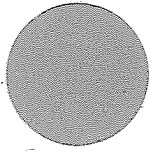


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**QUARTERLY OPERATIONS AND
MAINTENANCE REPORT
(OCTOBER, NOVEMBER, DECEMBER 1997)**

FOR THE

**GROUND-WATER TREATMENT/SOIL REMEDIATION SYSTEM
CARBORUNDUM FACILITY**

LOCATED AT

**2040 CORY ROAD
SANBORN, NEW YORK**

JANUARY 1998

PREPARED FOR:

BP EXPLORATION & OIL, INC.

PREPARED BY:

**HULL & ASSOCIATES, INC.
6130 WILCOX ROAD
DUBLIN, OHIO 43016
(614) 793-8777**



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EXECUTIVE SUMMARY

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Hull & Associates, Inc. (HAI) has been retained by BP Exploration & Oil Inc. (BP) as of June 16, 1996 to perform operations and maintenance (O&M) for the ground-water treatment/soils remediation system at the Carborundum Facility in Sanborn, New York. Prior to June 16, 1996, O&M was performed by McLaren Hart. BP notified the New York State Department of Environmental Conservation (NYSDEC) of this change in a May 30, 1996 letter from Martin Coleman to Maurice Moore and Marty Doster of NYSDEC.

This quarterly report includes monthly progress reports and associated data summaries for October, November, December 1997. The attachments included with this report contain only summary information. Specifically, the attachments contain the following information:

- Attachment A includes only the graphs summarizing hours of system operation, but does not include the Hours of System Operation Logs. Completed logs are available and can be provided upon request.
- Attachment B includes only the graphs summarizing pumping rates for PW-1, PW-2, P-2, P-3, and P-4, but does not include Daily Ground-water Well Status Log Sheets for the wells. Completed daily logs are available and can be provided upon request.
- Attachment C includes summary tables and graphs for air monitoring data, but does not include tabular reports of all monitoring data collected. This detailed monitoring data is available and can be provided upon request.
- Attachment D is reserved for analytical results of samples collected by HAI (or by McLaren Hart prior to June 16, 1996) other than the air monitoring results from the MSA VOC Analyzer. This attachment does not include any information because no additional samples were analyzed this quarter.
- Attachment E is reserved for VES Monitoring Trailer Daily Report Forms. These completed forms are not included in this report; however, these forms are available and can be provided upon request.
- Attachment F is reserved for Routine Inspection Log and Record of Operating Conditions forms. These completed forms are not included in this report; however, these forms are available and can be provided upon request.
- Attachment G contains a list of 40 Hour OSHA trained site personnel. The names of HAI personnel who have been or may be present at the Site are shown at the end of this list. The Carborundum training is no longer required.

The complete monthly progress reports are on file at BP. Information not included in this quarterly report, as described above, is contained in these monthly reports and is available upon

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CARBORUNDUM FACILITY
WEATFIELD, NEW YORK**

1. Summary of Groundwater Treatment/Soil Remediation System hours of operation.

- See Attachment A for Hours of System Operation Log (GWTS) Log No. 041 October 1997 and accompanying figures for a summary of Groundwater Treatment System hours of operation. This log also delineates when the system was down and the primary reason for the shutdown.
- Daily Groundwater Well (PW-1, PW-2, P-2, P-3 and P-4) Status Log Sheets are presented in Attachment B. Pumping rates at PW-1, PW-2, P-2, P-3, and P-4 for the month of October 1997 are shown graphically in Attachment B.
- See Attachment A for Hours of System Operation Log (VES) Log No. 041 October 1997 and accompanying figures for a summary of Soil Remediation System hours of operation. This log also delineates when the system was down and the primary reason for the shutdown. In addition, a table highlighting which vacuum well lines were operational during the month is included in Attachment A.
- Please refer to Section 3 for a discussion of critical down time issues.

2. Summary of results of sampling, tests and all other performance monitoring data collected during the month.

- Air monitoring performance data for the month of October 1997 is presented in Attachment C. This provides for a tabular reporting of all monitoring data collected for the system from the VES operation, emissions of the air strippers, and at the effluent discharge stack. Graphs depicting the amount of VOCs removed during October 1997, and removed to date, from the operation of the vacuum extraction system are also contained in Attachment C.

Please note that the MSA VOC Analyzer records any value below the preset detection limit as zero. The preset detection limits for the three compounds of interest are as follows: TCE - 0.500 ppm, DCE - 0.0500 ppm, and Vinyl Chloride -0.01 ppm. A zero value is used in all calculations in Attachment C, because incremental mass removal is insignificant at the detection limits.

- Tedlar bag samples are being routinely collected at the mid-point of the vapor

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phase carbon units and are being analyzed using the MSA VOC analyzer to determine breakthrough of the carbon beds. VOC mass loading has been detected during mid-point sampling below the discharge levels identified in the air permit to operate. Results of mid-point sampling are available on-site.

- Performance monitoring data was collected under various conditions using the VES trailer to determine the distribution of mass removal by branch. Testing was performed on twenty three separate occasions during October 1997. Airflow and total VOCs concentration were measured for each branch in operation on selected days. Individual branch air flow rates were determined using FIT 601A. Total VOC concentrations were determined by filling a Tedlar Bag with a sample using a vacuum sampling pump, and then analyzing the sample using a Photovac PID. Results of the performance monitoring testing are given in Attachment E.
- Hull & Associates operated the SVE system over the entire site. VEW wells, as indicated on the VES Monitoring Trailer Daily Report forms included as attachment E, were operated under a vacuum of approximately 8 to 20 inches of mercury. VEW wells across the entire site were operated based on sampling results obtained during VES trailer monitoring. VEW wells exhibiting excessive air flow rates due to short circuiting were not operated until the short circuiting was addressed. VEW branch lines with concentrations below 5 ppm total volatiles were closed for a period of time up to a week in length and then reopened and operated for a 24 hour period before sampling.

Air Injection Blowers B-901, B-902, B-903 and B-904 were operated based on which VEW well branches were opened. Only the air injection blowers contributing to the area where VEW wells were opened were operational. All air injection wells in close proximity to operational VEW wells were opened during operation. Injected air pressure at the wellhead was regulated to below five pounds per square inch. Because the air flow into the subsurface is less than the capacity of the air injection blowers, Hull & Associates field personnel opened air release points to the atmosphere to allow adequate air flow from the compressor tank. For air injection pressures and operational time see Daily Operations Report (Attachment F).

- Influent temperatures and relative humidity for the vapor phase carbon have averaged less than 100°F and 50%, respectively, during the month of October 1997.

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3. Summary of major process system operational problems or potential problems and actual or anticipated system down times encountered during the month.

- Daily operations and MSA/Baseline maintenance logs are presented in Attachment F.
- Based on an observed increase in differential pressure across the liquid phase carbon adsorption units, Hull & Associates field personnel performed a backflushing of the carbon units on April 9, 1997. Differential pressure across the carbon bed was reduced within the manufacturer's recommended levels. However, continuous solids loadings to the carbon bed may eventually require carbon changeout. Backflushing of the liquid phase carbon adsorption unit is a result of the continued solids loading to the liquid system from the air/water separator (SVE operation).
- Pump PW-1B remained off the month of October 1997. Pump PW-1A remained in automatic operation for the month October 1997.
- Pumps PW-2A and PW-2B remained in manual operation the month of October 1997.
- Groundwater Well P-2 remained in automatic operation for the entire month of October 1997.
- Groundwater Well P-3 remained in automatic operation for the entire month of October 1997.
- Groundwater Well P-4 remained in automatic operation for the entire month of October 1997.
- Filter bags for the groundwater treatment system pre-filters continued to foul and required replacement, although significantly less than previous months (see Section 4C). This was due to water/silt infiltration following significant rain fall events.

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WEATFIELD, NEW YORK**

4. Summary of all inspection/maintenance activities.

- SRGWTP inspections were performed daily. Equipment operating conditions and status were recorded on a daily log sheet beginning October 1, 1997 and are provided in Attachment F.
- Groundwater Well (PW-1, PW-2, P-2, P-3, and P-4) Status was monitored daily and status sheets are presented in Attachment B.

A. Inspections Performed During Monthly Operations

- Treatment Building and General Grounds
- Piping and Appurtenances
- Transfer and Sump Pumps Inspection
- Vacuum Pumps and Blowers
- Vapor Phase Carbon Units (Inlet RH, Temp. chemical concentrations)
- Volatile Organic Compound Analyzer
- Heat Trace System
- Other inspections per the O&M Manual

B. Inspections to be Performed Next Period

- Treatment Building and General Grounds
- Piping and Appurtenances
- Transfer and Sump Pumps
- Vacuum pumps and blowers
- VOC Analyzer
- Vapor phase carbon units (Inlet RH, Temp.)
- Other inspections per the O&M Manual

C. Maintenance that occurred During This Period

- Changed filter bags from Groundwater Treatment Pre-filters a total of 1 time during the month on October 1997. Groundwater Treatment Pre-filters were changed on October 15 , 1997.
- Greased all pumps and motors on October 14, 1997.

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- Lubrication oil for Vacuum Blower P-701B was changed on October 15, 1997.
- C.H. Heist representative was on site to look at the storm sewer cleaning project on October 7, 1997, received a proposal from them on October 9, 1997.
- Green Environmental was on site on October 13, 1997 to look at the storm sewer project, received a proposal from them on October 14, 1997.
- HAI personnel performed midpoint sampling on October 1, 8, 14, and 28, 1997.
- HAI field personnel repaired a weak in the treatment plant roof around the discharge stack on October 2, 1997.
- HAI field personnel changed the lubrication oil in P701C on October 22, 1997.
- HAI field personnel cut piping from the VES trailer to the former exsitu cell, after being cut into manageable pieces the insulation was removed and the pipe was rinsed with water in the treatment plant and then placed in the dumpster. The rinse water was treated with the groundwater influent and the pipe insulation will be reused on noninsulated VEW branch lines.
- HAI field personnel replaced a ball valve on P2 well which had corroded to the point that it was inoperable on October 7, 1997.
- HAI personnel tightening the drive belts on P701B and P701C on October 22, 1997.
- HAI personnel emptied 400 gallons of water from the Metuallics oven pits on October 23, 1997 into the plant sump, this water was treated immediately.
- HAI field personnel shipped three drums of waste filters to CWM in Model City, NY for diposal on October 1, 1997.

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D. Maintenance Anticipated for Next Period

- Vapor Phase Carbon Change Out: Not anticipated for next period based on current operating conditions. Carbon changeout is being evaluated based on the air permit to operate.
- Liquid Phase Carbon Change Out: Not anticipated for next period. General backflushing will be provided to maintain carbon filters.
- Other activities as per the O&M Manual: No major activities anticipated for next period with the exception of bag filters changeout and liquid phase carbon backflushing.

5. **Summary of all waste handling and disposal.**

- Attachment F contains copies of the waste generation logs completed through October 31, 1997.
- Spent bag filters from the Groundwater Treatment Pre-filters are being stored in one 55-gallon drum within the treatment plant containment area for future disposal at Chemical Waste Management, Inc's TSD, Model City, New York. The plant operator will coordinate appropriate waste disposal practices with Margaret Bonn of H&A and Werner Sicvol of BP.

6. **Environmental releases.**

- No releases (i.e., spills, etc.) occurred during this reporting period.

7. **Personnel on Site.**

A. Subcontractors on Site

- Green Environmental
- H&A
- C.H. Heist

B. Equipment Vendors on site during operations:

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- none

C. **Health and Safety:** The following section summarizes various health and safety items conducted at the site relative to operations:

1. **Hull & Associates Operation and Maintenance Personnel On-Site Hours:**

This Period:	224 Hours
Total:	9977 Hours
Without Accident:	5101 Hours

2. **Accident Summary:** There were no reportable accidents during this reporting period. Two reportable accidents have occurred during Operations and Maintenance to date.
3. **Incident Summary:** There were no reportable incidents during this reporting period. One reportable incident has occurred during Operations and Maintenance to date.
4. **OSHA/Carborundum Trained Site Workers:** Attachment H contains a cumulative list of 40 hour OSHA trained and Carborundum trained Operation and Maintenance workers.
5. **Health and Safety Monitoring:** Operational and Maintenance activities performed this month did not require extensive health and safety monitoring.

8. Major Correspondence/Action Plans

- None this period.

9. Planned Activities

- none.

Submitted by: Richard C. Becken.
Date: October 31, 1997

**PROGRESS REPORT NO. 42
NOVEMBER 1997
CARBORUNDUM FACILITY
WHEATFIELD, NEW YORK**

1. Summary of Groundwater Treatment/Soil Remediation System hours of operation.

- See Attachment A for Hours of System Operation Log (GWTS) Log No. 043 December 1997 and accompanying figures for a summary of Groundwater Treatment System hours of operation. This log also delineates when the system was down and the primary reason for the shutdown.
- Daily Groundwater Well (PW-1, PW-2, P-2, P-3 and P-4) Status Log Sheets are presented in Attachment B. Pumping rates at PW-1, PW-2, P-2, P-3, and P-4 for the month of December 1997 are shown graphically in Attachment B.
- See Attachment A for Hours of System Operation Log (VES) Log No. 043 December 1997 and accompanying figures for a summary of Soil Remediation System hours of operation. This log also delineates when the system was down and the primary reason for the shutdown. In addition, a table highlighting which vacuum well lines were operational during the month is included in Attachment A.
- Please refer to Section 3 for a discussion of critical down time issues.

2. Summary of results of sampling, tests and all other performance monitoring data collected during the month.

- Air monitoring performance data for the month of December 1997 is presented in Attachment C. This provides for a tabular reporting of all monitoring data collected for the system from the VES operation, emissions of the air strippers, and at the effluent discharge stack. Graphs depicting the amount of VOCs removed during December 1997, and removed to date, from the operation of the vacuum extraction system are also contained in Attachment C.

Please note that the MSA VOC Analyzer records any value below the preset detection limit as zero. The preset detection limits for the three compounds of interest are as follows: TCE - 0.500 ppm, DCE - 0.0500 ppm, and Vinyl Chloride -0.01 ppm. A zero value is used in all calculations in Attachment C, because incremental mass removal is insignificant at the detection limits.

- Tedlar bag samples are being routinely collected at the mid-point of the vapor phase carbon units and are being analyzed using the MSA VOC analyzer to

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WHEATFIELD, NEW YORK**

determine breakthrough of the carbon beds. VOC mass loading has been detected during mid-point sampling below the discharge levels identified in the air permit to operate. Results of mid-point sampling are available on-site.

- Performance monitoring data was collected under various conditions using the VES trailer to determine the distribution of mass removal by branch. Testing was performed on twenty two separate occasions during December 1997. Airflow and total VOCs concentration were measured for each branch in operation on selected days. Individual branch air flow rates were determined using FIT 601A. Total VOC concentrations were determined by filling a Tedlar Bag with a sample using a vacuum sampling pump, and then analyzing the sample using a Photovac PID. Results of the performance monitoring testing are given in Attachment E.
- Hull & Associates operated the SVE system over the entire site. VEW wells, as indicated on the VES Monitoring Trailer Daily Report forms included as attachment E, were operated under a vacuum of approximately 8 to 21 inches of mercury. VEW wells across the entire site were operated based on sampling results obtained during VES trailer monitoring. VEW wells exhibiting excessive air flow rates due to short circuiting were not operated until the short circuiting was addressed. VEW branch lines with concentrations below 5 ppm total volatiles were closed for a period of time up to a week in length and then reopened and operated for a 24 hour period before sampling.

Air Injection Blowers B-901, B-902, and B-904 were operated based on which VEW well branches were opened. Only the air injection blowers contributing to the area where VEW wells were opened were operational. All air injection wells in close proximity to operational VEW wells were opened during operation. Injected air pressure at the wellhead was regulated to below five pounds per square inch. Because the air flow into the subsurface is less than the capacity of the air injection blowers, Hull & Associates field personnel opened air release points to the atmosphere to allow adequate air flow from the compressor tank. For air injection pressures and operational time see Daily Operations Report (Attachment F).

- Influent temperatures and relative humidity for the vapor phase carbon have averaged less than 100°F and 50%, respectively, during the month of December 1997.

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WHEATFIELD, NEW YORK**

3. Summary of major process system operational problems or potential problems and actual or anticipated system down times encountered during the month.

- Daily operations and MSA/Baseline maintenance logs are presented in Attachment F.
- Based on an observed increase in differential pressure across the liquid phase carbon adsorption units, Hull & Associates field personnel performed a backflushing of the carbon units on December 19, 1997. Differential pressure across the carbon bed was reduced within the manufacturer's recommended levels. However, continuous solids loadings to the carbon bed may eventually require carbon changeout. Backflushing of the liquid phase carbon adsorption unit is a result of the continued solids loading to the liquid system from the air/water separator (SVE operation).
- Pump PW-1B remained on until December 25, 1997. at which time it was turned off for the rest of the month. Pump PW-1A remained in automatic operation from December 25, 1997 until the end of the month.
- Pumps PW-2A and PW-2B remained in automatic operation from December 01, 1997 until December 22, 1997, then in manual operation until December 24, 1997 when PW2-B was put in automatic mode. PW2-A and B were placed in automatic operation on December 26, 1997 and remained there for the rest of the month.
- Groundwater Well P-2 remained in automatic operation for the entire month of December 1997.
- Groundwater Well P-3 remained in automatic operation for the entire month of December 1997.
- Groundwater Well P-4 remained in automatic operation for the entire month of December 1997.
- Filter bags for the groundwater treatment system pre-filters continued to foul and required replacement, although significantly less than previous months (see Section 4C). This was due to water/silt infiltration following significant rain fall events.

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4. Summary of all inspection/maintenance activities.

- SRGWTP inspections were performed daily. Equipment operating conditions and status were recorded on a daily log sheet beginning December 1, 1997 and are provided in Attachment F.
- Groundwater Well (PW-1, PW-2, P-2, P-3, and P-4) Status was monitored daily and status sheets are presented in Attachment B.

A. Inspections Performed During Monthly Operations

- Treatment Building and General Grounds
- Piping and Appurtenances
- Transfer and Sump Pumps Inspection
- Vacuum Pumps and Blowers
- Vapor Phase Carbon Units (Inlet RH, Temp. chemical concentrations)
- Volatile Organic Compound Analyzer
- Heat Trace System
- Other inspections per the O&M Manual

B. Inspections to be Performed Next Period

- Treatment Building and General Grounds
- Piping and Appurtenances
- Transfer and Sump Pumps
- Vacuum pumps and blowers
- VOC Analyzer
- Vapor phase carbon units (Inlet RH, Temp.)
- Other inspections per the O&M Manual

C. Maintenance that occurred During This Period

- Changed filter bags from Groundwater Treatment Pre-filters a total of 7 times during the month on December 1997. Groundwater Treatment Pre-filters were changed on December 1, 2, 5 (twice), 10, 19, and 29, 1997.
- Greased all pumps and motors on December 15, 1997.

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- Lubrication oil for P701-B was changed on December 5, 1997.
- Dan Griffin of Building Controls was on site on December 5, 1997 to repair the Genesis computer program.
- Carrier Controls was on site on December 3, 1997 to repair the Partlow level indicators for P-2 and P-3 which had blown resistors, they also calibrated the flow meter for the POTW.
- HAI field personnel cleaned the silt and solids out of T-801 on December 5, 1997. The tank was drained of water then a shop vac was used to remove as much silt as possible without entering the tank, the removed silt was placed in a 55 gallon drum for future disposal with the filters at WM in Model City, NY.
- Carrier Controls was on site on December 8, 1997 to repair the Partlow level indicator for P4, they installed the spare indicator and found it didn't operate either so both units were sent back to Partlow for repair.
- HAI field personnel removed the flex coupling from P701-C on December

D. Maintenance Anticipated for Next Period

- Vapor Phase Carbon Change Out: Not anticipated for next period based on current operating conditions. Carbon changeout is being evaluated based on the air permit to operate.
- Liquid Phase Carbon Change Out: Not anticipated for next period. General backflushing will be provided to maintain carbon filters.
- Other activities as per the O&M Manual: No major activities anticipated for next period with the exception of bag filters changeout and liquid phase carbon backflushing.

5. **Summary of all waste handling and disposal.**

- Attachment F contains copies of the waste generation logs completed through December 31, 1997.

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- Spent bag filters from the Groundwater Treatment Pre-filters are being stored in five 55-gallon drum within the treatment plant containment area for future disposal at Chemical Waste Management, Inc's TSDf, Model City, New York. The plant operator will coordinate appropriate waste disposal practices with Margaret Bonn of H&A and Werner Sicvol of BP.

6. Environmental releases.

- No releases (i.e., spills, etc.) occurred during this reporting period.

7. Personnel on Site.

A. Subcontractors on Site:

- Carrier Controls
- Building Controls

B. Equipment Vendors on site during operations:

- none

C. Health and Safety: The following section summarizes various health and safety items conducted at the site relative to operations:

1. Hull & Associates Operation and Maintenance Personnel On-Site Hours:

This Period:	205 Hours
Total:	10356 Hours
Without Accident:	5480 Hours

2. Accident Summary: There were no reportable accidents during this reporting period. Two reportable accidents have occurred during Operations and Maintenance to date.
3. Incident Summary: There were no reportable incidents during this reporting period. One reportable incident has occurred during Operations and Maintenance to date.

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4. OSHA/Carborundum Trained Site Workers: Attachment H contains a cumulative list of 40 hour OSHA trained and Carborundum trained Operation and Maintenance workers.
5. Health and Safety Monitoring: Operational and Maintenance activities performed this month did not require extensive health and safety monitoring.

8 . Major Correspondence/Action Items

- None this period.

9. Planned Activities

- none.

Submitted by: Richard C. Becken
Date: December 31, 1997

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DECEMBER 1997
CARBORUNDUM FACILITY
WEATFIELD, NEW YORK**

1. Summary of Groundwater Treatment/Soil Remediation System hours of operation.

- See Attachment A for Hours of System Operation Log (GWTS) Log No. 043 December 1997 and accompanying figures for a summary of Groundwater Treatment System hours of operation. This log also delineates when the system was down and the primary reason for the shutdown.
- Daily Groundwater Well (PW-1, PW-2, P-2, P-3 and P-4) Status Log Sheets are presented in Attachment B. Pumping rates at PW-1, PW-2, P-2, P-3, and P-4 for the month of December 1997 are shown graphically in Attachment B.
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- Air monitoring performance data for the month of December 1997 is presented in Attachment C. This provides for a tabular reporting of all monitoring data collected for the system from the VES operation, emissions of the air strippers, and at the effluent discharge stack. Graphs depicting the amount of VOCs removed during December 1997, and removed to date, from the operation of the vacuum extraction system are also contained in Attachment C.

Please note that the MSA VOC Analyzer records any value below the preset detection limit as zero. The preset detection limits for the three compounds of interest are as follows: TCE - 0.500 ppm, DCE - 0.0500 ppm, and Vinyl Chloride - 0.01 ppm. A zero value is used in all calculations in Attachment C, because incremental mass removal is insignificant at the detection limits.

- Tedlar bag samples are being routinely collected at the mid-point of the vapor phase carbon units and are being analyzed using the MSA VOC analyzer to determine breakthrough of the carbon beds. VOC mass loading has been detected

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during mid-point sampling below the discharge levels identified in the air permit to operate. Results of mid-point sampling are available on-site.

- Performance monitoring data was collected under various conditions using the VES trailer to determine the distribution of mass removal by branch. Testing was performed on twenty two separate occasions during December 1997. Airflow and total VOCs concentration were measured for each branch in operation on selected days. Individual branch air flow rates were determined using FIT 601A. Total VOC concentrations were determined by filling a Tedlar Bag with a sample using a vacuum sampling pump, and then analyzing the sample using a Photovac PID. Results of the performance monitoring testing are given in Attachment E.
- Hull & Associates operated the SVE system over the entire site. VEW wells, as indicated on the VES Monitoring Trailer Daily Report forms included as attachment E, were operated under a vacuum of approximately 8 to 21 inches of mercury. VEW wells across the entire site were operated based on sampling results obtained during VES trailer monitoring. VEW wells exhibiting excessive air flow rates due to short circuiting were not operated until the short circuiting was addressed. VEW branch lines with concentrations below 5 ppm total volatiles were closed for a period of time up to a week in length and then reopened and operated for a 24 hour period before sampling.

Air Injection Blowers B-901, B-902, and B-904 were operated based on which VEW well branches were opened. Only the air injection blowers contributing to the area where VEW wells were opened were operational. All air injection wells in close proximity to operational VEW wells were opened during operation. Injected air pressure at the wellhead was regulated to below five pounds per square inch. Because the air flow into the subsurface is less than the capacity of the air injection blowers, Hull & Associates field personnel opened air release points to the atmosphere to allow adequate air flow from the compressor tank. For air injection pressures and operational time see Daily Operations Report (Attachment F).

- Influent temperatures and relative humidity for the vapor phase carbon have averaged less than 100°F and 50%, respectively, during the month of December 1997.

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DECEMBER 1997
CARBORUNDUM FACILITY
WEATFIELD, NEW YORK**

3. **Summary of major process system operational problems or potential problems and actual or anticipated system down times encountered during the month.**
- Daily operations and MSA/Baseline maintenance logs are presented in Attachment F.
 - Based on an observed increase in differential pressure across the liquid phase carbon adsorption units, Hull & Associates field personnel performed a backflushing of the carbon units on December 19, 1997. Differential pressure across the carbon bed was reduced within the manufacturer's recommended levels. However, continuous solids loadings to the carbon bed may eventually require carbon changeout. Backflushing of the liquid phase carbon adsorption unit is a result of the continued solids loading to the liquid system from the air/water separator (SVE operation).
 - Pump PW-1B remained on until December 25, 1997. at which time it was turned off for the rest of the month. Pump PW-1A remained in automatic operation from December 25, 1997 until the end of the month.
 - Pumps PW-2A and PW-2B remained in automatic operation from December 01, 1997 until December 22, 1997, then in manual operation until December 24, 1997 when PW2-B was put in automatic mode. PW2-A and B were placed in automatic operation on December 26, 1997 and remained there for the rest of the month.
 - Groundwater Well P-2 remained in automatic operation for the entire month of December 1997.
 - Groundwater Well P-3 remained in automatic operation for the entire month of December 1997.
 - Groundwater Well P-4 remained in automatic operation for the entire month of December 1997.
 - Filter bags for the groundwater treatment system pre-filters continued to foul and required replacement, although significantly less than previous months (see Section 4C). This was due to water/silt infiltration following significant rain fall events.

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DECEMBER 1997
CARBORUNDUM FACILITY
WEATFIELD, NEW YORK**

4. Summary of all inspection/maintenance activities.

- SRGWTP inspections were performed daily. Equipment operating conditions and status were recorded on a daily log sheet beginning December 1, 1997 and are provided in Attachment F.
- Groundwater Well (PW-1, PW-2, P-2, P-3, and P-4) Status was monitored daily and status sheets are presented in Attachment B.

A. Inspections Performed During Monthly Operations

- Treatment Building and General Grounds
- Piping and Appurtenances
- Transfer and Sump Pumps Inspection
- Vacuum Pumps and Blowers
- Vapor Phase Carbon Units (Inlet RH, Temp. chemical concentrations)
- Volatile Organic Compound Analyzer
- Heat Trace System
- Other inspections per the O&M Manual

B. Inspections to be Performed Next Period

- Treatment Building and General Grounds
- Piping and Appurtenances
- Transfer and Sump Pumps
- Vacuum pumps and blowers
- VOC Analyzer
- Vapor phase carbon units (Inlet RH, Temp.)
- Other inspections per the O&M Manual

C. Maintenance that occurred During This Period

- Changed filter bags from Groundwater Treatment Pre-filters a total of 7 times during the month on December 1997. Groundwater Treatment Pre-filters were changed on December 1, 2, 5 (twice), 10, 19, and 29, 1997.
- Greased all pumps and motors on December 15, 1997.

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CARBORUNDUM FACILITY
WEATFIELD, NEW YORK**

- Lubrication oil for P701-B was changed on December 5, 1997.
- Dan Griffin of Building Controls was on site on December 5, 1997 to repair the Genesis computer program.
- Carrier Controls was on site on December 3, 1997 to repair the Partlow level indicators for P-2 and P-3 which had blown resistors, they also calibrated the flow meter for the POTW.
- HAI field personnel cleaned the silt and solids out of T-801 on December 5, 1997. The tank was drained of water then a shop vac was used to remove as much silt as possible without entering the tank, the removed silt was placed in a 55 gallon drum for future disposal with the filters at WM in Model City, NY.
- Carrier Controls was on site on December 8, 1997 to repair the Partlow level indicator for P4, they installed the spare indicator and found it didn't operate either so both units were sent back to Partlow for repair.
- HAI field personnel removed the flex coupling from P701-C on December

D. Maintenance Anticipated for Next Period

- Vapor Phase Carbon Change Out: Not anticipated for next period based on current operating conditions. Carbon changeout is being evaluated based on the air permit to operate.
- Liquid Phase Carbon Change Out: Not anticipated for next period. General backflushing will be provided to maintain carbon filters.
- Other activities as per the O&M Manual: No major activities anticipated for next period with the exception of bag filters changeout and liquid phase carbon backflushing.

5. Summary of all waste handling and disposal.

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CARBORUNDUM FACILITY
WEATFIELD, NEW YORK**

- Attachment F contains copies of the waste generation logs completed through December 31, 1997.
- Spent bag filters from the Groundwater Treatment Pre-filters are being stored in five 55-gallon drum within the treatment plant containment area for future disposal at Chemical Waste Management, Inc's TSDF, Model City, New York. The plant operator will coordinate appropriate waste disposal practices with Margaret Bonn of H&A and Werner Sicvol of BP.

6. Environmental releases.

- No releases (i.e., spills, etc.) occurred during this reporting period.

7. Personnel on Site.

A. Subcontractors on Site

Carrier Controls
Building Controls

B. Equipment Vendors on site during operations:

- none

C. Health and Safety: The following section summarizes various health and safety items conducted at the site relative to operations:

1. Hull & Associates Operation and Maintenance Personnel On-Site Hours:

This Period:	205 Hours
Total:	10356 Hours
Without Accident:	5480 Hours

- 2. Accident Summary:** There were no reportable accidents during this reporting period. Two reportable accidents have occurred during Operations and Maintenance to date.

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DECEMBER 1997
CARBORUNDUM FACILITY
WEATFIELD, NEW YORK**

3. Incident Summary: There were no reportable incidents during this reporting period. One reportable incident has occurred during Operations and Maintenance to date.
4. OSHA/Carborundum Trained Site Workers: Attachment H contains a cumulative list of 40 hour OSHA trained and Carborundum trained Operation and Maintenance workers.
5. Health and Safety Monitoring: Operational and Maintenance activities performed this month did not require extensive health and safety monitoring.

8 . Major Correspondence/Action Items

- None this period.

9. Planned Activities

- none.

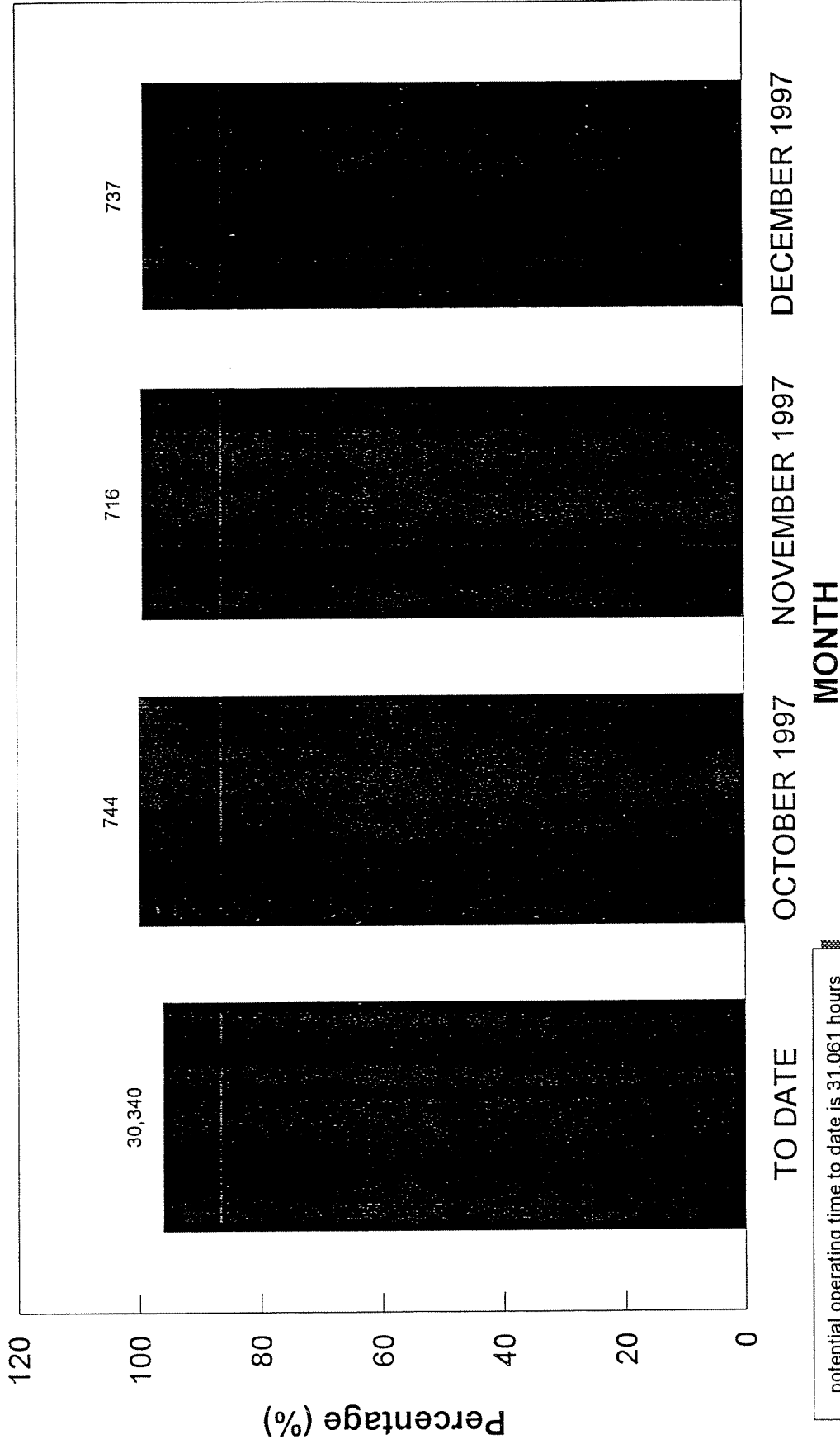
Submitted by: Richard C. Becken
Date: December 31, 1997

ATTACHMENT A

**GROUNDWATER TREATMENT/
SOIL REMEDIATION OPERATIONS INFORMATION**

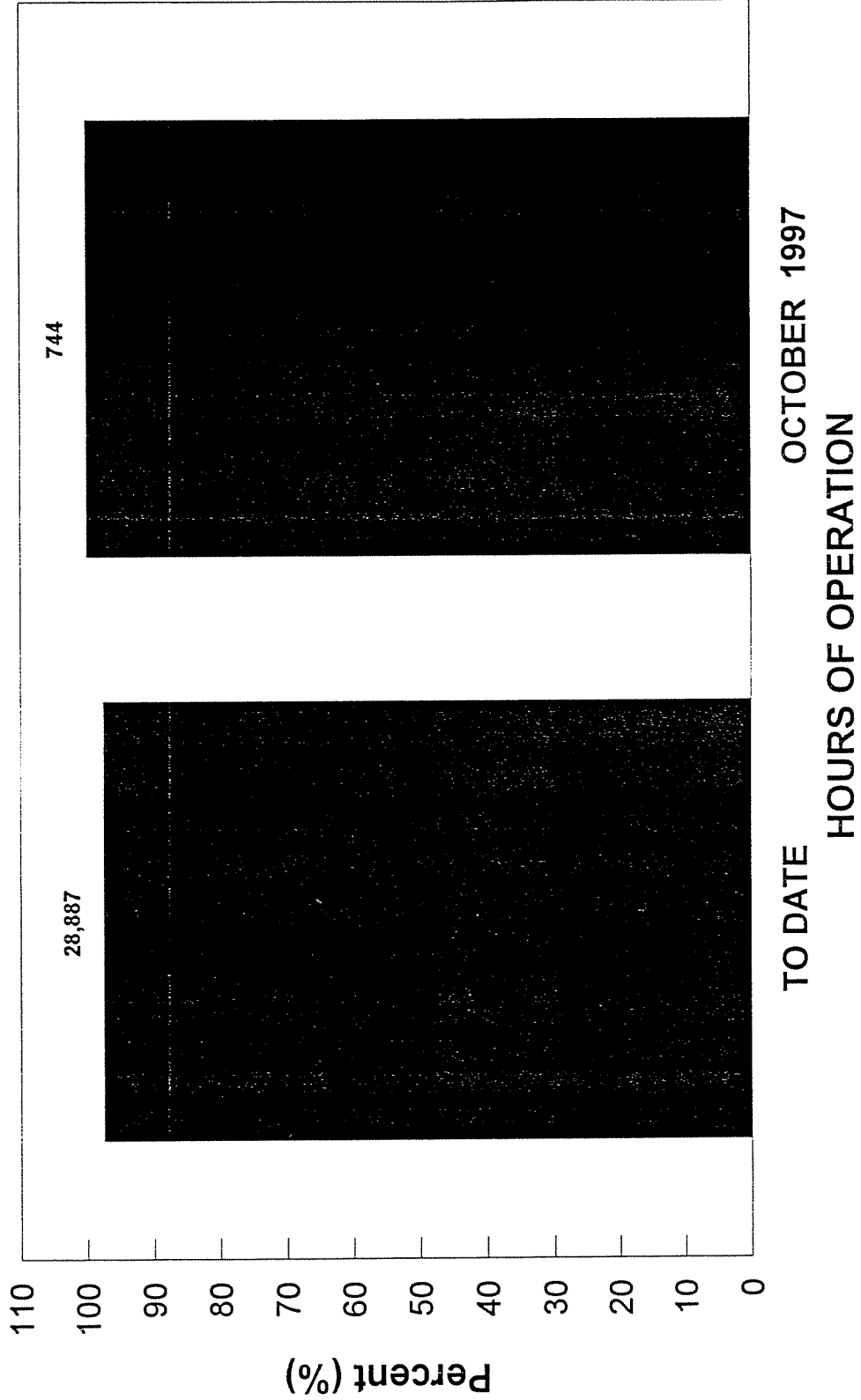
System Operational Hours and Up-Time Percentages

Ground-Water Treatment System



System Operational Hours and Up-Time Percentages

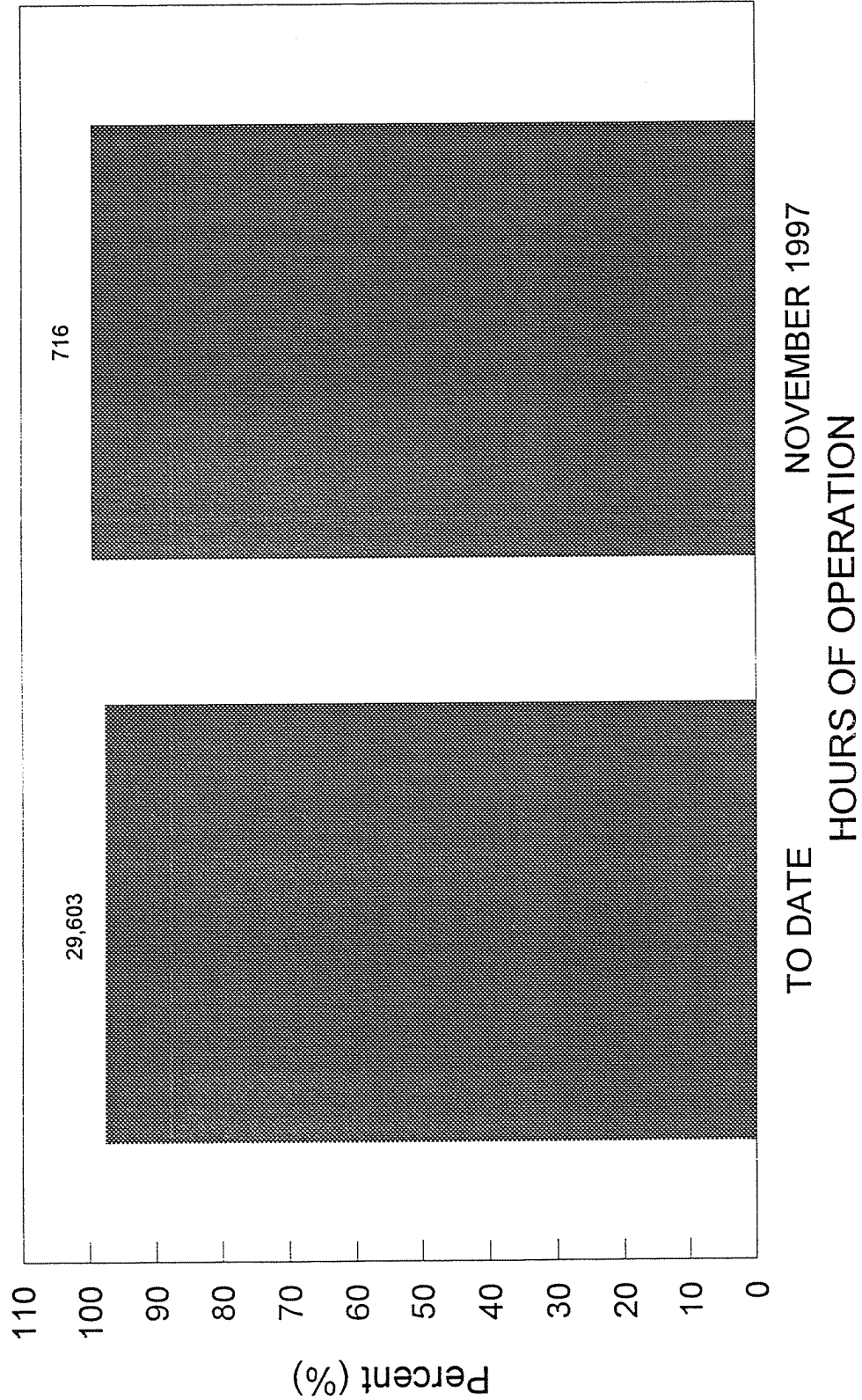
Groundwater Treatment System



potential operating time to date is 29,597 hours

System Operational Hours and Up-Time Percentages

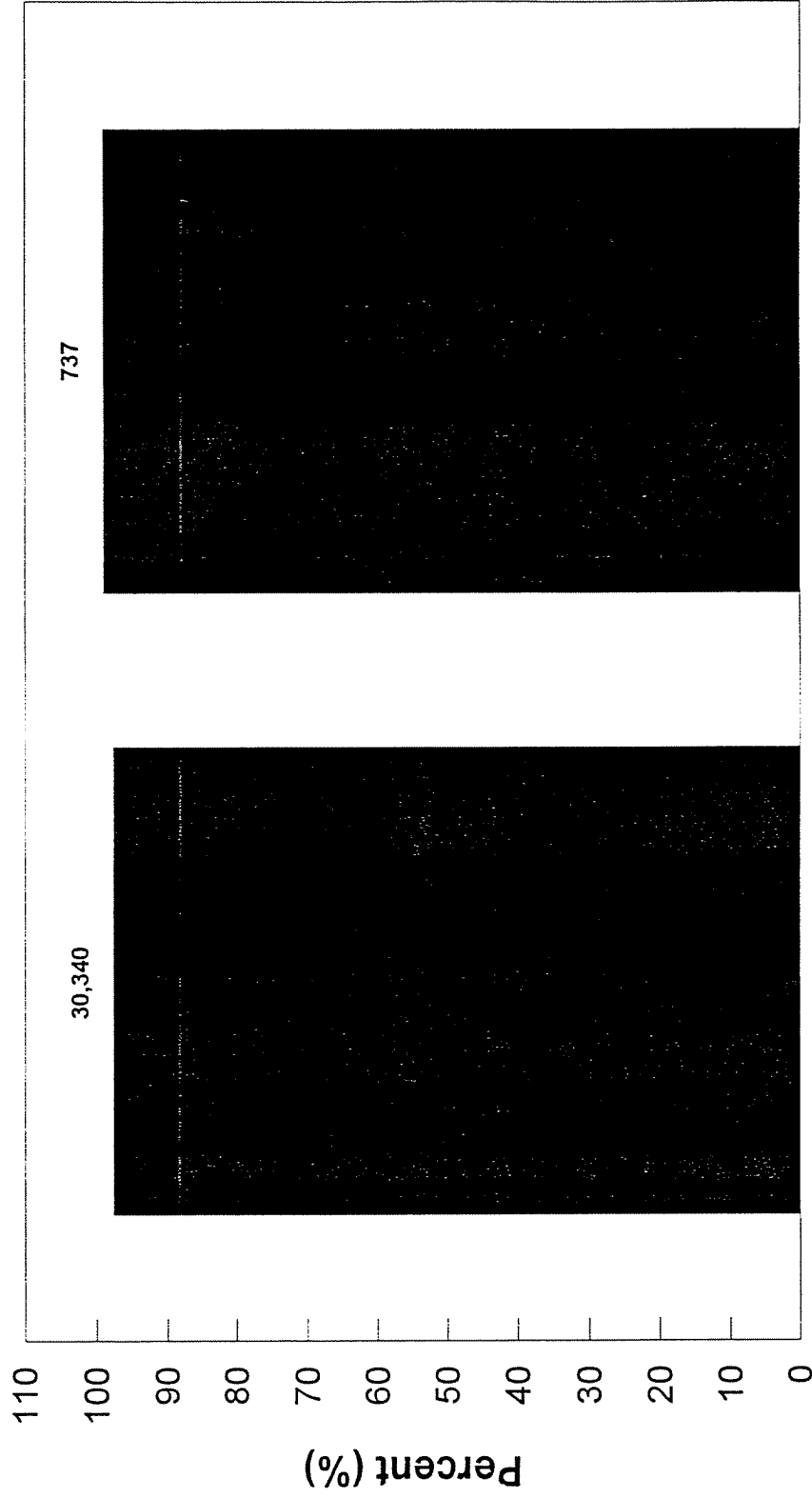
Groundwater Treatment System



potential operating time to date is 30,317 hours

System Operational Hours and Up-Time Percentages

Groundwater Treatment System

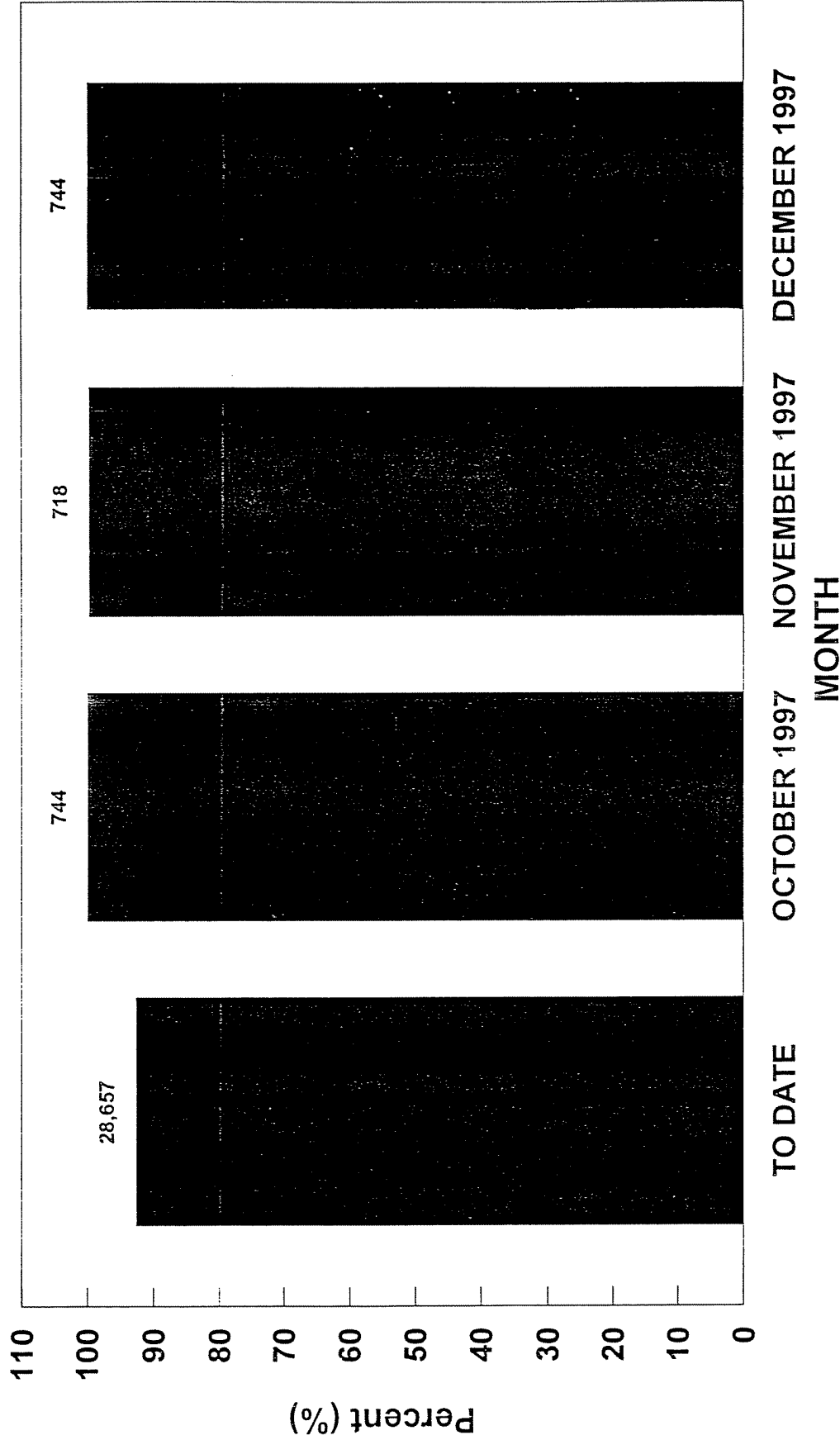


TO DATE DECEMBER 1997
HOURS OF OPERATION

potential operating time to date is 31,061 hours

System Operational Hours and Up-Time Percentages

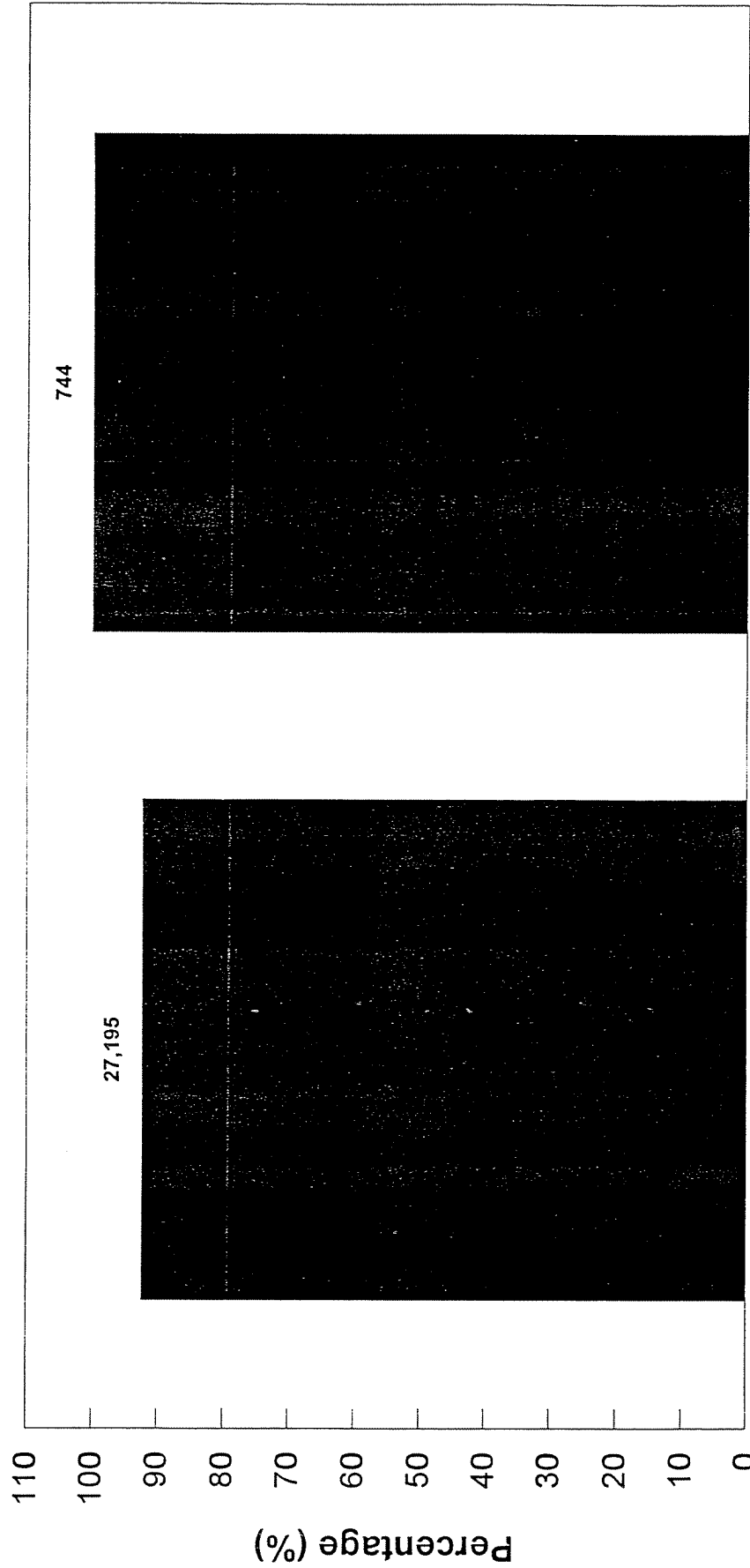
Soil Vapor Extraction System



potential operating time to date is 30,926 hours

System Operational Hours and Up-Time Percentages

Soil Vapor Extraction System



TO DATE

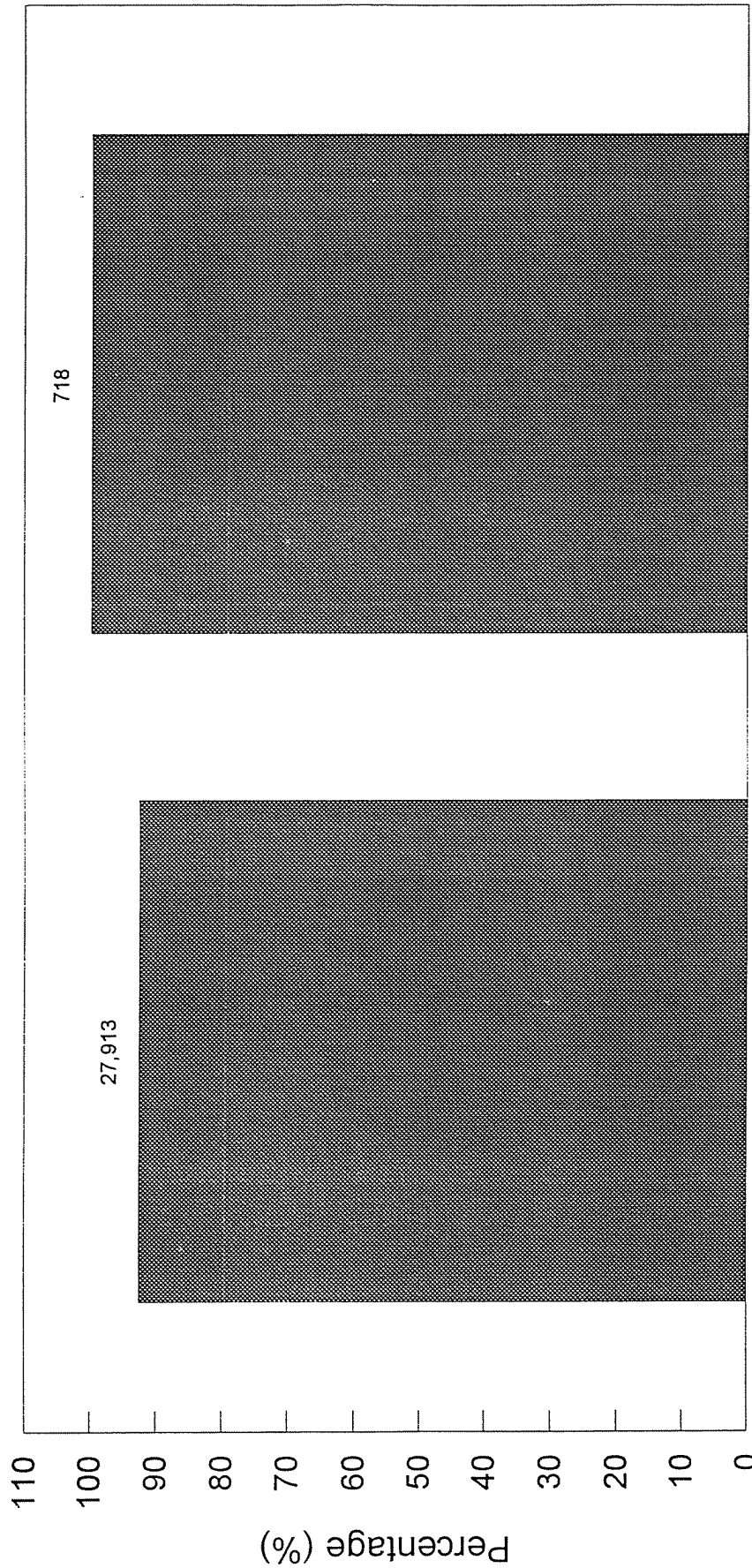
OCTOBER 1997

HOURS OF OPERATION

potential operating time to date is 29,462 hours

System Operational Hours and Up-Time Percentages

Soil Vapor Extraction System



TO DATE

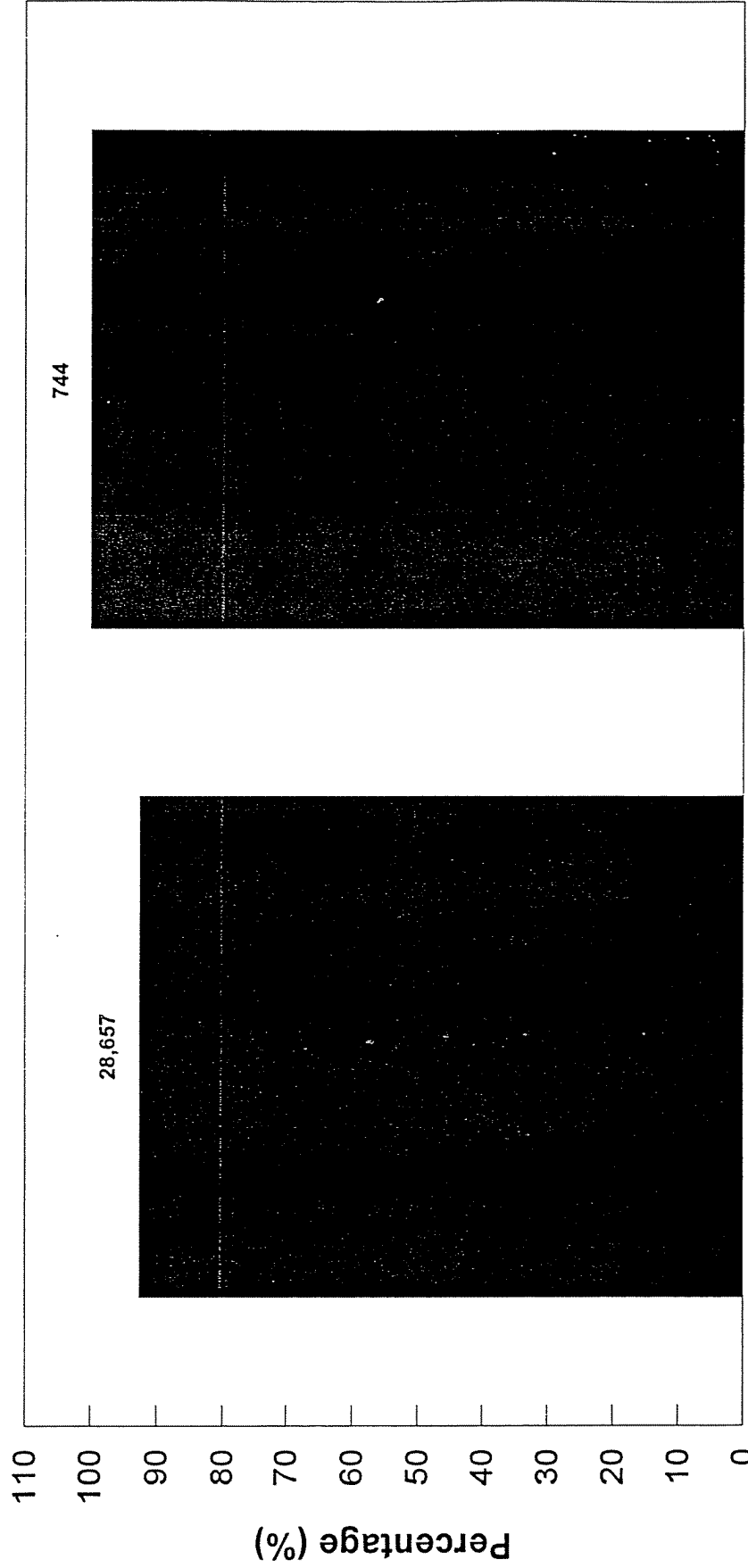
NOVEMBER 1997

HOURS OF OPERATION

potential operating time to date is 30,182 hours

System Operational Hours and Up-Time Percentages

Soil Vapor Extraction System



TO DATE DECEMBER 1997
HOURS OF OPERATION

potential operating time to date is 30,926 hours

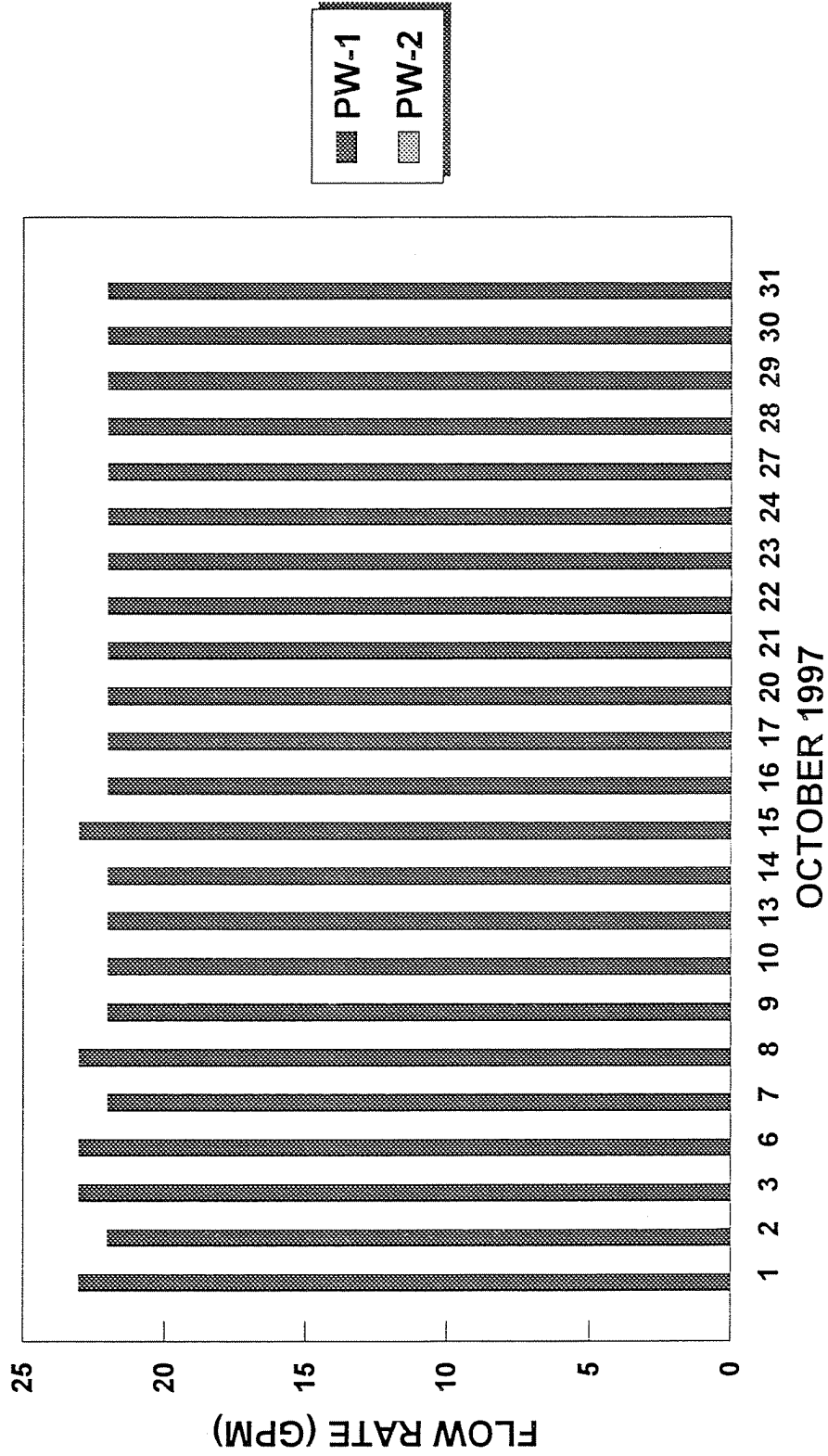
ATTACHMENT B
PW-1/PW-2 STATUS LOG SHEETS

DEWATERING WELL PUMPING RATES OCTOBER 1997

DATE	PW-1	PW-2	P-2	P-3	P-4
10/01/97	23	0	79	11	7
10/02/97	22	0	79	10	7
10/03/97	23	0	81	11	7
10/06/97	23	0	82	11	7
10/07/97	22	0	82	11	7
10/08/97	23	0	93	11	7
10/09/97	22	0	94	11	7
10/10/97	22	0	95	11	7
10/13/97	22	0	89	11	7
10/14/97	22	0	89	11	7
10/15/97	23	0	87	11	7
10/16/97	22	0	85	11	7
10/17/97	22	0	95	11	7
10/20/97	22	0	87	11	7
10/21/97	22	0	84	11	7
10/22/97	22	0	86	10	7
10/23/97	22	0	82	10	7
10/24/97	22	0	77	10	7
10/27/97	22	0	86	11	7
10/28/97	22	0	79	10	7
10/29/97	22	0	80	11	7
10/30/97	22	0	80	10	7
10/31/97	22	0	83	11	7

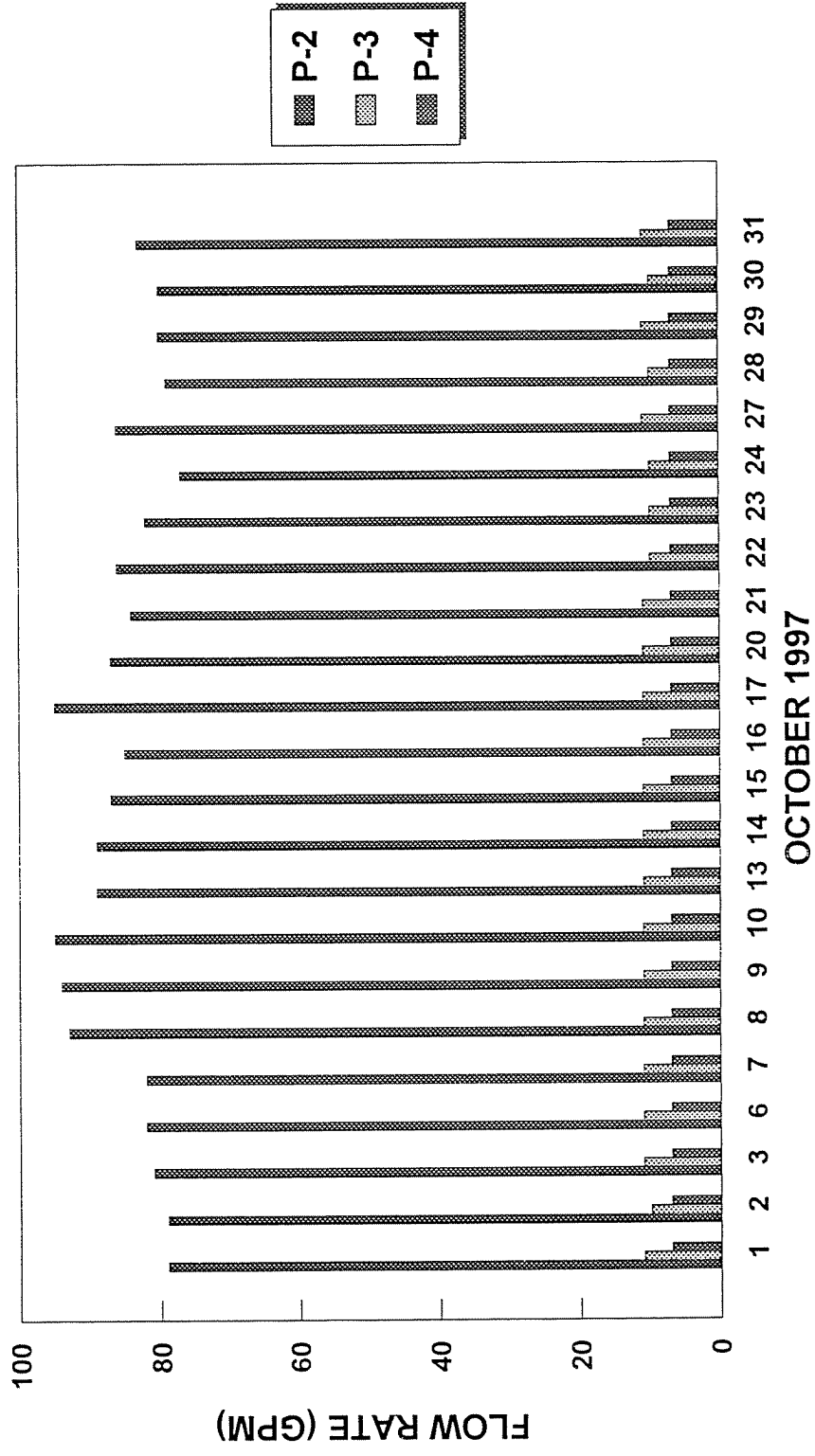
a.Pumps P-3 and P-4 are operating, however flow meters not operating properly due to electrical storms.

DEWATERING WELL PUMPING RATES



Pump PW-2 deactivated due to low water level

DEWATERING WELL PUMPING RATES



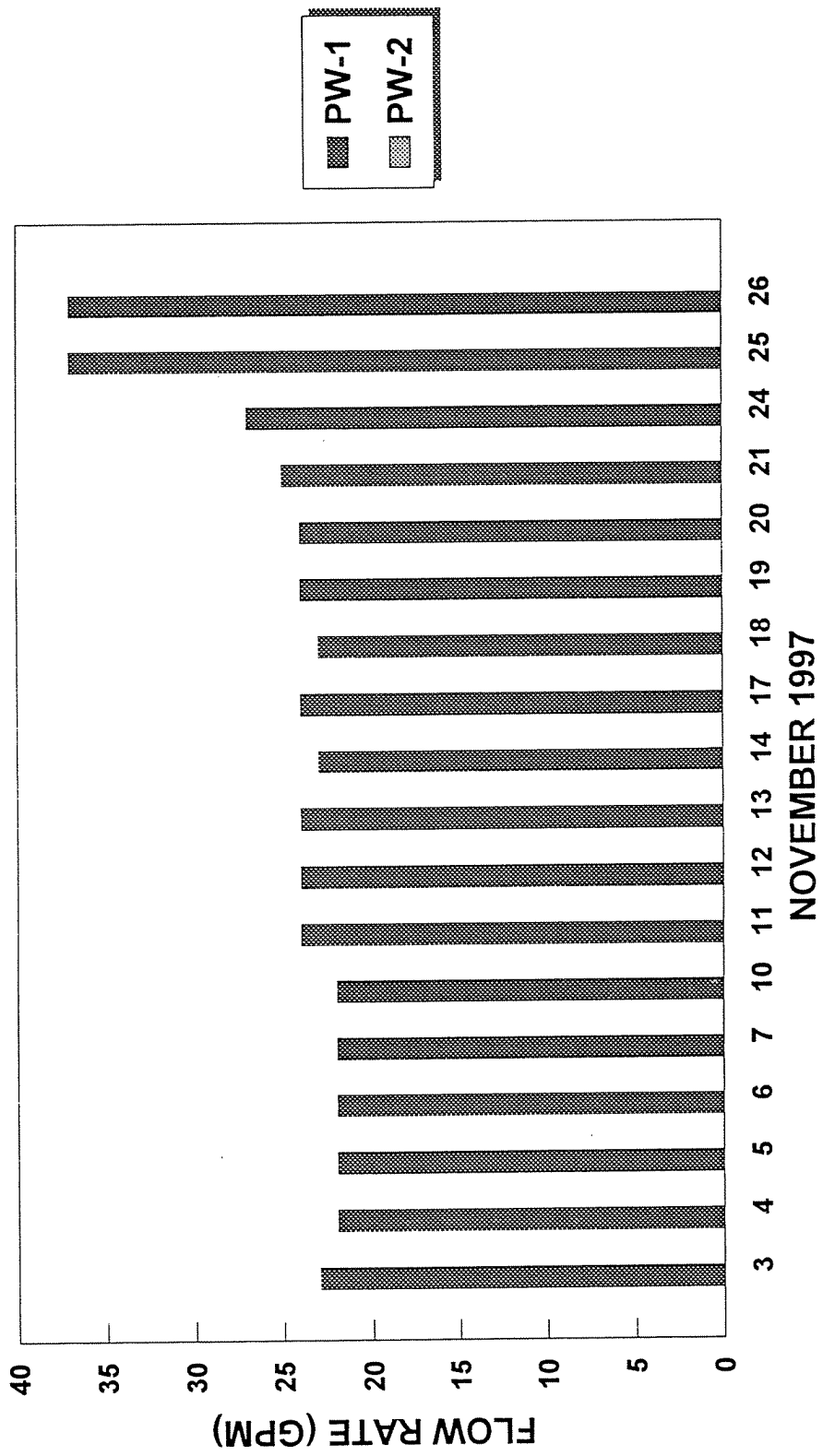
DEWATERING WELL PUMPING RATES NOVEMBER 1997

DATE	PW-1	PW-2	P-2	P-3	P-4
11/03/97	23	0(a)	94	11(b)	0(b)
11/04/97	22	0	107	11	7
11/05/97	22	0	107	11	7
11/06/97	22	0	114	11	7
11/07/97	22	0	114	11	7
11/10/97	22	0	113	10	7
11/11/97	24	0	114	10	7
11/12/97	24	0	111	9	7
11/13/97	24	0	110	9	7
11/14/97	23	0	116	11	7
11/17/97	24	0	109	9	7
11/18/97	23	0	111	9	7
11/19/97	24	0	112	10	7
11/20/97	24	0	119	9	7
11/21/97	25	0	124	11	7
11/24/97	27	0	172	11	7
11/25/97	37	0	198	9	7
11/26/97	37	0	198	10	7

a. Pump PW-2 off due to low water level in well.

b. Pumps P-3 and P-4 are operating, however flow meters not operating properly due to electrical storms.

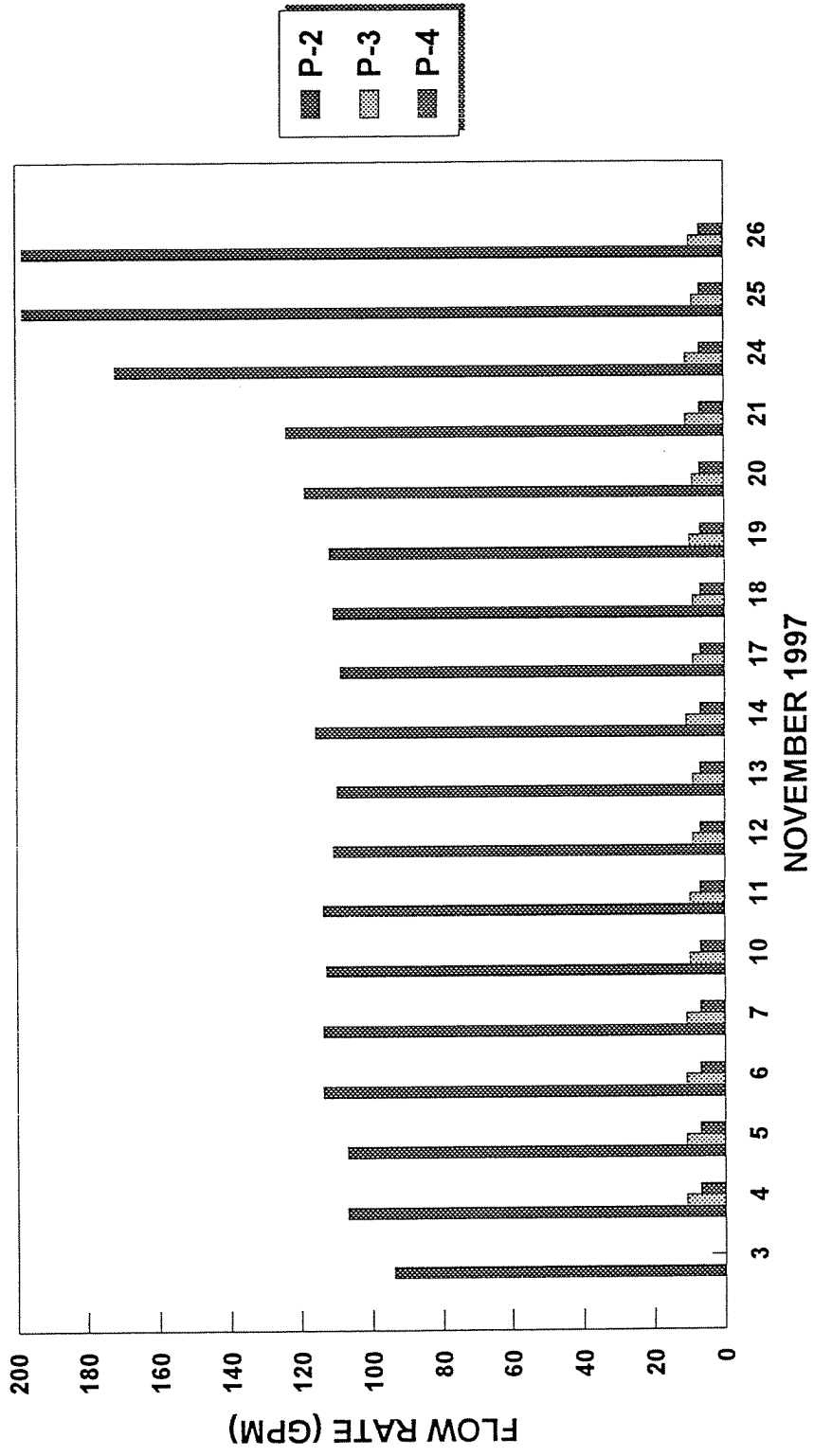
DEWATERING WELL PUMPING RATES



Pump PW-2 deactivated due to low water level

(1/25)

DEWATERING WELL PUMPING RATES

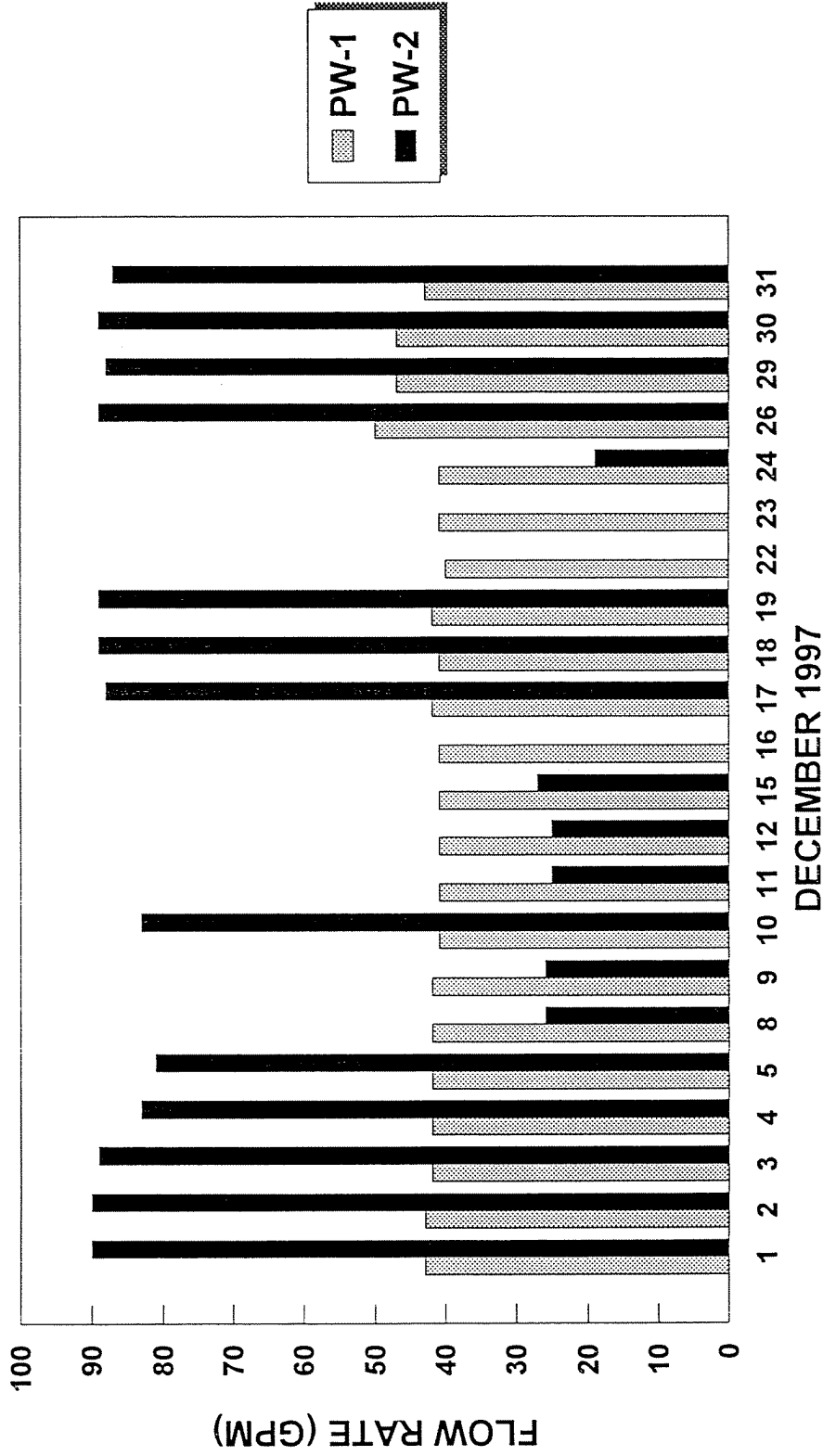


Flow meters at P-3 and P-4 not operating due to electrical storms.

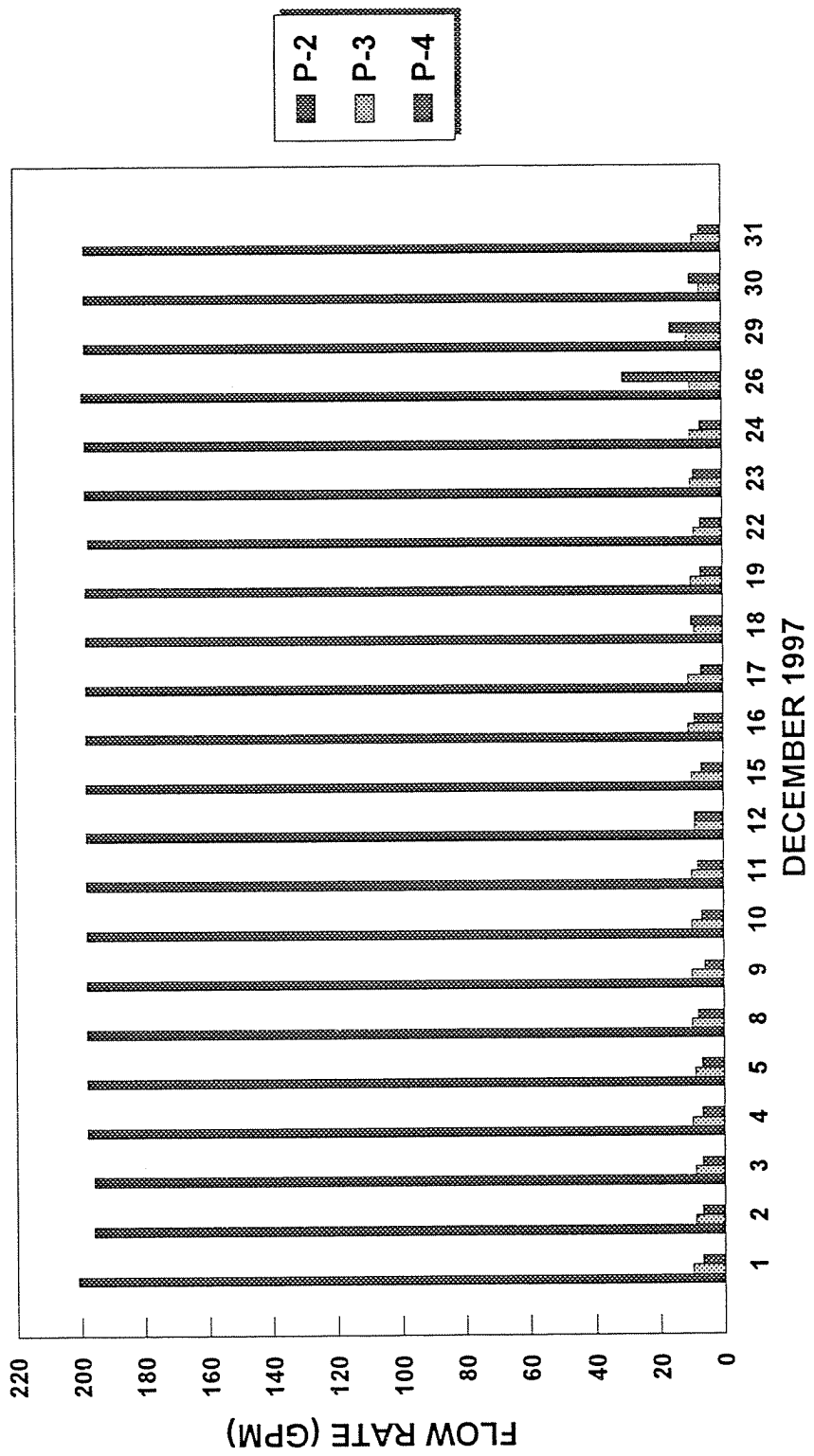
DEWATERING WELL PUMPING RATES DECEMBER 1997

DATE	PW-1	PW-2	P-2	P-3	P-4
12/01/97	43	90	201	10	7
12/02/97	43	90	196	9	7
12/03/97	42	89	196	9	7
12/04/97	42	83	198	10	7
12/05/97	42	81	198	9	7
12/08/97	42	26	198	10	8
07/24/70	42	26	198	10	6
12/10/97	41	83	198	10	7
12/11/97	41	25	198	10	8
12/12/97	41	25	198	9	9
12/15/97	41	27	198	10	7
12/16/97	41	0	198	11	9
12/17/97	42	88	198	11	7
12/18/97	41	89	198	9	10
12/19/97	42	89	198	10	7
12/22/97	40	0	197	9	7
12/23/97	41	0	198	10	9
12/24/97	41	19	198	10	7
12/26/97	50	89	199	10	31
12/29/97	47	88	198	11	16
12/30/97	47	89	198	7	10
12/31/97	43	87	198	9	7

DEWATERING WELL PUMPING RATES



DEWATERING WELL PUMPING RATES



Flow meters at P-3 and P-4 not operating due to electrical storms.

ATTACHMENT C

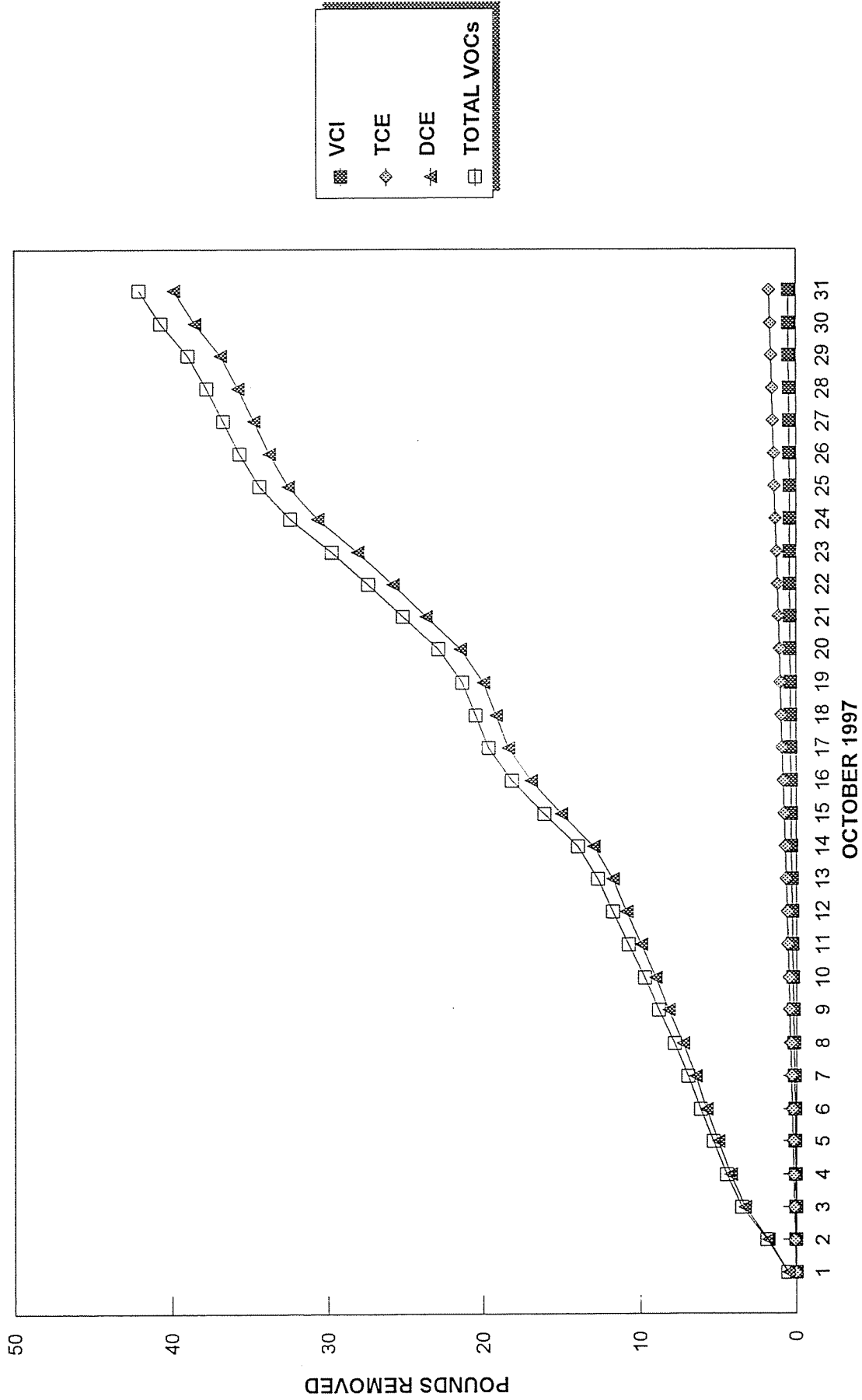
AIR MONITORING PERFORMANCE DATA

**Contaminants Removed During SVE Operations
OCTOBER 1997
Groundwater Treatment and Soil Remediation Program
Carborundum Facility
Wheatfield, New York**

DATE	Daily Load (pounds)			
	V CI	DCE	TCE	TOTAL
10/01/97	0.0062	0.0283	0.5042	0.5387
10/02/97	0.0099	0.0572	1.2954	1.3625
10/03/97	0.0152	0.0584	1.5265	1.6001
10/04/97	0.0265	0.0448	0.8926	0.9639
10/05/97	0.0292	0.0470	0.7898	0.8660
10/06/97	0.0237	0.0416	0.7597	0.8250
10/07/97	0.0306	0.0532	0.7256	0.8094
10/08/97	0.0300	0.0487	0.7947	0.8734
10/09/97	0.0355	0.0567	0.9156	1.0078
10/10/97	0.0200	0.0469	0.8226	0.8895
10/11/97	0.0165	0.0527	0.9502	1.0194
10/12/97	0.0207	0.0583	0.9150	0.9940
10/13/97	0.0279	0.0555	0.8670	0.9504
10/14/97	0.0194	0.0718	1.1969	1.2881
10/15/97	0.0141	0.0652	2.0707	2.1500
10/16/97	0.0115	0.0620	1.9471	2.0206
10/17/97	0.0109	0.0551	1.4236	1.4896
10/18/97	0.0106	0.0473	0.7605	0.8184
10/19/97	0.0094	0.0512	0.8147	0.8753
10/20/97	0.0117	0.0577	1.4994	1.5688
10/21/97	0.0136	0.0667	2.2464	2.3267
10/22/97	0.0091	0.0623	2.1409	2.2123
10/23/97	0.0117	0.0651	2.2828	2.3596
10/24/97	0.0105	0.0808	2.5381	2.6294
10/25/97	0.0074	0.0671	1.9089	1.9834
10/26/97	0.0116	0.0564	1.2081	1.2761
10/27/97	0.0059	0.0471	0.9919	1.0449
10/28/97	0.0100	0.0495	1.0025	1.0620
10/29/97	0.0142	0.0509	1.1168	1.1819
10/30/97	0.0105	0.0611	1.6550	1.7266
10/31/97	0.0104	0.0552	1.3265	1.3921

October 1997	0.4944	1.7218	39.8897	42.1059
Previous Total	22.1095	234.0754	2292.3474	2548.8228
Thru 10/31/97	22.6039	235.7972	2332.2371	2590.9287

**CUMULATIVE POUNDS OF CONTAMINANTS
REMOVED DURING SVE OPERATIONS**

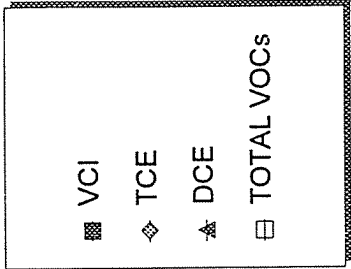
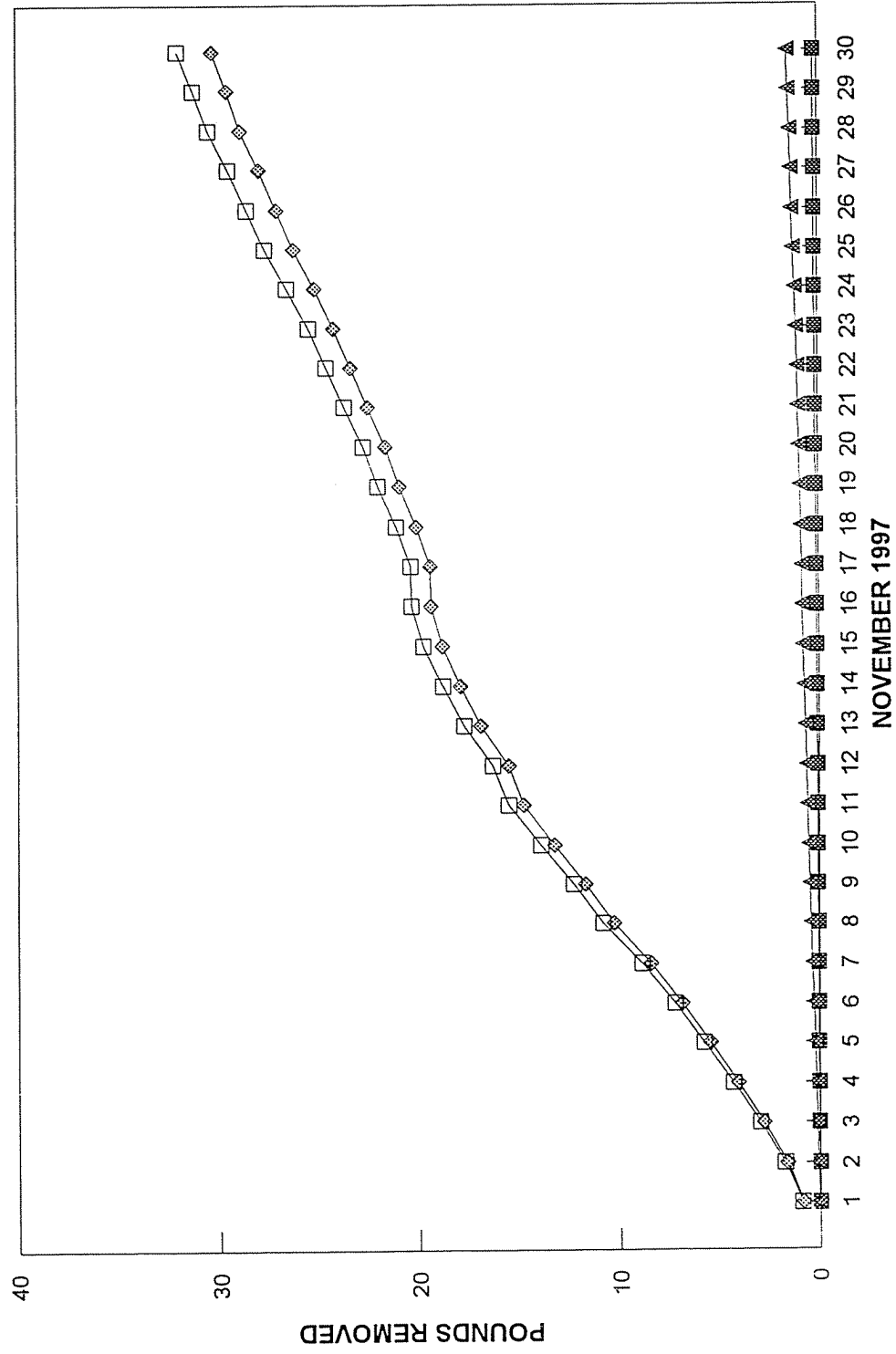


**Contaminants Removed During SVE Operations
November 1997
Groundwater Treatment and Soil Remediation Program
Carborundum Facility
Wheatfield, New York**

DATE	Daily Load (pounds)			
	VCI	DCE	TCE	TOTAL
11/01/97	0.0109	0.0420	0.8688	0.9217
11/02/97	0.0128	0.0430	0.7949	0.8507
11/03/97	0.0098	0.0578	1.1589	1.2265
11/04/97	0.0099	0.0535	1.2654	1.3288
11/05/97	0.0118	0.0597	1.3935	1.4650
11/06/97	0.0070	0.0611	1.4144	1.4825
11/07/97	0.0094	0.0686	1.5457	1.6237
11/08/97	0.0098	0.0627	1.8683	1.9408
11/09/97	0.0089	0.0523	1.4276	1.4888
11/10/97	0.0083	0.0589	1.5242	1.5914
11/11/97	0.0069	0.0652	1.5146	1.5867
11/12/97	0.0052	0.0359	0.7378	0.7789
11/13/97	0.0066	0.0682	1.3760	1.4508
11/14/97	0.0045	0.0460	0.9952	1.0457
11/15/97	0.0058	0.0443	0.9235	0.9736
11/16/97	0.0021	0.0313	0.5611	0.5945
11/17/97	0.0000	0.0059	0.0200	0.0259
11/18/97	0.0039	0.0382	0.7023	0.7444
11/19/97	0.0076	0.0414	0.8520	0.9010
11/20/97	0.0055	0.0342	0.6798	0.7195
11/21/97	0.0084	0.0442	0.9056	0.9582
11/22/97	0.0069	0.0386	0.8478	0.8933
11/23/97	0.0068	0.0366	0.8385	0.8819
11/24/97	0.0044	0.0811	0.9769	1.0624
11/25/97	0.0067	0.0745	1.0050	1.0862
11/26/97	0.0087	0.0523	0.8624	0.9234
11/27/97	0.0063	0.0403	0.8799	0.9265
11/28/97	0.0075	0.0642	0.9173	0.9890
11/29/97	0.0045	0.0801	0.6867	0.7713
11/30/97	0.0070	0.0342	0.7363	0.7775

November 1997	0.2139	1.5163	30.2804	32.0106
Previous Total	22.6039	235.7972	2332.2371	2590.9287
Thru 11/30/97	22.8178	237.3135	2362.5175	2622.9393

**CUMULATIVE POUNDS OF CONTAMINANTS
REMOVED DURING SVE OPERATIONS**

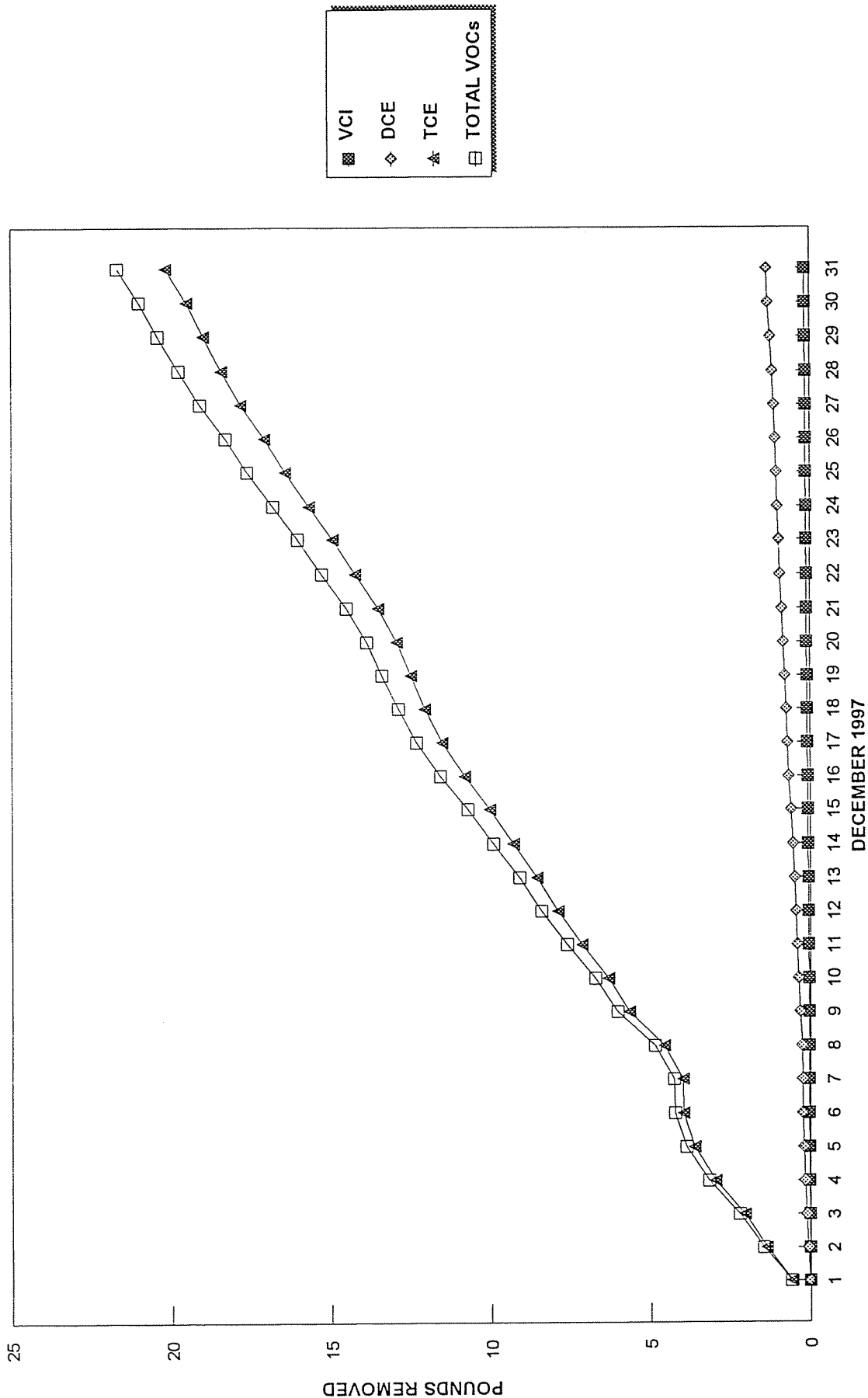


**Contaminants Removed Via SVE Operations
December 1997
Groundwater Treatment and Soil Remediation Program
Carborundum Facility
Wheatfield, New York**

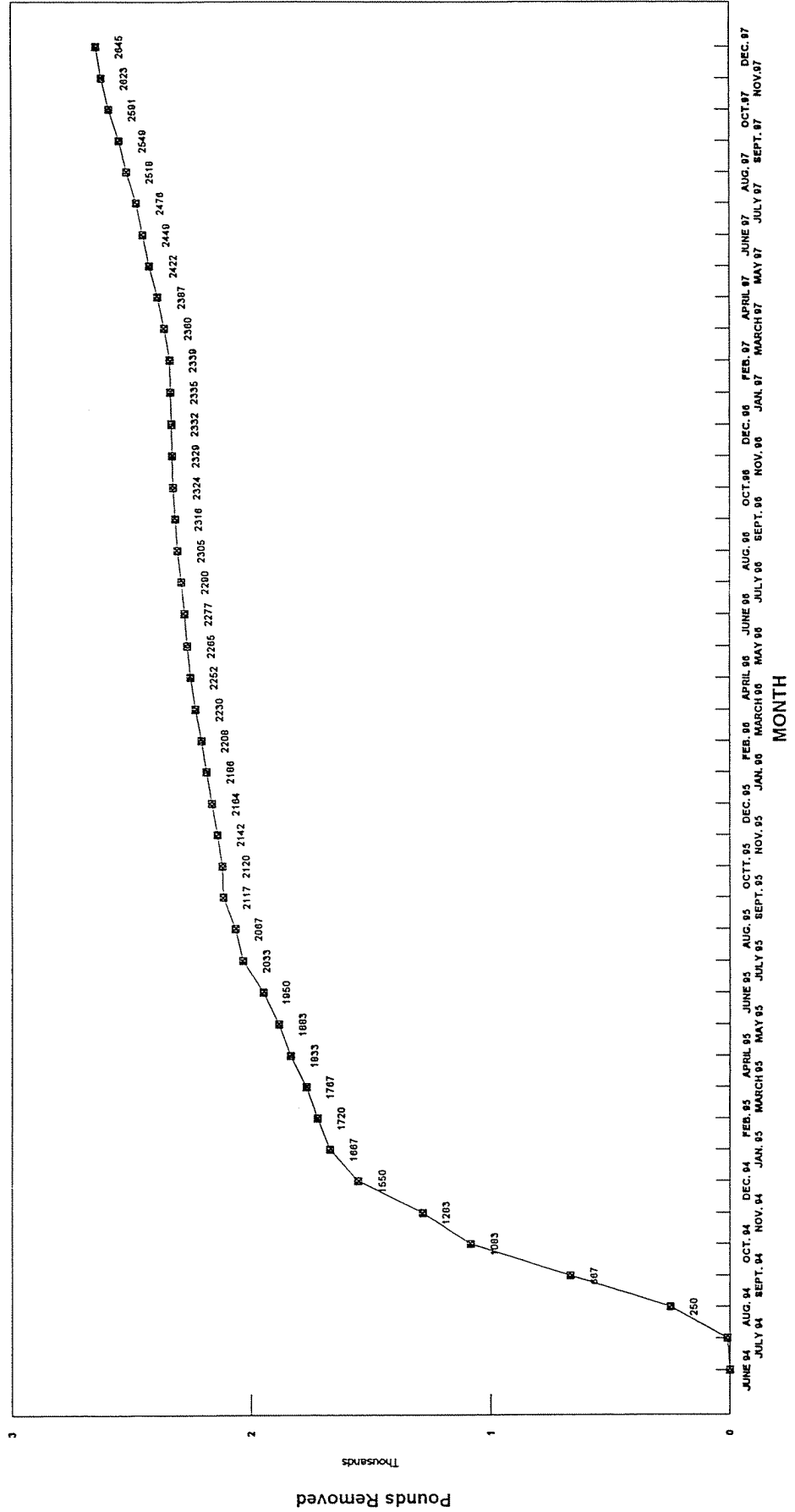
DATE	Daily Load (pounds)			
	VCI	DCE	TCE	TOTAL
12/01/97	0.0047	0.0285	0.5770	0.6102
12/02/97	0.0080	0.0502	0.8045	0.8627
12/03/97	0.0069	0.0401	0.7012	0.7482
12/04/97	0.0077	0.0491	0.9051	0.9619
12/05/97	0.0066	0.0342	0.6526	0.6934
12/06/97	0.0030	0.0402	0.3333	0.3765
12/07/97	0.0000	0.0022	0.0257	0.0279
12/08/97	0.0029	0.0244	0.5811	0.6084
12/09/97	0.0066	0.0577	1.1019	1.1662
12/10/97	0.0045	0.0461	0.6534	0.7040
12/11/97	0.0044	0.0482	0.8409	0.8935
12/12/97	0.0056	0.0370	0.7515	0.7941
12/13/97	0.0046	0.0350	0.6513	0.6909
12/14/97	0.0049	0.0605	0.7332	0.7986
12/15/97	0.0040	0.0526	0.7425	0.7991
12/16/97	0.0048	0.0833	0.7710	0.8591
12/17/97	0.0042	0.0340	0.7060	0.7442
12/18/97	0.0025	0.0253	0.5400	0.5678
12/19/97	0.0072	0.0564	0.4432	0.5068
12/20/97	0.0074	0.0322	0.4308	0.4704
12/21/97	0.0068	0.0505	0.5874	0.6447
12/22/97	0.0060	0.0568	0.7084	0.7712
12/23/97	0.0052	0.0372	0.7090	0.7514
12/24/97	0.0053	0.0413	0.7254	0.7720
12/25/97	0.0068	0.0412	0.7597	0.8077
12/26/97	0.0045	0.0287	0.6557	0.6889
12/27/97	0.0040	0.0432	0.7450	0.7922
12/28/97	0.0041	0.0507	0.6148	0.6696
12/29/97	0.0038	0.0590	0.5593	0.6221
12/30/97	0.0055	0.0730	0.5064	0.5849
12/31/97	0.0032	0.0366	0.6371	0.6769

December 97	0.1557	1.3554	20.1544	21.6655
Previous Total	22.8178	237.3135	2362.5175	2622.9393
Thru 11/30/97	22.9735	238.6689	2382.6719	2644.6048

CUMULATIVE POUNDS OF CONTAMINANTS REMOVED DURING SVE OPERATIONS



CUMULATIVE POUNDS OF CONTAMINANTS
REMOVED DURING SVE OPERATION

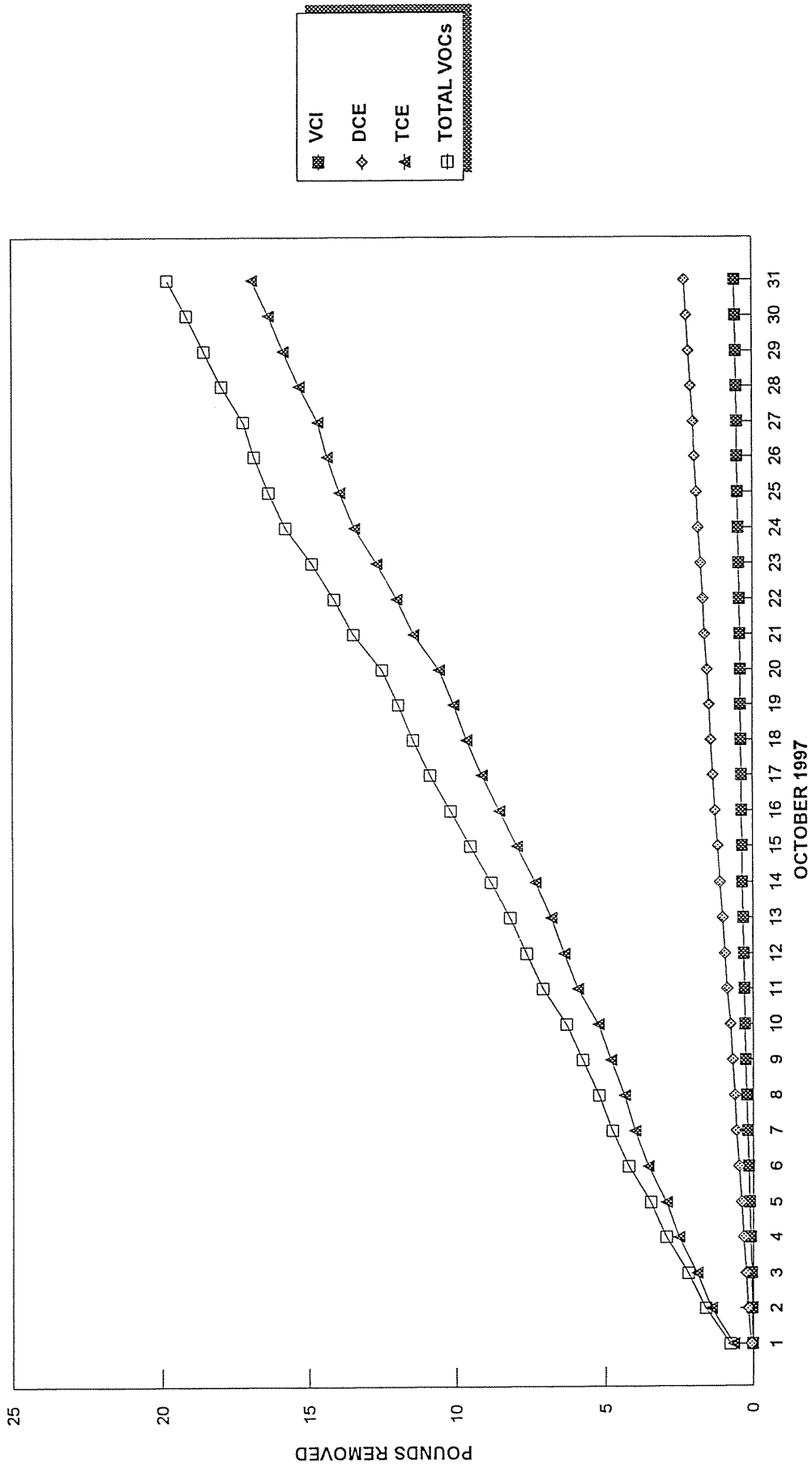


**Contaminants Removed Via Air Stripping
OCTOBER 1997
Groundwater Treatment and Soil Remediation Program
Carborundum Facility
Wheatfield, New York**

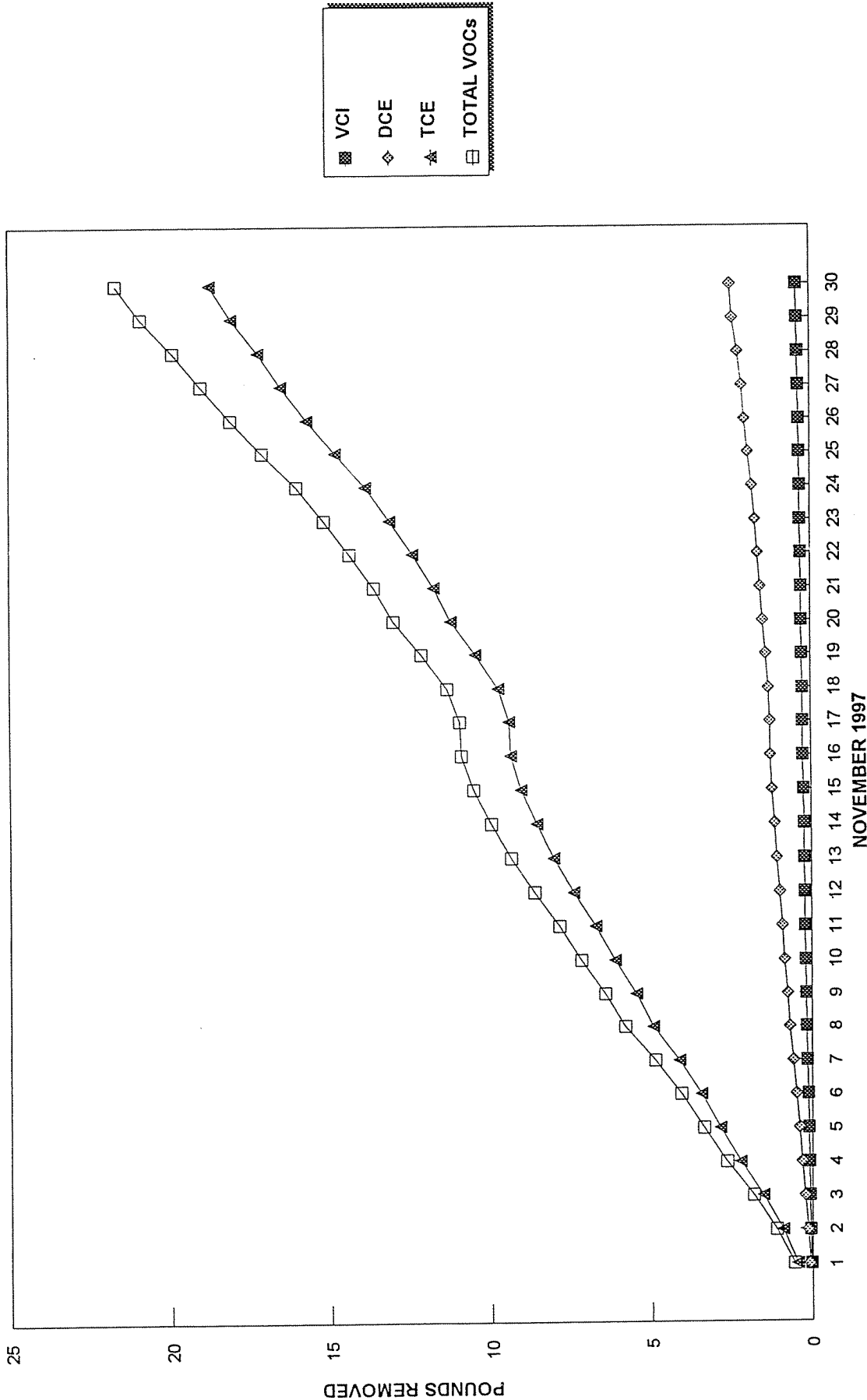
DATE	Daily Load (pounds)			
	V. CI	DCE	TCE	TOTAL
10/01/97	0.0131	0.0801	0.6690	0.7622
10/02/97	0.0178	0.0948	0.7337	0.8463
10/03/97	0.0225	0.0749	0.4969	0.5943
10/04/97	0.0353	0.0853	0.6144	0.7350
10/05/97	0.0366	0.0681	0.4197	0.5244
10/06/97	0.0417	0.0872	0.6199	0.7488
10/07/97	0.0246	0.0774	0.4523	0.5543
10/08/97	0.0361	0.0634	0.3502	0.4497
10/09/97	0.0302	0.0744	0.4550	0.5596
10/10/97	0.0283	0.0723	0.4303	0.5309
10/11/97	0.0229	0.0938	0.6873	0.8040
10/12/97	0.0148	0.0771	0.4514	0.5433
10/13/97	0.0192	0.0701	0.4489	0.5382
10/14/97	0.0226	0.0886	0.5264	0.6376
10/15/97	0.0124	0.0768	0.6001	0.6893
10/16/97	0.0109	0.0721	0.5811	0.6641
10/17/97	0.0095	0.0708	0.5977	0.6780
10/18/97	0.0102	0.0738	0.4973	0.5813
10/19/97	0.0094	0.0617	0.4365	0.5076
10/20/97	0.0114	0.0615	0.5023	0.5752
10/21/97	0.0126	0.0879	0.8692	0.9697
10/22/97	0.0097	0.0640	0.5597	0.6334
10/23/97	0.0162	0.0708	0.6878	0.7748
10/24/97	0.0180	0.0841	0.7664	0.8685
10/25/97	0.0134	0.0599	0.4895	0.5628
10/26/97	0.0142	0.0545	0.4276	0.4963
10/27/97	0.0119	0.0487	0.3126	0.3732
10/28/97	0.0142	0.0819	0.6405	0.7366
10/29/97	0.0143	0.0703	0.5168	0.6014
10/30/97	0.0155	0.0719	0.5007	0.5881
10/31/97	0.0274	0.0689	0.5583	0.6546

October 97	0.5969	2.2871	16.8995	19.7835
Previous Total	14.9897	148.9219	737.9693	901.8811
Thru 10/31/97	15.5866	151.2090	754.8688	921.6646

**CUMULATIVE POUNDS OF CONTAMINANTS
REMOVED DURING AIR STRIPPING**



**CUMULATIVE POUNDS OF CONTAMINANTS
REMOVED DURING AIR STRIPPING**

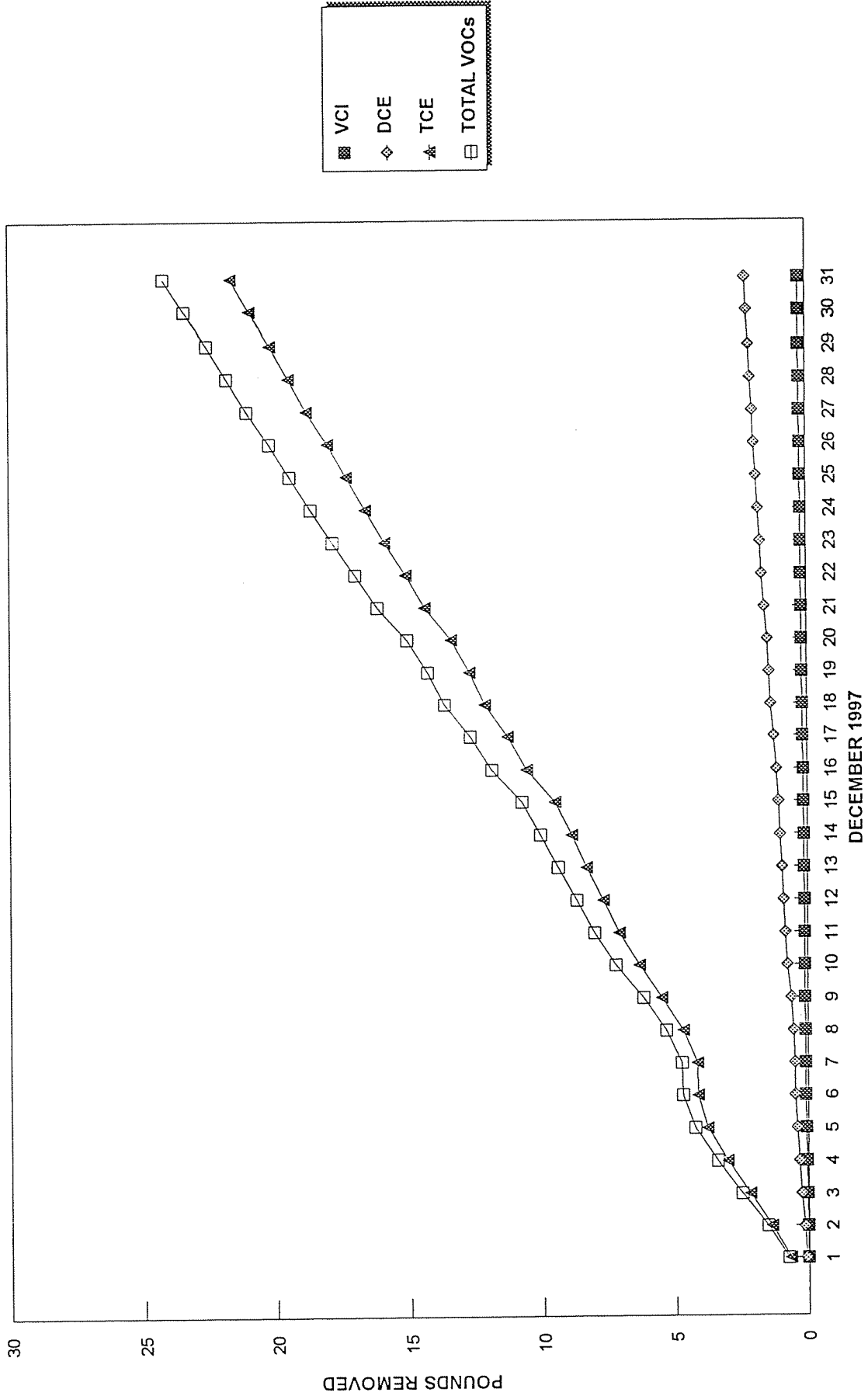


**Contaminants Removed Via Air Stripping
December 1997
Groundwater Treatment and Soil Remediation Program
Carborundum Facility
Wheatfield, New York**

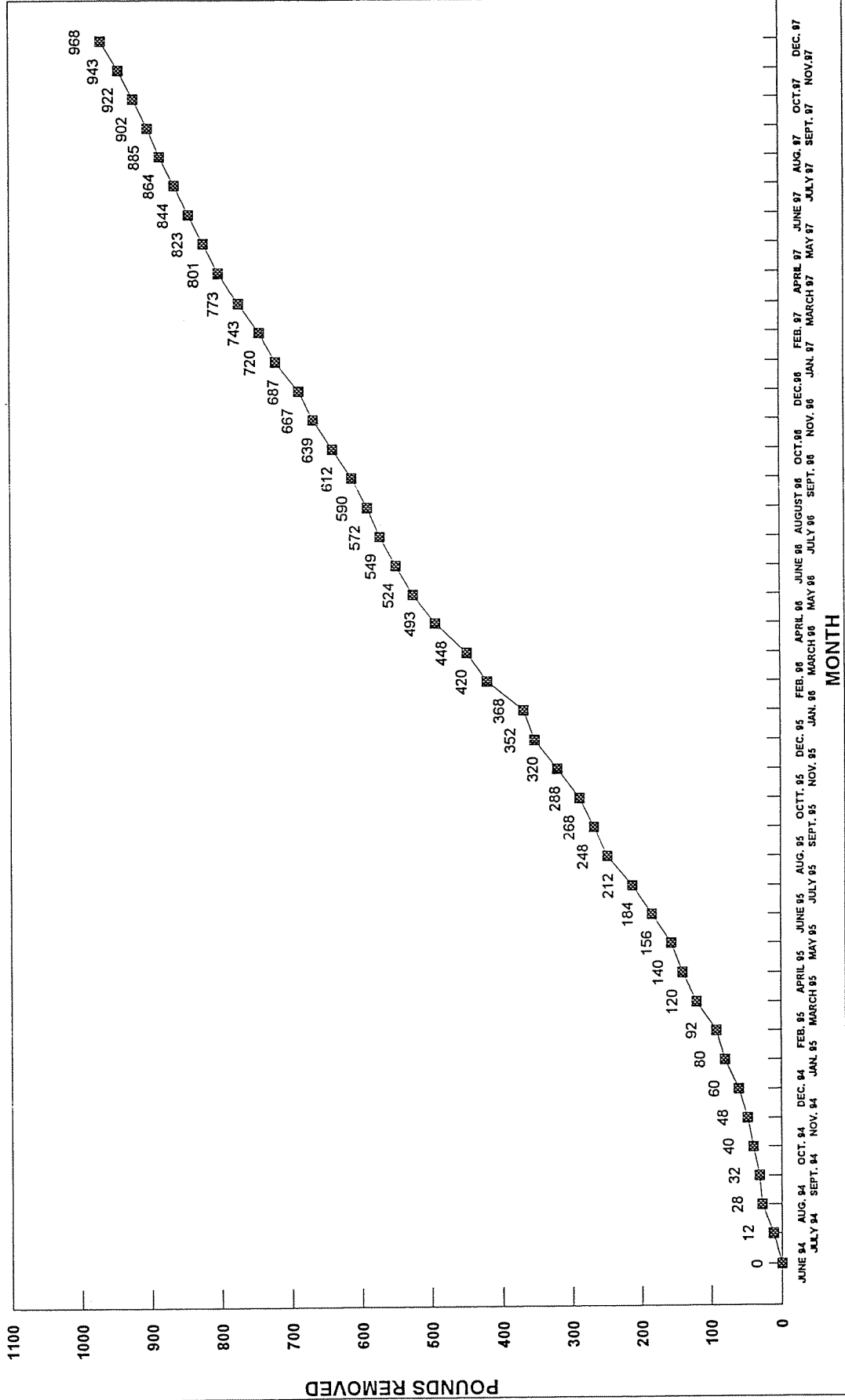
DATE	Daily Load (pounds)			
	V/CI	DCE	TCE	TOTAL
12/01/97	0.0110	0.0723	0.6737	0.7570
12/02/97	0.0053	0.0660	0.7117	0.7830
12/03/97	0.0167	0.1289	0.8286	0.9742
12/04/97	0.0130	0.0737	0.8377	0.9244
12/05/97	0.0154	0.0643	0.7649	0.8446
12/06/97	0.0202	0.0747	0.3559	0.4508
12/07/97	0.0000	0.0134	0.0202	0.0336
12/08/97	0.0077	0.0491	0.5249	0.5817
12/09/97	0.0134	0.0682	0.7932	0.8748
12/10/97	0.0035	0.1657	0.8512	1.0204
12/11/97	0.0043	0.0655	0.7412	0.8110
12/12/97	0.0055	0.0555	0.6120	0.6730
12/13/97	0.0074	0.0587	0.6300	0.6961
12/14/97	0.0092	0.0687	0.5699	0.6478
12/15/97	0.0102	0.0607	0.6204	0.6913
12/16/97	0.0062	0.0631	1.0486	1.1179
12/17/97	0.0098	0.1028	0.7043	0.8169
12/18/97	0.0080	0.1095	0.8529	0.9704
12/19/97	0.0092	0.0580	0.5636	0.6308
12/20/97	0.0054	0.0634	0.7005	0.7693
12/21/97	0.0057	0.1117	0.9946	1.1120
12/22/97	0.0079	0.0860	0.7162	0.8101
12/23/97	0.0078	0.0672	0.7759	0.8509
12/24/97	0.0079	0.0722	0.7225	0.8026
12/25/97	0.0110	0.0690	0.7141	0.7941
12/26/97	0.0092	0.0693	0.6950	0.7735
12/27/97	0.0087	0.0637	0.7749	0.8473
12/28/97	0.0071	0.0722	0.6771	0.7564
12/29/97	0.0048	0.0691	0.6855	0.7594
12/30/97	0.0041	0.0589	0.7760	0.8390
12/31/97	0.0054	0.0659	0.7057	0.7770

December 97	0.2610	2.2874	21.6429	24.1913
Previous Total	16.0028	153.6892	773.6166	943.3088
Thru 11/30/97	16.2638	155.9766	795.2595	967.5001

**CUMULATIVE POUNDS OF CONTAMINANTS
REMOVED DURING AIR STRIPPING**



CUMULATIVE POUNDS OF CONTAMINANTS
REMOVED DURING AIR STRIPPING



ATTACHMENT D
RESULTS OF SAMPLING

None this period.

ATTACHMENT E

PERFORMANCE MONITORING DATA - SVE SYSTEM

Not Included

Information can be provided upon request

ATTACHMENT F
DAILY OPERATIONS REPORTS

Not Included

Information can be provided upon request

ATTACHMENT G

40 HOUR OSHA TRAINED SITE PERSONNEL

OSHA/CARBORUNDUM TRAINED WORKERS

COMPANY	EMPLOYEE	40 HR. OSHA TRAINED	CARBORUNDUM TRAINING
Haley & Aldrich	Dan Putz	X	X
	Dave Norstrand	X	X
Armand Cerrone	Dave Burns	X	X
	Vincent Cerrone	X	X
	Frank Perri	X	X
	Paul E. Otto	X	X
	Billy Williamson	X	X
	Donald Kneeppe	X	X
	Mark V. Cerrone	X	X
	Fred J. Diez	X	X
	Lewis D'Antuono	X	X
	George D. Perry	X	X
	Leo Lipomi	X	X
	Rick Bernier	X	X
	Jack D'Antuono	X	X
	Enrico Berulaqua	X	X
	Willy Williams	X	X
	Ed Seefeldt	X	X
Ferguson Electric	Paul D. Beecher	X	X
	Dan Kroening	X	X
	Don Freedman	X	X
	Gerald Manzi	X	X
	Robert C. Wawro	X	X
	Tim Ried	X	X
	Nicholas Metro, Jr.	X	X

	Jerauld Stanish	X	X
	Steven Frank	X	X
	Kirk Clarkson	X	X
	Salin Kinar	X	X
Frontier Building	Wayne Zimmerman	X	X
CIR	Jeff Haseley	X	X
	Charlie Carr	X	X
	Paul Kloosterman	X	X
	Larry Krueger	X	X
J.W. Danforth	Peter Reagan	X	X
	Tom Reagan	X	X
	Mike Adams	X	X
	Mark Gaines	X	
	David Cronkhite	X	X
	Donald Kelly	X	X
	Tab Mardon	X	X
	Mike Calarco	X	X
	Frank Nardello	X	X
	Rickard Bleck	X	X
Carrier Controls	Dave Carrier	X	X
Building Controls	Dan Griffin	X	X
		X	
Hull & Associates, Inc.	Dave Richards	X	
	Mark Hoidas	X	
	Kevin Wildman	X	
	Mike Mohr	X	
	Craig Kasper		
	Richard C. Becken	X	X
	Chad D. Becken	X	