	ND 1	ND 1	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

		MW-5 (Cont'd.)					MW-5D							
Collection Date:		10/26/99	01/24/00	10/25/00	10/23/01	10/22/02	04/15/92	12/17/92	12/19/97	07/30/98	10/27/98	01/25/99	04/27/99	07/27/99
TCL Volatiles	Units													
Chloromethane	µg/L	ND 5	ND 5	ND 2	ND 2	0.32J	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Vinyl chloride	µg/L	ND 2	ND 2	ND 2	ND 2	ND 2	ND 0.5	ND 10	ND 2	ND 2	ND 2	ND 1	ND 2	ND 2
Chloroethane	µg/L	ND 5	ND 5	ND 2	ND 2	ND 2	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Bromomethane	µg/L	ND 5	ND 5	ND 2	ND 2	ND 2	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1-Dichloroethene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Acetone	µg/L	ND 5	ND 5	ND 10	ND 10	ND 10	NA	ND 10J	28	ND 11	ND 5	ND 10	ND 5	ND 25
Carbon disulfide	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	NA	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Methylene chloride	µg/L	ND 5	ND 5	ND 2	ND 2	ND 2	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
trans-1,2-Dichloroethene	µg/L	ND 5	ND 5	NR	NR	ND 1	ND 0.5	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1-Dichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
cis-1,2-Dichloroethene	µg/L	ND 5	ND 5	NR	NR	ND 1	ND 0.5	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,2-Dichloroethene (Total)	µg/L	NR	NR	ND 1	ND 1	NR	NR	ND 10	NR	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 5	ND 5	ND 5	ND 5	ND 5	NA	ND 10J	6	ND 5	ND 5	ND 10	ND 5	ND 25
Chloroform	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1,1-Trichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Carbon tetrachloride	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Benzene	µg/L	ND 0.7	ND 0.7	ND 1	ND 1	ND 1	3.7	ND 10	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7
1,2-Dichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Trichloroethene	µg/L	ND 5	ND 5	0.30J	0.30J	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,2-Dichloropropane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Bromodichloromethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 5
cis-1,3-Dichloropropene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Methyl isobutyl ketone	µg/L	ND 5	ND 5	ND 5	ND 5	ND 5	NA	ND 10J	ND 5	ND 5	ND 5	NA	ND 5	ND 10
Toluene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
trans-1,3-Dichloropropene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1,2-Trichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Tetrachloroethene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
2-Hexanone	µg/L	ND 10	ND 10	ND 5	ND 5	ND 5	NA	ND 10J	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10
Dibromochloromethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 5
Chlorobenzene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Ethylbenzene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
p-Xylene/m-Xylene	µg/L	ND 5	ND 5	NR	NR	ND 1	ND 0.5	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
o-Xylene	µg/L	ND 5	ND 5	NR	NR	ND 1	ND 0.5	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Xylene (Total)	µg/L	NR	NR	ND 1	ND 1	ND 1	NR	ND 10	NR	NR	NR	NR	NR	NR
Styrene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
Bromoform	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5
1,1,2,2-Tetrachloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 0.5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5

Collection Date:		MW-5D (Cont'd.)					MW-6							
TCL Volatiles	Units	10/26/99	01/24/00	10/25/00	10/23/01	10/22/02	04/30/91	04/30/91 (Duplicate)	12/16/92	12/22/97	07/30/98	10/27/98	01/25/99	04/28/99
Chloromethane	µg/L	**ND 5**	**ND 5**	**ND 2**	**ND 2**	**0.28J**	**ND 10**	**ND 10**	**ND 10**	**ND 5**	**ND 5**	**ND 5**	**ND 5**	**ND 5**
Vinyl chloride	µg/L	ND 2	ND 2	ND 2	ND 2	ND 2	ND 10	ND 10	ND 10	ND 2	ND 2	ND 2	ND 5	ND 2
Chloroethane	µg/L	**ND 5**	**ND 5**	**ND 2**	**ND 2**	**ND 2**	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Bromomethane	µg/L	ND 5	ND 5	ND 2	ND 2	ND 2	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
1,1-Dichloroethene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 10	ND 10J	ND 5	ND 5	ND 5	ND 25	ND 5
Acetone	µg/L	ND 5	ND 5	ND 10	ND 10	ND 10	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Carbon disulfide	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Methylene chloride	µg/L	ND 5	ND 5	ND 2	ND 2	ND 2	NA	NA	NA	ND 5	ND 5	ND 5	ND 5	ND 5
trans-1,2-Dichloroethene	µg/L	ND 5	ND 5	NR	NR	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
1,1-Dichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	NA	NA	NA	ND 5	ND 5	ND 5	ND 5	ND 5
cis-1,2-Dichloroethene	µg/L	ND 5	ND 5	NR	NR	ND 1	ND 5	ND 5	ND 10	NR	NR	NR	NR	NR
1,2-Dichloroethene (Total)	µg/L	NR	NR	ND 1	ND 1	NR	ND 10R	ND 10R	ND 10J	ND 5	ND 5	ND 5	ND 25	ND 5
Methyl ethyl ketone	µg/L	ND 5	ND 5	ND 5	ND 5	ND 5	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Chloroform	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
1,1,1-Trichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Carbon tetrachloride	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Benzene	µg/L	ND 0.7	ND 0.7	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 0.7	ND 0.7	ND 0.7	ND 5	ND 0.7
1,2-Dichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Trichloroethene	µg/L	ND 5	ND 5	0.34J	0.34J	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
1,2-Dichloropropane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Bromodichloromethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5
cis-1,3-Dichloropropene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Methyl isobutyl ketone	µg/L	ND 5	ND 5	ND 5	ND 5	ND 5	ND 10	ND 10	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5
Toluene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
trans-1,3-Dichloropropene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
1,1,2-Trichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Tetrachloroethene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
2-Hexanone	µg/L	ND 10	ND 10	ND 5	ND 5	ND 5	ND 10	ND 10	ND 10J	ND 10	ND 5	ND 5	ND 10	ND 10
Dibromochloromethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 10	ND 5	ND 5	ND 5	ND 5
Chlorobenzene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Ethylbenzene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
p-Xylene/m-Xylene	µg/L	ND 5	ND 5	NR	NR	ND 1	NA	NA	NA	ND 5	ND 5	ND 5	ND 5	ND 5
o-Xylene	µg/L	ND 5	ND 5	NR	NR	ND 1	NA	NA	NA	ND 5	ND 5	ND 5	ND 5	ND 5
Xylene (Total)	µg/L	NR	NR	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	NR	NR	NR	NR	NR
Styrene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Bromoform	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
1,1,2,2-Tetrachloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 5	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5

MW-6 (Cont'd.)

Collection Date:		*07/27/99*	*10/27/99*	*01/24/00*	*10/25/00*	*10/24/01*	*10/23/02*
TCL Volatiles	*Units*						
Chloromethane	**µg/L**	**ND 1**	**ND 5**	**ND 5**	**ND 2**	**ND 2**	**ND 2**
Vinyl chloride	µg/L	ND 1	ND 2	ND 2	ND 2	ND 2	ND 2
Chloroethane	**µg/L**	**ND 1**	**ND 5**	**ND 5**	**ND 2**	**ND 2**	**ND 2**
Bromomethane	µg/L	ND 1	ND 5	ND 5	ND 2	ND 2	ND 2
1,1-Dichloroethene	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Acetone	µg/L	ND 10	ND 5	ND 5	2.2J	ND 10	ND 10
Carbon disulfide	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Methylene chloride	µg/L	ND 1	ND 5	ND 5	ND 2	ND 1	ND 2
trans-1,2-Dichloroethene	µg/L	ND 1	ND 5	ND 5	NR	ND 1	ND 1
1,1-Dichloroethane	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
cis-1,2-Dichloroethene	µg/L	ND 1	ND 5	ND 5	NR	ND 1	ND 1
1,2-Dichloroethene (Total)	µg/L	NR	NR	NR	ND 1	NR	NR
Methyl ethyl ketone	µg/L	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Chloroform	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
1,1,1-Trichloroethane	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Carbon tetrachloride	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Benzene	µg/L	ND 0.7	ND 0.7	ND 0.7	ND 1	ND 1	ND 1
1,2-Dichloroethane	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Trichloroethene	µg/L	ND 1	ND 5	ND 5	0.26J	ND 1	ND 1
1,2-Dichloropropane	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Bromodichloromethane	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
cis-1,3-Dichloropropene	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Methyl isobutyl ketone	µg/L	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Toluene	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
trans-1,3-Dichloropropene	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
1,1,2-Trichloroethane	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Tetrachloroethene	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
2-Hexanone	µg/L	ND 10	ND 10	ND 10	ND 5	ND 1	ND 5
Dibromochloromethane	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Chlorobenzene	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Ethylbenzene	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
p-Xylene/m-Xylene	µg/L	ND 1	ND 5	ND 5	NR	ND 1	ND 1
o-Xylene	µg/L	ND 1	ND 5	ND 5	NR	ND 1	ND 1
Xylene (Total)	µg/L	NR	NR	NR	ND 1	ND 1	ND 1
Styrene	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Bromoform	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
1,1,2,2-Tetrachloroethane	µg/L	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1

Notes:

NA Not Applicable.

NDx Not detected at or above x.

NR Not Reported.

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

MW-7

Collection Date:		08/24/91	12/16/92	12/22/97	07/30/98	10/27/98	01/25/99	04/27/99	07/26/99	10/26/99	10/26/99 (Duplicate)	01/24/00	10/25/00	10/24/01
TCL Volatiles	Units													
Chloromethane	µg/L	ND 10	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 2	ND 2
Vinyl chloride	µg/L	ND 10	ND 10	ND 2	ND 2	ND 2	ND 1	ND 2	ND 1	ND 2	ND 2	ND 2	ND 2	ND 2
Chloroethane	µg/L	ND 10	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 2	ND 2
Bromomethane	µg/L	ND 10	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 2	ND 2
1,1-Dichloroethene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Acetone	µg/L	ND 10	ND 10J	10	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 5	ND 10	ND 10
Carbon disulfide	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Methylene chloride	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 2	ND 2
trans-1,2-Dichloroethene	µg/L	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	NR	NR
1,1-Dichloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
cis-1,2-Dichloroethene	µg/L	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	NR	NR
1,2-Dichloroethene (Total)	µg/L	ND 5	ND 10	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND 1	ND 1
Methyl ethyl ketone	µg/L	ND 10	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Chloroform	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
1,1,1-Trichloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Carbon tetrachloride	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Benzene	µg/L	ND 5	ND 10	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 1	ND 1
1,2-Dichloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Trichloroethene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	0.28J	0.28J
1,2-Dichloropropane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Bromodichloromethane	µg/L	ND 5	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
cis-1,3-Dichloropropene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Methyl isobutyl ketone	µg/L	ND 10	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Toluene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
trans-1,3-Dichloropropene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
1,1,2-Trichloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Tetrachloroethene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
2-Hexanone	µg/L	ND 10	ND 10J	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5
Dibromochloromethane	µg/L	ND 5	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Chlorobenzene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Ethylbenzene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
p-Xylene/m-Xylene	µg/L	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	NR	NR
o-Xylene	µg/L	NA	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	NR	NR
Xylene (Total)	µg/L	ND 5	ND 10	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND 1	ND 1
Styrene	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
Bromoform	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1
1,1,2,2-Tetrachloroethane	µg/L	ND 5	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 5	ND 1	ND 1

		MW-7 (Cont'd.)	MW-8									
Collection Date:		10/22/02	12/16/92	12/22/97	07/30/98	10/27/98	01/25/99	04/28/99	07/27/99	10/27/99	01/26/00	10/25/00	10/23/01	10/23/02
TCL Volatiles	Units													
Chloromethane	µg/L	0.32J	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2	ND 2	ND 2
Vinyl chloride	µg/L	ND 2	ND 10	ND 2	ND 2	ND 2	ND 1	ND 2	ND 1	ND 2	ND 2	ND 2	ND 2	ND 2
Chloroethane	µg/L	ND 2	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2	ND 2	ND 2
Bromomethane	µg/L	ND 2	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2	ND 2	ND 2
1,1-Dichloroethene	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Acetone	µg/L	ND 10	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10
Carbon disulfide	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Methylene chloride	µg/L	ND 2	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 2	ND 2	ND 2
trans-1,2-Dichloroethene	µg/L	ND 1	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	NR	NR	ND 1
1,1-Dichloroethane	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
cis-1,2-Dichloroethene	µg/L	ND 1	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	NR	NR	ND 1
1,2-Dichloroethene (Total)	µg/L	NR	ND 10	NR	NR	NR	NR	NR	NR	NR	NR	ND 1	ND 1	NR
Methyl ethyl ketone	µg/L	ND 5	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Chloroform	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
1,1,1-Trichloroethane	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Carbon tetrachloride	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Benzene	µg/L	ND 1	ND 10	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 1	ND 1	ND 1
1,2-Dichloroethane	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Trichloroethene	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	0.44J	ND 1	ND 1
1,2-Dichloropropane	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Bromodichloromethane	µg/L	ND 1	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
cis-1,3-Dichloropropene	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Methyl isobutyl ketone	µg/L	ND 5	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 5	ND 10	ND 5	ND 5	ND 5	ND 5	ND 5
Toluene	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
trans-1,3-Dichloropropene	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
1,1,2-Trichloroethane	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Tetrachloroethene	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
2-Hexanone	µg/L	ND 5	ND 10J	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10	ND 10	ND 10	ND 5	ND 5	ND 5
Dibromochloromethane	µg/L	ND 1	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Chlorobenzene	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Ethylbenzene	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
p-Xylene/m-Xylene	µg/L	ND 1	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	NR	NR	ND 1
o-Xylene	µg/L	ND 1	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	NR	NR	ND 1
Xylene (Total)	µg/L	ND 1	ND 10	NR	NR	NR	NR	NR	NR	NR	NR	ND 1	ND 1	ND 1
Styrene	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
Bromoform	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1
1,1,2,2-Tetrachloroethane	µg/L	ND 1	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1	ND 1

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

MW-9

Collection Date: / TCL Volatiles	Units	12/21/92	12/21/92 (Duplicate)	12/23/97	12/23/97 (Duplicate)	07/30/98	10/27/98	01/25/99	04/28/99	07/26/99	10/27/99	01/25/00	04/25/00	10/25/00
Chloromethane	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 100
Vinyl chloride	µg/L	53	61	ND 200	280	770	1100	ND 500	ND 100	ND 200	10	50	35	150
Chloroethane	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 100
Bromomethane	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 100
1,1-Dichloroethene	µg/L	11	12	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Acetone	µg/L	ND 10J	ND 10J	ND 500	ND 500	ND 1200	ND 5000	ND 2500	ND 250	ND 2500	410	1100	2200 E	2200
Carbon disulfide	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Methylene chloride	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 100
trans-1,2-Dichloroethene	µg/L	NA	NA	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	NR
1,1-Dichloroethane	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
cis-1,2-Dichloroethene	µg/L	NA	NA	10000	10000	17000	16000	2400	890	2300	87	440	150	NR
1,2-Dichloroethene (Total)	µg/L	1100J	670J	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	370
Methyl ethyl ketone	µg/L	ND 10J	ND 10J	ND 500	ND 500	ND 500	ND 1000	ND 2500	ND 250	ND 2500	ND 25	ND 50	ND 25	ND 250
Chloroform	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
1,1,1-Trichloroethane	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Carbon tetrachloride	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Benzene	µg/L	ND 10	ND 10	ND 70	100	ND 70	ND 140	ND 500	ND 35	ND 70	ND 4	ND 7	ND 4	ND 50
1,2-Dichloroethane	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Trichloroethene	µg/L	18000	24000	8400	9000	3200	4800	600	ND 250	ND 500	ND 25	ND 50	ND 25	29.00J
1,2-Dichloropropane	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Bromodichloromethane	µg/L	ND 10	ND 10	ND 1000	ND 1000	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
cis-1,3-Dichloropropene	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Methyl isobutyl ketone	µg/L	ND 10J	ND 10J	ND 500	ND 500	ND 500	ND 1000	ND 1000	ND 250	ND 1000	ND 25	ND 50	ND 25	ND 250
Toluene	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
trans-1,3-Dichloropropene	µg/L	ND 10	ND	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
1,1,2-Trichloroethane	µg/L	4J	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Tetrachloroethene	µg/L	4J	4J	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
2-Hexanone	µg/L	ND 10J	ND 10J	ND 1000	ND 1000	2900	ND 2000	ND 1000	ND 250	ND 1000	ND 50	ND 100	ND 50	ND 250
Dibromochloromethane	µg/L	ND 10	ND 10	ND 1000	ND 1000	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Chlorobenzene	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Ethylbenzene	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
p-Xylene/m-Xylene	µg/L	NA	NA	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	NR
o-Xylene	µg/L	NA	NA	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	NR
Xylene (Total)	µg/L	ND 10	ND 10	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND 50
Styrene	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
Bromoform	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50
1,1,2,2-Tetrachloroethane	µg/L	ND 10	ND 10	ND 500	ND 500	ND 500	ND 1000	ND 500	ND 250	ND 500	ND 25	ND 50	ND 25	ND 50

		MW-9 (Cont'd.)				MW-10								
Collection Date:		04/25/01	10/24/01	04/23/02	10/24/02	12/17/92	12/22/97	07/30/98	10/27/98	01/25/99	01/25/99 (Duplicate)	04/28/99	07/27/99	07/27/99 (Duplicate)
TCL Volatiles	Units													
Chloromethane	µg/L	ND 2	ND 150	ND 200	ND 400	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Vinyl chloride	**µg/L**	**130**	**340**	**330**	**ND 400**	**ND 10**	**ND 2**	**ND 2**	**ND 2**	**ND 1**	**ND 5**	**ND 2**	**ND 1**	**ND 1**
Chloroethane	µg/L	4.7	ND 150	ND 200	ND 400	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Bromomethane	**µg/L**	**ND 2**	**ND 150**	**ND 200**	**ND 400**	ND 10	ND **5**	ND **5**	ND **5**	ND **1**	**ND 5**	**ND 5**	**ND 1**	**ND 1**
1,1-Dichloroethene	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Acetone	µg/L	550	290J	ND 1000	ND 2000	ND 10J	20	ND 6	ND 5	ND 10	ND 25	ND 5	ND 10	ND 10
Carbon disulfide	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Methylene chloride	µg/L	ND 2	ND 150	ND 200	ND 400	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
trans-1,2-Dichloroethene	µg/L	1.2	ND 75	ND 100	ND 200	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
1,1-Dichloroethane	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
cis-1,2-Dichloroethene	µg/L	320	2100	2700	3700	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
1,2-Dichloroethene (Total)	µg/L	NR	NR	NR	NR	ND 10	NR	NR	NR	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	24	ND 380	ND 500	ND 1000	ND 10J	12	ND 5	ND 5	ND 10	ND 25	ND 5	ND 10	ND 10
Chloroform	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
1,1,1-Trichloroethane	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Carbon tetrachloride	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Benzene	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 0.7	ND 0.7	ND 0.7	ND 0.7	ND 5	ND 0.7	ND 0.7	ND 0.7
1,2-Dichloroethane	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Trichloroethene	µg/L	ND 10	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
1,2-Dichloropropane	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Bromodichloromethane	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
cis-1,3-Dichloropropene	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Methyl isobutyl ketone	µg/L	370	560	ND 500	ND 1000	ND 10J	ND 5	ND 5	ND 5	ND 10	ND 10	ND 5	ND 10	ND 10
Toluene	µg/L	ND 1	ND 75	ND 100	ND 200	2J	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
trans-1,3-Dichloropropene	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
1,1,2-Trichloroethane	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Tetrachloroethene	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
2-Hexanone	µg/L	110	ND 380	ND 500	ND 1000	ND 10J	ND 10	ND 5	ND 5	ND 10	ND 10	ND 10	ND 10	ND 10
Dibromochloromethane	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 10	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Chlorobenzene	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Ethylbenzene	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
p-Xylene/m-Xylene	µg/L	NR	NR	NR	NR	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
o-Xylene	µg/L	NR	NR	NR	NR	NA	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Xylene (Total)	µg/L	ND 1	ND 75	ND 100	ND 200	4J	NR	NR	NR	NR	NR	NR	NR	NR
Styrene	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
Bromoform	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1
1,1,2,2-Tetrachloroethane	µg/L	ND 1	ND 75	ND 100	ND 200	ND 10	ND 5	ND 5	ND 5	ND 1	ND 5	ND 5	ND 1	ND 1

Collection Date:		MW-10 (Cont'd.)					MW-11							
TCL Volatiles	Units	10/27/99	01/24/00	10/25/00	10/23/01	10/23/02	12/21/92	12/22/97	07/30/98	07/30/98 (Duplicate)	10/27/98	01/25/99	04/28/99	07/26/99
Chloromethane	µg/L	ND 5	ND 5	ND 2	ND 2	ND 2	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Vinyl chloride	**µg/L**	**ND 2**	**ND 2**	**ND 2**	**ND 2**	**ND 2**	**9J**	**ND 2**	**ND 400**	**ND 400**	**ND 100**	**ND 500**	**110**	**ND 1000**
Chloroethane	µg/L	ND 5	ND 5	ND 2	ND 2	0.33J	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Bromomethane	**µg/L**	**ND 5**	**ND 5**	**ND 2**	**ND 2**	**ND 2**	**ND 10**	**ND 5**	**ND 1000**	**ND 1000**	**ND 250**	**ND 500**	**ND 250**	**ND 2500**
1,1-Dichloroethene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	5J	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Acetone	µg/L	ND 5	ND 5	ND 10	ND 10	ND 10	ND 10J	32	ND 1000	ND 1000	ND 1200	ND 2500	ND 250	ND 13000
Carbon disulfide	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Methylene chloride	µg/L	ND 5	ND 5	ND 2	ND 2	ND 2	ND 10J	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
trans-1,2-Dichloroethene	µg/L	ND 5	ND 5	NR	NR	NR	NA	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
1,1-Dichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	4J	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
cis-1,2-Dichloroethene	µg/L	ND 5	ND 5	NR	NR	ND 1	NA	200	2800	2700	ND 250	1700	5200	6600
1,2-Dichloroethene (Total)	µg/L	NR	NR	ND 1	ND 1	ND 1	380	NR	NR	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 5	ND 5	ND 5	ND 5	ND 5	ND 10J	12	ND 1000	ND 1000	ND 1200	ND 2500	ND 250	ND 13000
Chloroform	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
1,1,1-Trichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Carbon tetrachloride	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Benzene	µg/L	ND 0.7	ND 0.7	ND 1	ND 1	ND 1	ND 10	ND 0.7	ND 350	ND 350	ND 35	ND 500	ND 35	ND 350
1,2-Dichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	7J	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Trichloroethene	µg/L	ND 5	ND 5	0.25J	ND 1	ND 1	170000	1000	7900	8300	5000	2200	3100	23000
1,2-Dichloropropane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Bromodichloromethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 10	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
cis-1,3-Dichloropropene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Methyl isobutyl ketone	µg/L	ND 5	ND 5	ND 5	ND 5	ND 5	ND 10J	5	ND 1000	ND 1000	ND 500	ND 1000	ND 250	ND 5000
Toluene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	4J	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
trans-1,3-Dichloropropene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
1,1,2-Trichloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Tetrachloroethene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	57	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
2-Hexanone	µg/L	ND 10	ND 10	ND 5	ND 5	ND 5	ND 10J	ND 10	2900	2900	ND 500	ND 1000	ND 500	ND 5000
Dibromochloromethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 10	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Chlorobenzene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Ethylbenzene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	6J	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
p-Xylene/m-Xylene	µg/L	ND 5	ND 5	NR	NR	NR	NA	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
o-Xylene	µg/L	ND 5	ND 5	NR	NR	NR	NA	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Xylene (Total)	µg/L	NR	NR	ND 1	ND 1	ND 1	24	NR	NR	NR	NR	NR	NR	NR
Styrene	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
Bromoform	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500
1,1,2,2-Tetrachloroethane	µg/L	ND 5	ND 5	ND 1	ND 1	ND 1	ND 10	ND 5	ND 1000	ND 1000	ND 250	ND 500	ND 250	ND 2500

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

MW-11 (Cont'd.)

Collection Date:		*10/27/99*	*01/25/00*	*04/25/00*	*10/25/00*	*04/25/01*	*10/23/01*	*04/22/02*	*10/23/02*	*12/16/02*
TCL Volatiles	*Units*									
Chloromethane	µg/L	ND 2500	ND 500	ND 250	ND 1000	ND 500	ND 1000	ND 200	ND 4000	
Vinyl chloride	µg/L	ND 1000	ND 200	170	950J	220J	ND 1000	67J	ND 4000	25J
Chloroethane	µg/L	ND 2500	ND 500	ND 250	ND 1000	ND 250	ND 1000	ND 200	ND 4000	
Bromomethane	µg/L	ND 2500	ND 500	ND 250	ND 1000	ND 500	ND 1000	ND 200	ND 4000	
1,1-Dichloroethene	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Acetone	µg/L	ND 2500	ND 500	ND 250	1100J	ND 2500	ND 5000	250J	ND 20000	
Carbon disulfide	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Methylene chloride	µg/L	ND 2500	ND 500	ND 250	ND 1000	ND 500	720J	ND 200	ND 4000	
trans-1,2-Dichloroethene	µg/L	ND 2500	ND 500	ND 250	NR	ND 250	ND 500	ND 100	ND 2000	
1,1-Dichloroethane	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
cis-1,2-Dichloroethene	µg/L	6400	14000	4400	NR	3500	4000	2100	12000	290
1,2-Dichloroethene (Total)	µg/L	NR	NR	NR	6200	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 2500	ND 500	ND 250	ND 2500	ND 1200	ND 2500	ND 500	ND 10000	
Chloroform	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
1,1,1-Trichloroethane	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Carbon tetrachloride	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Benzene	µg/L	ND 350	ND 70	ND 35	ND 500	ND 250	ND 500	ND 100	ND 2000	
1,2-Dichloroethane	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Trichloroethene	µg/L	28000	29000	2400	9800	6000	11000	2000	49000	450
1,2-Dichloropropane	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Bromodichloromethane	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
cis-1,3-Dichloropropene	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Methyl isobutyl ketone	µg/L	ND 2500	ND 500	ND 500	ND 2500	ND 1200	ND 2500	ND 500	ND 10000	
Toluene	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
trans-1,3-Dichloropropene	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
1,1,2-Trichloroethane	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Tetrachloroethene	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
2-Hexanone	µg/L	ND 5000	ND 1000	ND 500	ND 2500	ND 1200	ND 2500	ND 500	ND 10000	
Dibromochloromethane	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Chlorobenzene	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Ethylbenzene	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
p-Xylene/m-Xylene	µg/L	ND 2500	ND 500	ND 250	NR	NR	NR	NR	NR	
o-Xylene	µg/L	ND 2500	ND 500	ND 250	NR	NR	NR	NR	NR	
Xylene (Total)	µg/L	NR	NR	NR	ND 500	ND 250	ND 500	ND 100	ND 2000	
Styrene	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
Bromoform	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	
1,1,2,2-Tetrachloroethane	µg/L	ND 2500	ND 500	ND 250	ND 500	ND 250	ND 500	ND 100	ND 2000	

MW-12

06/14/93	*06/14/93 (Duplicate)*	*12/19/97*
ND 10	ND 10	ND 5
ND 10	ND 10	ND 2
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	26
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
NA	NA	ND 5
ND 10	ND 10	ND 5
NA	NA	48
41	37	NR
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	ND 0.7
ND 10	ND 10	ND 5
3400	3500	6600
ND 10	ND 10	ND 5
ND 10	ND 10	ND 10
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	ND 10
ND 10	ND 10	ND 10
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
NA	NA	ND 5
NA	NA	ND 5
ND 10	ND 10	NR
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5
ND 10	ND 10	ND 5

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

MW-12 (Cont'd.)

Collection Date:		07/27/98	10/27/98	01/25/99	04/28/99	07/27/99	10/26/99	01/26/00	04/25/00	10/25/00	04/24/01	10/24/01	04/22/02	10/22/02
TCL Volatiles	*Units*													
Chloromethane	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 50	ND 2	ND 400	ND 500	ND 200
Vinyl chloride	**µg/L**	**ND 200**	**ND 100**	**ND 500**	**ND 100**	**ND 200**	**ND 200**	**ND 200**	**ND 200**	**ND 50**	**ND 2**	**ND 400**	**ND 500**	**ND 200**
Chloroethane	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 50	ND 2	ND 400	ND 500	ND 200
Bromomethane	**µg/L**	**ND 500**	**ND 250**	**ND 500**	**ND 250**	**ND 500**	**ND 500**	**ND 500**	**ND 500**	**ND 50**	**ND 2**	**ND 400**	**ND 500**	**ND 200**
1,1-Dichloroethene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Acetone	µg/L	ND 1000	ND 1200	ND 2500	ND 250	ND 2500	ND 500	ND 500	ND 500	ND 250	ND 10	ND 2000	650J	ND 1000
Carbon disulfide	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Methylene chloride	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 50	ND 2	ND 400	ND 500	ND 200
trans-1,2-Dichloroethene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	NR	ND 1	ND 200	ND 250	ND 100
1,1-Dichloroethane	**µg/L**	**ND 500**	**ND 250**	**ND 500**	**ND 250**	**ND 500**	**ND 500**	**ND 500**	**ND 500**	**ND 25**	**ND 1**	**ND 200**	**ND 250**	**ND 100**
cis-1,2-Dichloroethene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	NR	58J	ND 200	80J	110
1,2-Dichloroethene (Total)	µg/L	NR	NR	NR	NR	NR	NR	NR	NR	70	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 2500	ND 1200	ND 2500	ND 250	ND 2500	ND 500	ND 500	ND 500	ND 120	ND 5	ND 4000	ND 1200	ND 500
Chloroform	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
1,1,1-Trichloroethane	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Carbon tetrachloride	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Benzene	µg/L	ND 70	ND 35	ND 500	ND 35	ND 70	ND 70	ND 70	ND 70	ND 25	ND 1	ND 200	ND 250	ND 100
1,2-Dichloroethane	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Trichloroethene	µg/L	3400	2500	4500	4300	4300	5900	5700	6000	9300E	6300	5700	5100	2100
1,2-Dichloropropane	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Bromodichloromethane	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
cis-1,3-Dichloropropene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Methyl isobutyl ketone	µg/L	ND 1000	ND 500	ND 1000	ND 250	ND 1000	ND 500	ND 500	ND 500	ND 70	ND 5	ND 1000	ND 1200	ND 500
Toluene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
trans-1,3-Dichloropropene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
1,1,2-Trichloroethane	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Tetrachloroethene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
2-Hexanone	µg/L	ND 500	ND 500	ND 1000	ND 500	ND 1000	ND 1000	ND 1000	ND 1000	ND 120	ND 5	ND 1000	ND 1200	ND 500
Dibromochloromethane	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Chlorobenzene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Ethylbenzene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
p-Xylene/m-Xylene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	NR	NR	NR	NR	NR
o-Xylene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	NR	NR	NR	NR	NR
Xylene (Total)	µg/L	NR	NR	NR	NR	NR	NR	NR	NR	ND 25	ND 1	ND 200	ND 250	ND 100
Styrene	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
Bromoform	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100
1,1,2,2-Tetrachloroethane	µg/L	ND 500	ND 250	ND 500	ND 250	ND 500	ND 500	ND 500	ND 500	ND 25	ND 1	ND 200	ND 250	ND 100

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

MW-13

Collection Date:		12/23/97	07/30/98	10/27/98	01/25/99	04/27/99	04/27/99 (Duplicate)	07/27/99	10/26/99	01/24/00	04/25/00	10/25/00	04/24/01
TCL Volatiles	Units												
Chloromethane	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 100	ND 150
Vinyl chloride	µg/L	ND 200	ND 2	28	ND 500	ND 100	ND 100	ND 200	ND 200	ND 200	ND 40	ND 100	ND 150
Chloroethane	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 100	ND 150
Bromomethane	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 100	ND 150
1,1-Dichloroethene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Acetone	µg/L	ND 500	ND 5	ND 25	ND 2500	ND 250	ND 250	ND 2500	ND 500	ND 500	ND 100	140 J	ND 750
Carbon disulfide	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Methylene chloride	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 100	ND 150
trans-1,2-Dichloroethene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	NR	ND 75
1,1-Dichloroethane	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
cis-1,2-Dichloroethene	µg/L	870	ND 5	570	1000	440	440	ND 500	890	ND 500	380	NR	520
1,2-Dichloroethene (Total)	µg/L	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	300	NR
Methyl ethyl ketone	µg/L	ND 500	ND 5	ND 25	ND 2500	ND 250	ND 250	ND 2500	ND 500	ND 500	ND 100	ND 250	ND 380
Chloroform	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
1,1,1-Trichloroethane	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Carbon tetrachloride	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Benzene	µg/L	ND 70	ND 0.7	ND 4	ND 500	ND 35	ND 35	ND 70	ND 70	ND 70	ND 14	ND 50	ND 75
1,2-Dichloroethane	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Trichloroethene	µg/L	27000	4100	3700J	4300	8000	8100	3800	7200	4400	2100	1000	2100
1,2-Dichloropropane	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Bromodichloromethane	µg/L	ND 1000	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
cis-1,3-Dichloropropene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Methyl isobutyl ketone	µg/L	ND 500	ND 5	ND 25	ND 1000	ND 250	ND 250	ND 1000	ND 500	ND 500	ND 100	ND 250	ND 380
Toluene	µg/L	ND 500	ND 5	ND 25	ND 1000	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
trans-1,3-Dichloropropene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
1,1,2-Trichloroethane	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Tetrachloroethene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
2-Hexanone	µg/L	ND 1000	ND 5	ND 25	ND 1000	ND 500	ND 500	ND 1000	ND 1000	ND 1000	ND 200	ND 50	ND 380
Dibromochloromethane	µg/L	ND 1000	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Chlorobenzene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Ethylbenzene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
p-Xylene/m-Xylene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	NR	NR
o-Xylene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	NR	NR
Xylene (Total)	µg/L	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	ND 50	ND 75
Styrene	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
Bromoform	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75
1,1,2,2-Tetrachloroethane	µg/L	ND 500	ND 5	ND 25	ND 500	ND 250	ND 250	ND 500	ND 500	ND 500	ND 100	ND 50	ND 75

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

Collection Date:		MW-13 (Cont'd.)					MW-14						
		04/24/01	10/24/01 Duplicate	10/23/01	04/22/02 Duplicate	10/22/02	12/23/97	07/30/98	10/27/98	01/25/99	04/27/99	07/27/99	10/26/99
TCL Volatiles	Units												
Chloromethane	µg/L	ND 200	ND 100	ND 150	ND 100	ND 50	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Vinyl chloride	µg/L	ND 200	ND 100	ND 150	ND 100	ND 50	ND 200	ND 2	ND 200	ND 200	ND 2	ND 200	ND 200
Chloroethane	µg/L	ND 200	ND 100	ND 150	ND 100	ND 50	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Bromomethane	µg/L	ND 200	ND 100	ND 150	ND 100	ND 50	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
1,1-Dichloroethene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Acetone	µg/L	ND 1000	ND 500	ND 75	130J	ND 250	ND 500	ND 5	ND 2500	ND 2500	ND 5	ND 2500	ND 500
Carbon disulfide	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Methylene chloride	µg/L	ND 200	ND 100	ND 150	ND 100	ND 50	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
trans-1,2-Dichloroethene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
1,1-Dichloroethane	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
cis-1,2-Dichloroethene	µg/L	510	530	600	180	230	1500	42	1000	840	680	550	540
1,2-Dichloroethene (Total)	µg/L	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 500	ND 250	ND 380	ND 250	ND 120	ND 500	ND 5	ND 2500	ND 2500	ND 5	ND 2500	ND 500
Chloroform	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
1,1,1-Trichloroethane	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Carbon tetrachloride	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Benzene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 70	ND 0.7	ND 70	ND 500	ND 0.7	ND 70	ND 70
1,2-Dichloroethane	µg/L	ND 100	ND 50	ND 75	ND 50	ND 50	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Trichloroethene	µg/L	2000	1500	1400	1100	760	26000	1000J	14000	15000	13000J	11000	13000
1,2-Dichloropropane	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Bromodichloromethane	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 1000	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
cis-1,3-Dichloropropene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Methyl isobutyl ketone	µg/L	ND 500	ND 250	ND 380	ND 250	ND 120	ND 500	ND 5	ND 1000	ND 1000	ND 5	ND 1000	ND 500
Toluene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
trans-1,3-Dichloropropene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
1,1,2-Trichloroethane	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Tetrachloroethene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
2-Hexanone	µg/L	ND 500	ND 250	ND 380	ND 250	ND 120	ND 1000	ND 5	ND 1000	ND 1000	ND 10	ND 1000	ND 1000
Dibromochloromethane	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 1000	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Chlorobenzene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Ethylbenzene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
p-Xylene/m-Xylene	µg/L	NR	NR	NR	NR	NR	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
o-Xylene	µg/L	NR	NR	NR	NR	NR	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Xylene (Total)	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	NR	NR	NR	NR	NR	NR	NR
Styrene	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
Bromoform	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500
1,1,2,2-Tetrachloroethane	µg/L	ND 100	ND 50	ND 75	ND 50	ND 25	ND 500	ND 5	ND 500	ND 500	ND 5	ND 500	ND 500

TCL VOC ANALYTICAL DATABASE - CONEWANGO CREEK
VAC AIR ALLOYS SITE
FREWSBURG, NEW YORK

MW-14 (Cont'd.)

Collection Date:		*01/26/00*	*04/25/00*	*10/25/00*	*04/25/01*	*10/23/01*	*04/23/02*	*10/21/02*
TCL Volatiles	*Units*							
Chloromethane	µg/L	ND 500	ND 1000	ND 400	ND 400	ND 400	ND 200	ND 300
Vinyl chloride	µg/L	ND 200	ND 400	ND 400	ND 400	ND 400	ND 200	ND 300
Chloroethane	µg/L	ND 500	ND 1000	ND 400	ND 400	ND 400	ND 200	ND 300
Bromomethane	µg/L	ND 500	ND 1000	ND 400	ND 400	ND 400	ND 200	ND 300
1,1-Dichloroethene	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Acetone	µg/L	ND 500	ND 1000	1200J	ND 2000	ND 2000	ND 1000	ND 1500
Carbon disulfide	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Methylene chloride	µg/L	ND 500	ND 1000	ND 400	ND 400	ND 400	ND 200	ND 300
trans-1,2-Dichloroethene	µg/L	ND 500	ND 1000	NR	ND 200	ND 200	ND 100	ND 150
1,1-Dichloroethane	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
cis-1,2-Dichloroethene	µg/L	ND 500	ND 1000	NR	450	410	320	230
1,2-Dichloroethene (Total)	µg/L	NR	NR	350	NR	NR	NR	NR
Methyl ethyl ketone	µg/L	ND 500	ND 1000	ND 1000	ND 1000	ND 1000	ND 500	ND 750
Chloroform	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
1,1,1-Trichloroethane	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Carbon tetrachloride	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Benzene	µg/L	ND 70	ND 140	ND 200	ND 200	ND 200	ND 100	ND 150
1,2-Dichloroethane	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Trichloroethene	µg/L	9200	8700	5300	6700	4500	3300	2800
1,2-Dichloropropane	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Bromodichloromethane	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
cis-1,3-Dichloropropene	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Methyl isobutyl ketone	µg/L	ND 500	ND 1000	ND 1000	ND 1000	ND 1000	ND 500	ND 750
Toluene	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
trans-1,3-Dichloropropene	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
1,1,2-Trichloroethane	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Tetrachloroethene	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
2-Hexanone	µg/L	ND 1000	ND 2000	ND 1000	ND 1000	ND 1000	ND 500	ND 750
Dibromochloromethane	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Chlorobenzene	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Ethylbenzene	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
p-Xylene/m-Xylene	µg/L	ND 500	ND 1000	NR	NR	NR	NR	NR
o-Xylene	µg/L	ND 500	ND 1000	NR	NR	NR	NR	NR
Xylene (Total)	µg/L	NR	NR	ND 200	ND 200	ND 200	ND 100	ND 150
Styrene	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
Bromoform	µg/L	ND 500	ND 1000	ND 200	ND 200	ND 200	ND 100	ND 150
1,1,2,2-Tetrachloroethane	µg/L	ND 500	ND 1000	ND 200	ND 1000	ND 1000	ND 100	ND 150

Notes:

NA Not Analyzed.
ND Non-detect at associated value.
NR Not Reported.
TCL Target Compound List.
VOC Volatile Organic Compounds.

ADDITIONAL VOC PARAMETERS
VACAIR ALLOYS SITE
FREWSBURG, NEW YORK

		MW-4D					MW-5D	
Collection Date:		04/15/92	12/18/92	12/18/92 (Duplicate)	01/14/93	01/14/93 (Duplicate)	04/15/92	12/17/92
TCL Volatiles	**Units**							
Vinyl acetate	µg/L	NA	ND 10	ND 10	ND 10	ND 10	NA	ND 10
Dichlorodifluoromethane	µg/L	ND 0.5	ND 10	10	ND 10	ND 10	ND 0.5	NA
Trichlorofluoromethane	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
Bromochloromethane	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
1,1-Dichloropropene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
2,2-Dichloropropane	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
Dibromomethane	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
1,3-Dichloropropane	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
1,1,1,2-Tetrachloroethene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
1,2,3-Trichloropropane	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
Bromobenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
o-Chlorotoluene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
p-Chlorotoluene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
m-Dichlorobenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
p-Dichlorobenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
o-Dichlorobenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
1,2,4-Trichlorobenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
Hexachlorobutadiene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
1,2,3-Trichlroobenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
Isopropylbenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
n-Propylbenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
1,3,5-Trimethylbenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
tert. Butylbenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
1,2,4-Trimethylbenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
sec-Butylbenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
p-Isopropyltoluene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA
n-Butylbenzene	µg/L	ND 0.5	NA	NA	NA	NA	ND 0.5	NA

Notes:

NA Not Analyzed.

ND Non-detect at associated value.

VOC Volatile Organic Compound.


F

APPENDIX F

SVE MONITORING DATA

SOIL VAPOR EXTRACTION
VAC AIR ALLOYS
FREWSBURG, NEW YORK

Date	*TCE Reading at Blower Exhaust (ppm)*	*TCE Reading After Carbon (ppm)*	*Branch Operating*
01/02/02	2	0	13-15-17
01/07/02	2	0	13-15-17
01/09/02	3	0	13-15-17
01/11/02	2	0	13-15-17
01/14/02	2	0	13-15-17
01/16/02	3	0	13-15-17
01/18/02	3	0	13-15-17
01/21/02	3	0	13-15-17
01/23/02	3	0	13-15-17
01/25/02	2	0	13-15-17
01/28/02	6	0	14-16-18
01/30/02	3	0	14-16-18
02/18/02	4	0	13-15-17
02/20/02	3	0	13-15-17
02/25/02	2	0	13-15-17
02/27/02	2	0	13-15-17
03/01/02	3	0	14-16-18
03/04/02	2	0	14-16-18
03/06/02	1	0	14-16-18
03/11/02	2	0	14-16-18
03/13/02	2	0	14-16-18
03/15/02	0	0	14-16-18
03/18/02	2	0	13-15-17
03/20/02	0	0	13-15-17
03/22/02	0	0	13-15-17
03/25/02	0	0	13-15-17 & 14-16-18
03/27/02	0	0	13-15-17 & 14-16-18
04/01/02	0	0	13-15-17 & 14-16-18
04/03/02	0	0	13-15-17 & 14-16-18
04/05/02	0	0	13-15-17 & 14-16-18
04/08/02	0	0	13-15-17 & 14-16-18
04/10/02	0	0	13-15-17 & 14-16-18
04/15/02	0	0	13-15-17 & 14-16-18
04/17/02	0	0	13-15-17 & 14-16-18
04/19/02	0	0	13-15-17
04/22/02	0	0	13-15-17
04/24/02	0	0	13-15-17
04/26/02	0	0	13-15-17
04/29/02	0	0	13-15-17
05/01/02	0	na	13-15-17
05/03/02	0	na	13-15-17
05/06/02	0	na	14-16-18
05/08/02	0	na	14-16-18
05/10/02	0	na	14-16-18
05/13/02	0	na	14-16-18
05/15/02	0	na	13-15-17
05/20/02	0	na	13-15-17
05/22/02	0	na	13-15-17
05/24/02	0	na	13-15-17

SOIL VAPOR EXTRACTION
VAC AIR ALLOYS
FREWSBURG, NEW YORK

Date	*TCE Reading at Blower Exhaust (ppm)*	*TCE Reading After Carbon (ppm)*	*Branch Operating*
06/10/02	0	na	13-15-17
06/19/02	0	na	13-15-17
06/21/02	0	na	13-15-17
06/24/02	0	na	14-16-18
06/26/02	0	na	14-16-18
06/28/02	0	na	14-16-18

Notes:
ppm Parts Per Million.
TCE Trichloroethene.