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Five-Year Review Report

First Five-Year Review Report
For the
Coleman Operable Unit of the 29th and Mead Site
Wichita
Sedgwick County, Kansas

September 2005

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SUPERFUND RECORDS

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List of Acronyms

ARARs	Applicable or Relevant and Appropriate Requirements
BRA	Baseline Risk Assessment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DCE	Dichloroethene
EPA	Environmental Protection Agency
gpm	Gallons per Minute
GTI	Ground Water Technology, Inc.
KDHE	Kansas Department of Health and Environment
MCLs	Maximum Contaminant Levels
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ND	Non Detect
NIC	North Industrial Corridor
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRMRL	National Risk management Research Laboratory
O&M	Operation and Maintenance
ORD	Office of Research and Development
ppb	Parts Per Billion
PCE	Tetrachloroethylene
PRP	Potentially Responsible Party
RCRA	Resource Conservation Recovery Act
RD/RA	Remedial Design/Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SVE	Soil Vapor Extraction
TCA	Trichloroethane
TCE	Trichloroethylene
VOC	Volatile Organic Compound
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
μg/Kg	Micrograms per Kilogram
μg/L	Micrograms per Liter

Executive Summary

The first five-year review of the Coleman Operable Unit (OU) of the 29th and Mead Superfund site in Wichita, Kansas, was completed in March 2005. The results of the five-year review indicate that the remedy is protective of human health and the environment. The remedy consists of ground water extraction and treatment, ground water monitoring, and soil vapor extraction (SVE). The semiannual ground water monitoring program was implemented to evaluate contaminant concentration and hydraulic control. The SVE consists of an expansion of the existing system to remediate other sources within the OU. The trigger for this five-year review was the actual start of construction on March 9, 2000, of the SVE system.

The assessment of this five-year review found that the remedy was constructed and implemented in accordance with the requirements of the Record of Decision (ROD). The remedy has been functioning as designed, but the review has determined that areas along the west side of the OU be studied to determine if adjustments to the ground water remedy are needed to prevent migration of contaminants off the Coleman OU. The current ground water remedy (extraction and treatment of contaminated ground water) will be part of the final area-wide ground water remedy for the North Industrial Corridor Site (NIC) (which includes the 29th and Mead site) by eventually restoring the ground water to acceptable quality (Safe Drinking Water Act Maximum Contaminant Levels [MCLs]). Additional remedial action steps will be necessary to address the ground water plume that is beyond the limits of the Coleman OU. The soil remedy is further reducing the threat of continued contamination of the ground water from the soil source with the expansion of the SVE system.

Recommendations for the Coleman OU include: 1) A review of the ground water remedy needs to be completed to determine if adjustments are necessary to insure the capture of contamination from the OU area; 2) continue the ground water monitoring compliance program to confirm hydraulic control of the ground water contaminant plume; 3) continued collection of quarterly SVE systems performance data to evaluate system operation; and 4) continue collection of air stripper performance data to evaluate percent removal for each treatment system and the air emission rates of each treatment system.

The potentially responsible parties (PRPs) are evaluating the SVE system to determine if operation of parts of the system should be discontinued. Volatile organic compound (VOC) concentrations and removal rates at all of the areas being addressed by the SVE systems are exhibiting an asymptotic trend. The PRPs may approach EPA to perform soil sampling to evaluate the effectiveness of the SVE systems regarding removal of contaminant mass from the soil. This information in addition to the asymptotic trend may result in a request to discontinue operation of some of the SVE systems.

Five-Year Review Summary Form		
SITE IDENTIFICATION		
Site Name (from WasteLAN): 29th and Mead Coleman Operable Unit Superfund Site		
EPA ID (from WasteLAN): KSD007241656		
Region: 7	**State:** Kansas	**City/County:** Wichita, Sedgwick County
SITE STATUS		
NPL Status: ☐ Final ✖ Deleted ☐ Other (specify)		
Remediation Status (choose all that apply): ☐ Under Construction ✖ Operating ☐ Complete		
Multiple OUs? ✖YES ☐ NO	**Construction Completion Date:** NA	
Has site been put into reuse? ✖ YES ☐ NO		
REVIEW STATUS		
Reviewing Agency: ✖ EPA ☐State ☐ Tribe ☐ Other Federal Agency		
Author Name: William Bunn and Kenneth Rapplean		
Author Title: Environmental Scientist/Environmental Engineer	**Author Affiliation:** Environmental Protection Agency	
Review Period: September 2004 to March 2005		
Date(s) of Site Inspection: September 23, 2004		
Type of Review: ✖ Statutory ☐ Policy (☐ Post-SARA ☐ Pre-SARA ☐ NPL-Removal only ☐ Non-NPL Remedial Action Site ☐ NPL State/Tribe-lead ☐ Regional Discretion)		
Review Number: ✖ 1 (first) ☐ 2 (second) ☐ 3 (third) ☐ Other (specify)		
Triggering Action: ✖ Actual RA Onsite Construction at OU# OU02 ☐ Actual RA Start at OU# 01 ☐ Construction Completion ☐ Previous Five-Year Review Report ☐ Other (specify)		
Triggering Action Date (from WasteLAN): 3/9/00		
Due Date (five years after triggering action date): 3/9/05		

Five-Year Review Summary Form
Deficiencies: The review determined that some additional study of the capture zone along the west side of the operable unit needs to be completed to determine if any adjustments to the ground water remedy need to be considered. This is not considered a deficiency in the remedy.
Recommendations and Follow-up Actions: Actions needed to ensure protectiveness is maintained and address the deficiency in the future are as follows: Continue the semiannual ground water monitoring program to assure hydraulic containment of volatile organic compound contamination. Review the ground water remedy to determine if adjustments need to be considered to insure the capture of contamination from the operable unit. Continue to collect air stripper performance data to evaluate percent removal and air emission rates for the treatment systems. Conduct an evaluation of the soil vapor extraction systems to determine if continued operation is appropriate.
Protectiveness Statement(s): The remedy at the Coleman Operable Unit of the 29th and Mead Superfund site is protective of human health and the environment through removal of soil volatile organic compound contamination by the soil vapor extraction system and hydraulic containment of ground water contamination by the ground water remedial system. Long-term protectiveness of the remedial action will be verified by ground water sampling to verify hydraulic containment by the ground water remediation system. A review of the ground water remedy will be completed to insure that the remedy is functioning as required to maintain hydraulic containment. Current monitoring data indicate that the soil vapor extraction system continues to remove soil contamination.
Other Comments:

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has conducted the first five-year review for the remedial actions (RAs) implemented at the Coleman Operable Unit (OU) of the 29th and Mead Superfund site in Wichita, Kansas. This review covers the period of time from September 2004 to March 2005. This report documents the results of the review.

The purpose of the five-year review is to determine whether the remedy at the site is protective of human health and the environment. The methods, findings, and conclusions of the reviews are documented in five-year review reports. In addition, five-year review reports identify deficiencies found during the review, if any, and recommendations to address them.

This five-year review is required by statute. The EPA must implement five-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA §121(c), as amended, states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants or contaminants remaining at the site, the President shall review such remedial action no less often than every five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.*

The NCP, part 300.400(f)(4)(ii) of the Code of Federal Regulations (CFR) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

This is the first five-year review for the Coleman OU of the 29th and Mead Superfund site in Wichita, Kansas. The triggering action for this statutory review is the date of the initiation of onsite construction as shown in EPA's WasteLAN database: March 9, 2000. The Coleman OU of the 29th and Mead Superfund site in Wichita, Kansas, meets the requirements for a statutory five-year review because hazardous substances, pollutants, and contaminants may remain onsite above levels that allow for unlimited use and unrestricted exposure.

The 29th and Mead Superfund site in Wichita, Kansas, consists of two OUs: 1) the General Area OU, and 2) the Coleman OU. The Kansas Department of Health and Environment (KDHE) is the lead agency for the General Area OU. The EPA is the lead agency for the Coleman OU. Separate five-year reviews will be conducted for the General Area OU which is currently in the Remedial Investigation/Feasibility Study (RI/FS) stage.

2.0 SITE CHRONOLOGY

The chronology of events for the Coleman OU of the 29th and Mead Superfund site is provided in the following tables.

2.1 Administrative of Events

Date	Event
September 29, 1992	Record of Decision for Coleman Operable Unit signed
February 18,1994	Consent Decree for Remedial Design/Remedial Action entered

2.2 Ground Water Remediation System

Date	Event
January 22, 1996	Remedial Design Work Plan approved
May 3, 1996	Pre-final Remedial Design submitted
August 3, 1996	Pre-final Remedial Design and Remedial Action Work Plan approved
August 21, 1996	Final Remedial Design submitted
October 14, 1996	Installation of RW-2 completed
October 17, 1996	Well development of RW-2 completed
October 18, 1996	Installation of transfer line piping
October 28, 1996	Air stripper modifications completed
October 30, 1996	Installation of well pump and plumbing
March 21, 1997	Final system inspection
April 1997	System startup

2.3 Soil Vapor Extraction System

Date	Event
October 7, 1997	Remedial Design Work Plan submitted
October 21, 1997	Remedial Design for Work Plan approved
March 12, 1999	Pre-final Remedial Design and Remedial Action Work Plan submitted
July 6, 1999	Pre-final Remedial Design and Remedial Action Work Plan approved
August 18, 1999	EPA approval of final Remedial Design/Remedial Action Work Plan and EPA notice to proceed
March 9, 2000	Initiate construction of Soil Vapor Extraction system
April 3, 2000	Complete construction for Soil Vapor Extraction system
May 4, 2000	Final system inspection
May 15, 2000	Soil Vapor Extraction system startup
Ongoing	Soil Vapor Extraction system monitoring

3.0 SITE BACKGROUND

3.1 Physical Characteristics

The Coleman OU is located within the north-central part of the 29th and Mead Superfund site, a 1,440-acre industrial area in north-central Wichita, Kansas (see Figure 1). The Coleman OU is occupied by York UPG, Inc., at 801 East 37th Street North, and by Recreational Vehicle Products (RV Products), located at 3010 North Mead Street (see Figure 2). The southern boundary of the Coleman OU is approximately 300 feet south of East 30th Street North.

The Coleman OU lies within the Arkansas River lowlands section of the central lowlands Physiographic Province, which is characterized as relatively flat. Unconsolidated deposits underlying the Coleman OU are approximately 40 feet in depth and consist of clay, silt, sand, and gravel. These deposits represent at least four major depositional episodes, which range in age from the Early Pleistocene to Recent Alluvium. The Wellington Formation, which comprises the impermeable bed beneath the unconsolidated deposits, consists of calcareous gray and blue shale containing several thin beds of argillaceous limestone, gypsum, and anhydride.

These unconsolidated deposits are the primary source of usable ground water in Sedgwick County. The direction of ground water flow in the unconsolidated materials is generally south, although there are local variations caused by the pumping of a recovery well and

several industrial wells currently operating on the Coleman OU. Each industrial well has an average pumping rate of approximately 250 gallons per minute (gpm), and one of the wells must always be in operation to support York operations. Ground water flow velocity is estimated at 340 feet per year.

3.2 Land and Resource Use

The Coleman OU is located in an area which has been used primarily for industrial purposes since 1887. Various operations at the Coleman OU property prior to Coleman's occupation of the property include the manufacture of railway cars, automobiles, light aircraft, and electronically-controlled aircraft. Coleman acquired the property in 1947 from the Trustee of Culver Aircraft Corporation through a bankruptcy proceeding. Coleman initiated the manufacture of household furnace and air conditioning units at the Coleman OU property in 1949.

York purchased the northern part of the Coleman OU property in 1995 and is the current owner/operator of these facilities. York operations include the production of consumer furnaces and air conditioning systems intended for use in conventional residences and manufactured homes. The remainder of the Coleman property was purchased in 1987 by RV Products, which manufactures air conditioners for recreational vehicles. York occupies the former Coleman Heating, Ventilation, and Air Conditioning facility which includes a manufacturing plant (North Plant) that occupies approximately 60 percent of the Coleman OU, and an Administration and Engineering (A&E) Building which occupies approximately 30 percent of the Coleman OU. The remaining 10 percent of the Coleman OU area is occupied by RV Products.

The Coleman OU is surrounded by other industrial facilities such as a cardboard box manufacturer, a meat packing facility, a structural concrete manufacturer, grain elevators, a chemical manufacturing company, a railroad track, a petroleum products packaging facility, and the location of a former metals fabricating company.

3.3 History of Contamination

The EPA, the United States Geological Survey (USGS), and KDHE began investigating ground water contamination in the 29th and Mead area in 1983. These investigations revealed the presence of several volatile organic compounds (VOCs), including trichloroethylene (TCE), carbon tetrachloride, toluene, benzene, ethylbenzene, methylene chloride, trans and/or cis 1,2 dichloroethylene, vinyl chloride, and 1,1,1-trichloroethane (TCA) in the ground water at the 29th and Mead site. In May 1987, several water samples were collected at the Coleman facility from the effluent of cooling water from two onsite industrial water wells. The results of this sampling indicated elevated levels of several VOCs, which included TCE, TCA, and 1,1 dichloroethene. These results prompted an investigation at the Coleman OU to determine the source, magnitude, and extent of these contaminants. Successive investigations conducted between 1987 and 1988, which included monitoring well installation and sampling, soil gas surveys, aquifer tests, and pilot tests indicated several potential source areas for VOC contamination existed at the Coleman facility.

3.4 Initial Response

In 1988, Coleman and KDHE agreed that a ground water recovery and treatment program and a soil vapor extraction (SVE) program should be designed and implemented to control further migration of contaminants from the Coleman OU property. This system became operational in 1988 and included a 62-point SVE system to treat contaminated soils in a 65,000 square foot area and a ground water recovery and treatment system that currently utilizes two 40-foot by 4-foot diameter air strippers. Water from the system, subsequent to treatment, is discharged to the Wichita Drainage Canal in conformance with a National Pollutant Discharge Elimination System (NPDES) permit that was issued by KDHE.

The 29th and Mead Superfund site, which includes the entire Coleman facility, was officially listed on the Superfund National Priorities List (NPL) on February 21, 1990. The Coleman Company was identified as one of the potentially responsible parties (PRPs) for the 29th and Mead Superfund site. The Coleman Company and Evcon Industries asked KDHE and EPA to consider the area covered by the interim ground water and SVE system as an OU within the 29th and Mead Superfund site since an interim recovery system was operational prior to the 1990 NPL listing. An OU is any action taken within an area of a site as one part of an overall site cleanup. On June 6, 1991, a Consent Agreement was signed between KDHE and the Coleman Company requiring a RI/FS at the Coleman OU.

In 1994, the city of Wichita filed a petition requesting that EPA reopen the record for the NPL listing process. The EPA initially denied the city's petition. However, because the city had demonstrated its ability to organize a response action at the Gilbert and Mosley site, a state deferral demonstration project, EPA decided in April 1995 to remove the 29th and Mead site from the NPL. This action was on the condition that the city and KDHE enter into an agreement requiring the city to ensure cleanup of the site. The city and KDHE signed an order in October 1995 in which the city agreed to be responsible for site investigation and cleanup. The boundaries of the site were expanded to include additional source areas, and the site was renamed as the North Industrial Corridor (NIC). The deletion of the site from the NPL was proposed (61 Fed. Reg. 3365), and the comment period closed on March 1, 1996. The site was delisted from the NPL by Federal Notice dated April 29, 1996, (61 Fed. Reg. 18684) with an effective delisting date of April 29, 1996.

The 29th and Mead ground water area-wide site is in the investigation phase and area-wide cleanup activities have not been initiated. The city has procured a contractor to complete the RI/FS for the expanded site area, and the RI/FS work plan was approved by KDHE on November 11, 1997. Several facilities within the 29th and Mead site have had releases to the ground water.

A Record of Decision (ROD) for the Coleman OU portion of the 29th and Mead site was signed by EPA in 1992 which called for an interim action to augment the existing ground water pump and treat system and a final action to expand an existing SVE system to address the soil contamination. These actions address only the Coleman OU portion of the 29th and Mead site. The EPA negotiated a judicial Consent Decree with the PRPs, which include the Coleman

Company, Inc., Evcon Inc., and Recreational Vehicle Products, Inc. The Consent Decree was entered in the federal district court for the district of Kansas in February of 1994. The EPA is the lead agency for the Coleman OU.

3.5 Contaminants

Soil samples were collected from seven active or inactive degreaser pits and from the north and south fields of the Coleman OU property to evaluate potential source areas at the Coleman OU. Results indicate that TCE was detected in 23 soil borings from eight source areas. Concentrations of TCE in the soil ranged from not detected (ND) to 13,000 micrograms per kilogram (ug/kg) or parts per billion (ppb). Other significant VOC constituents detected during the soil sampling program and their respective concentration range includes: 1,1,1 TCA - ND to 6,100 ug/kg; tetrachloroethene (PCE) - ND to 41 ug/kg; cis - 1,2-dichloroethene (1,2 DCE) - ND to 520 ug/kg; 1,1 dichloroethene (1,1 DCE) - ND to 370 ug/kg and toluene -ND to 140,000 ug/kg. These data suggest that former degreaser pits 1, 2, 3, 4, 6, 7, and 8 and the south field are likely sources for TCE contamination. In addition, significant concentrations of TCA were observed in former degreaser pits 1, 2, and 4.

Ground water samples at the Coleman OU have been collected during several sampling events. In May 1990, a total of 68 monitoring wells were sampled for VOCs. As part of the RI, 35 monitoring wells were resampled to verify previous results. Analytical results indicate that TCE is the predominant VOC detected at the Coleman OU. TCE was detected in 32 of 35 monitoring wells sampled during the July 1991 sampling event. Concentrations of TCE ranged from ND to 15,000 micrograms per liter (ug/l). Other significant VOCs detected during the ground water sampling program and their respective concentration ranges include: TCA - ND to 3,500 ug/l; PCE - ND to 100 ug/l; 1,2 DCE - ND to 2,500 ug/l; 1,1 DCE - ND to 1,110 ug/l; and vinyl chloride - ND to 250 ug/l.

4.0 REMEDIAL ACTIONS

4.1 Remedy Selection

The selected remedy is a combination of the previously existing ground water system with an additional recovery well and expanded SVE system. Under this remedy, the existing ground water and soil system, which consists of two industrial wells, one recovery well, two air strippers, and the 62-point SVE system installed in 1988, has continued to operate. The ROD required an expansion of the existing SVE system for removal of VOCs from unsaturated soils in all known onsite source areas. In addition, the ROD required the installation of a recovery well along the southern boundary to enhance hydraulic control.

4.1.1 Soil Remedy

The selected remedy is the final remedy with respect to the soil at the Coleman OU. The soil remediation system installed in 1988, which consists of a 62-point SVE system, was incorporated into the final soil remedy. The SVE system was expanded for removal of VOCs from unsaturated soils in all known onsite source areas. Estimates indicate that this alternative

would remove VOCs from over 4,000,000 cubic feet of contaminated soil. The ROD required the construction of a SVE system consisting of 96 SVE points to be screened from approximately five to twenty feet below ground surface. Based upon the SVE pilot study, approximately eight blowers were needed to implement this alternative. Air monitoring is required to ensure the health and safety of onsite personnel and to ensure that vapors released from the SVE system do not pose a threat to human health or the environment.

4.1.2 Ground Water Remedy

The selected remedy represents an interim remedy with respect to the ground water at the Coleman OU. Because the plume of contaminated ground water at the Coleman OU has merged with the contaminated ground water from other sources in the 29th and Mead site, the final remedy for the 29th and Mead site will include the ground water remedy at the Coleman OU. The existing ground water system in place at the time of the remedy selection for the OU was incorporated into the remedy. This system consists of two industrial wells, one recovery well, and two air strippers which continue to operate. An additional recovery well was located along the southern boundary to enhance hydraulic control. The additional recovery well was installed in the same manner as the existing recovery wells and operates at approximately 200 gpm. Water is pumped to an existing onsite air stripper. Treated water is monitored through an NPDES permit prior to discharge. The estimated operating life of this alternative is 18 years. The enhanced pumping system at the southern boundary, in conjunction with the existing pumping system, was designed to help prevent offsite migration of VOCs over the long term through hydraulic control. In addition, the overall load of VOCs leaching into the ground water from active source areas has been greatly reduced by the SVE system.

The selected remedy described in the ROD for the Coleman OU was designed to address the principal threat posed by the contaminants in the ground water by preventing the further migration of contaminants off the OU onto the 29th and Mead site and by eventually restoring the ground water to acceptable quality (Safe Drinking Water Act MCLs) by the extraction and treatment of contaminated ground water. The remedy has further reduced the threat of continued contamination of the ground water from the soil source areas with the expansion of the SVE system.

4.2 Remedy Implementation

A Consent Order between EPA and Evcon Industries Inc., New Coleman Holdings Inc., and Recreational Vehicle Products Inc. for the Remedial Design/Remedial Action (RD/RA) was executed on February 17, 1993. A RD was developed for both the soil and ground water remedies. The final RD for the interim ground water remedy is dated May 3, 1996, and the final design for the soil remedy is dated August 5, 1999.

4.2.1 Soil Vapor Extraction System

Construction of the SVE system was initiated on March 9, 2000, and completed on May 3, 2000. The locations of the SVE system are presented in Figures 3 through 7. The system was started on May 15, 2000, and operation is ongoing with performance presented in Table 1.

4.2.2 Ground Water Remedial System

The installation of the ground water recovery well RW-2 was completed on October 14, 1996 (Figure 8). The well is six inches in diameter, and the screened interval of the well extends from 21 to 41 feet below ground surface. The recovery well was developed using a surge block, bailing, and over pumping. Installation of the recovery well pump, vault, flowmeter, and well head plumbing was completed on October 30, 1996. Ground water transfer line piping was installed and pressure tested. The existing air stripper blower was modified by changing blower sheaves and belts and installing a larger nozzle. Discharge piping from the air stripper to the effluent discharge was changed to accommodate the increased flow rate.

The system startup was in April 1997. RW-2 operates at a pumping rate of approximately 90 gpm, and the effluent is pumped to air stripper AS-2 at the A&E building. The treated effluent water gravity flows to the Wichita Drainage Canal under an NPDES permit. The ground water recovery systems are designed to run continuously unless shutdown by a pump control interlock condition generated by a pressure switch or a power failure.

4.3 Systems Operations/Operation and Maintenance

4.3.1 Soil Vapor Extraction System

An operations and maintenance (O&M) plan for the SVE system was prepared by Fluor Daniel Ground Water Technology, Inc. (GTI). The O&M manual includes a description of tasks for operation, maintenance, prescribed treatment, or operation conditions, and a schedule for each O&M task. A description of corrective action to be implemented in the event that cleanup or performance is exceeded was included in the O&M plan. Monitoring activities will involve data collection to evaluate VOC effluent concentration and remedial progress. VOC effluent concentration data were collected at system startup and were collected weekly for one month and quarterly thereafter. System balancing and adjustments will be ongoing as conditions change during monitoring inspections.

Performance monitoring activities involve data collection to evaluate VOC effluent concentrations and removal of VOCs from the soil by collecting air samples from the SVE exhaust. Air emissions and air flow data are collected and reported to EPA in the Quarterly Update Reports of RD/RA Activities. A total of 4,185 pounds of VOCs have been removed from contaminated soils by the SVE system from May 17, 2000, through October 4, 2004. The SVE system performance is provided in Table 1.

4.3.2 Ground Water Remedial System

An O&M manual for the interim ground water remedy was prepared by Fluor Daniel GTI. Under normal operating conditions, the system operating tasks are limited to equipment maintenance and monitoring tasks. Facility personnel confirm systems operation on a daily basis.

A ground water compliance program was developed and is described in the RD/RA Ground Water Monitoring Plan dated May 3, 1996. The purpose of the ground water monitoring compliance program is to confirm hydraulic control of the ground water contaminant plume at the Coleman OU. The compliance monitoring program consists of two procedures for confirming hydraulic control of the ground water contaminant plume. The first procedure is the evaluation of water elevation data on and near the Coleman OU to verify the direction of ground water flow and the extent of hydraulic control exerted by the operating recovery wells. The second procedure consists of the collection of ground water quality data from a specified point of compliance wells and statistical assessment of the ground water quality data to evaluate the effectiveness of the hydraulic control systems.

Ground water monitoring is conducted on a semiannual basis utilizing 46 ground water wells (Figure 8). Ground water elevations are measured for all wells, and samples from selected monitoring wells are analyzed for chlorinated VOCs and toluene. The ground water elevation data are compiled and flowlines are generated to show the direction of ground water flow and the influence of the ground water remediation system (Figure 9). The shallow and deep concentrations of TCE are shown in Figures 10 and 11.

Air emissions are monitored from the air stripper towers twice yearly during ground water sampling events, and the air samples are analyzed for VOCs. Influent and effluent water samples from the air stripper towers are collected and analyzed for VOCs to determine the removal efficiency of VOCs from the ground water. Ground water effluent samples are collected on a monthly basis from both air stripper towers for VOCs as required in the monitoring requirements specified in the NPDES permit. Data contained in the Quarterly Update Report of RD/RA Activities dated January 17, 2005, demonstrated that the ground water treatment systems are operating at 100 percent efficiency for the removal of VOCs from the influent (Tables 2a and 2b).

The PRP submitted annual ground water monitoring reports to EPA to document hydraulic control of the ground water at the Coleman OU. The most recent annual ground water compliance monitoring report is dated April 5, 2001. This report contains water elevation data to verify direction of ground water flow and the extent of hydraulic control by the operating recovery wells. This report also contained a statistical assessment of ground water data. The evaluation of the annual ground water data in that report demonstrated that:

-Hydraulic control continues to be achieved at the Coleman OU. RW-2 continues to enhance the ground water containment at the Coleman OU.

-The formal trend statistical analysis performed on the analytical data for the point of compliance wells indicate statistically significant downward trends for all but three monitoring wells.

-Time-series graphs of the point of compliance monitoring well concentration data show that monitoring wells with statistically significant downward trends also show declining concentrations for total VOCs. The declining concentrations are approaching asymptiotic trends (Figure 12).

-Time-series graphs of the two recovery wells show decreasing ground water concentrations (Figures 13 and 14).

-The ground water treatment systems are operating at 100 percent efficiency for the contaminants of concern.

Since 2001, semi-annual ground water monitoring has been conducted and the ground water remedial system evaluated. The results of the semiannual ground water monitoring are reported to EPA in the Quarterly Update Reports of RD/RA Activities. The most recent ground water monitoring used for this review was conducted in November 2004. The results of that ground water monitoring event reported that the ground water treatment system continues to maintain hydraulic control at the Coleman OU (Figure 9).

The Point of Compliance monitoring wells are sampled to confirm the effectiveness of the ground water remedial system. These wells are as follows:

MW-71D/MW-71S, formerly MW-1/MW-4
MW-3/MW-47
MW-67/MW-68
MW-51/MW-52
MW-59/MW-60
MW-15/MW-45
MW-61 /MW-62

The ground water TCE data from these wells are presented in Table 3, which generally demonstrates a decreasing trend in TCE concentrations since May 1990.

A review of the available data was completed by the EPA Ground Water Technical Support Center in Ada, Oklahoma (Attachment 2). The review agrees that the contaminant plume has been contained across the majority of the site area, but appears that the current system is not containing the plume along part of the western boundary. Details of those areas are discussed in the report in Attachment 2.

5.0 PROGRESS SINCE THE LAST REVIEW

This is the first five-year review for the Coleman OU of the 29th and Mead site.

6.0 FIVE-YEAR REVIEW PROCESS

6.1 Administrative Components

The five-year review for the Coleman OU of the 29th and Mead site was conducted by Ken Rapplean of EPA, Remedial Project Manager (RPM) for the site, and William Bunn of EPA. Randy Carlson of KDHE assisted in the review as the representative for the support agency.

The EPA completed the following tasks during the five-year review for the Coleman OU of the 29th and Mead site:

- Reviewed site documents such as the RI Report, the Focused FS Report, the ROD, the Consent Agreement, the Baseline Risk Assessment Report, annual ground water monitoring reports, and quarterly monitoring reports (Attachment 1)
- Reviewed applicable or relevant and appropriate requirements (ARARs)
- Conducted a site inspection and interviews of appropriate persons
- Developed recommendations for the site
- Prepared a report

6.2 Community Involvement

Community involvement activities included placement of a notice of the five-year review in the Wichita Eagle Newspaper. When the five-year review report is finalized, a copy of the document will be made available at the KDHE District Office in Wichita, Kansas. The EPA will place a notice of the availability of the document in the Wichita Eagle Newspaper.

Members of the local community and KDHE were notified of the initiation of the five-year review process through the mailing of a Fact Sheet on August 26, 2004, and the placement of a display advertisement in the Wichita Eagle Newspaper on August 29, 2004.

6.3 Document Review

The following standards were identified as ARARs in the ROD:

- Safe Drinking Water Act
- Clean Water Act

The Safe Drinking Water Act was reviewed for changes that could affect the protectiveness of the remedy. Newly promulgated Safe Drinking Water Act standards were not discovered during the five-year review. The MCLs for the contaminants of concern have not become more stringent since the signing of the ROD in 1994.

Compliance with the Clean Water Act requirements under 40 C.F.R. 122-125 for point source direct discharge has been obtained under the NPDES by which effluent standards, monitoring requirements, and standard conditions for discharge are set. A NPDES permit has been granted to both operating air stripper units on the Coleman OU site for the discharge of treated water. This discharge is in compliance with the terms of the permit. Newly promulgated Clean Water Act standards were not discovered during the five-year review which would affect the permit or the discharge requirements.

One new ARAR was identified during the five-year review. In 1999, KDHE developed risk-based standards for soil and ground water for sites being addressed by KDHE programs. The 1999 standards were revised and are presented in a document titled, Risk-Based Standards for Kansas, (RSK Manual-3rd Version), dated March 1, 2003. The risk-based standards have not been promulgated by the state of Kansas and therefore fall in the category of To Be Considered. The KDHE developed risk-based standards for exposure to soil and ground water media under residential and non-residential scenarios. Standards include pathways for exposure to soil, exposure to ground water, and migration of contaminants from soil to ground water. The risk-based standards for the contaminants detected in ground water at the site are not more stringent than the MCLs.

6.4 Data Review

6.4.1 Soil Vapor Extraction System

The PRP submits a Quarterly Update Report of RD/RA Activities to EPA to report activities related to O&M of the ground water remedial system and the SVE system. These reports include performance data of the SVE system summarizing sampling activities and VOCs removed by the system.

Performance monitoring activities involve data collection to evaluate VOC effluent concentrations and removal of VOCs from the soil by collecting air samples from the SVE exhaust. The most recent air emissions and air flow data were collected in October 2004 and reported to EPA. Total VOCs removed by the SVE system ranged from 104 pounds for sump 9 to 2,165 pounds for the south field. The SVE system performance is provided in Table 1. A total of 4,185 pounds of VOCs have been removed from contaminated soils by the SVE system from May 17, 2000, through October 4, 2004. None of the SVE systems had vapor recovery equipment. The SVE systems were required to release less than 40 tons of VOCs per year, and the release was below this limit.

Data presented in the quarterly report dated January 17, 2005, demonstrated that VOC concentrations and removal rates at all of the areas being addressed are exhibiting an asymptotic trend. The stabilization of VOC removal rates at relatively low concentrations is an indicator that the SVE system may have attained conditions for closure. The SVE systems at sumps 1, 2, and 3 were shut down in July 2004 and re-started and sampled in October 2004. The effluent

sampling results for the SVE systems at sumps 1, 2, and 3 indicate little to no rebound in VOC emissions. The SVE systems at sumps 4, 5, 6, 7, 8, 9 and the south field were shut down in October 2004. These systems were re-started and sampled in January 2005, and the results were not available for the five-year review.

According to the EPA, Office for Research and Development's (ORD) evaluation of the SVE systems, they are operating according to design parameters and monitored adequately. The SVE systems have been shut down periodically, and a rebound was observed at each system. The PRPs for the Coleman OU may approach EPA to perform soil sampling to evaluate the effectiveness of the SVE systems regarding removal of contaminant mass from soil. The soil cleanup goals are listed in Tables 18 and 19 of the "Pre-final Remedial Design and Remedial Action Work Plan Final Soil Remedy" dated August 5, 1999, by IT Corporation (Volume I & II). These cleanup goals are the result of elaborate SESOIL modeling and soil characterization. The values from these tables are listed as milligrams per kilogram (mg/kg) and are in magnitude of 10^5 mg/kg for various contaminants.

6.4.2 Ground Water Remedial System

The results of the semiannual ground water monitoring are reported to EPA in the Quarterly Update Reports of RD/RA Activities. The ground water monitoring included in the five-year review was conducted in November 2004. The results of that ground water monitoring report stated that the ground water treatment system continues to maintain hydraulic control at the Coleman OU (Figure 4).

The review by the EPA Ground Water Technical Support Center agreed that the contaminant plume has been contained across most of the site area. Their report states that the contaminant plume along areas of the western boundary is not being contained. Their report (Attachment 2) recommends some modifications to the system which includes consideration of adding or converting a monitoring well (MW-70) into an extraction well and to modify the pumping operation such as pulsed pumping and/or with a higher pumping rate to mobilize the contaminated waters located in the stagnation zones.

6.5 Site Inspection

The EPA and KDHE staff conducted a site inspection at the Coleman OU of the 29th and Mead site on September 23, 2004. The results of the site inspection are discussed below.

The site inspection was conducted by Kenneth Rapplean and William Bunn of EPA and Randall Carlson of KDHE. Assisting in the site inspection were representatives of EPA, ORD. Ms. Michelle Simon of EPA/ORD/National Risk Management Research Laboratory (NRMRL) is providing technical assistance for the SVE system to EPA, Region 7, for the five-year process. She reviewed the SVE system operation and performance during the site inspection. Mr. David Burden of EPA/ORD/NRMRL is providing technical assistance for the ground water remedial system to EPA, Region 7, for the five-year process. He reviewed the ground water remedial system operation and performance during the site inspection.

The purpose of the site inspection was to assess the operation of the SVE system and the ground water extraction system. A meeting was conducted with representatives of EPA, KDHE, York, and Shaw Environmental, Inc., prior to inspection of the ground water remedial system and the SVE system. The O&M of the systems was discussed and related documents were reviewed. Documents reviewed included the O&M manual, the NPDES permit, and compliance data.

The manufacturing operations manager for the York facility and representatives of Shaw conducted the tour of the ground water remedial and SVE systems. The ground water remedial wells and the air stripper were operational at the time of the site inspection. The SVE systems at each of the sumps and the south field were inspected. The hardware for each of the SVE systems was installed and in good condition. The SVE systems at sumps 1, 2, and 3 were shut down in July 2004 and not operating at the time of the inspection. These sumps were re-started and sampled in October 2004 to evaluate rebound effects.

6.6 Interviews

Interviews were not conducted with the general public during the five-year review. The EPA has not received any complaints or concerns from the public or businesses adjacent to the 29th and Mead site.

Interviews were conducted during the site inspection with representatives of KDHE, York, and Shaw Environmental, Inc. Shaw is responsible for the O&M of the SVE and ground water remediation systems. Discussions with Shaw representatives were conducted during the site inspection regarding the O&M of the systems. The effect of the systems on manufacturing operations was discussed with Mr. Fred Wise, Director of Manufacturing Operations for the York UPG Wichita plant. State acceptance of the systems O&M was discussed with Dr. Randall Carlson of KDHE.

7.0 ASSESSMENT

The following conclusions support the finding that the remedy at the Coleman OU of the 29th and Mead site is protective of human health and the environment.

Question A: Is the remedy functioning as intended by the decision document?

Remedial Action Performance: The RA continues to operate and function as designed and intended by the ROD. This includes both the SVE system for remediation of contaminated soil and the ground water remedial system for containment of contaminated ground water. The SVE system has removed approximately 4,208 pounds of VOC contaminants from soil since May 2000. Data presented in the quarterly report dated January 17, 2005, demonstrate that VOC concentrations and removal rates at all of the areas being addressed by the SVE systems are exhibiting an asymptotic trend. The stabilization of VOC removal rates at relatively low concentrations is an indicator that the SVE system may have removed the majority of the VOCs

which can be addressed by the system. The ground water remedial system continues to maintain hydraulic control of most of the ground water at the site, but there is a concern that some is escaping from the western side of the site area.

System Operations/Operations & Maintenance: Monitoring and site maintenance have been performed in accordance with the O&M work plan. The ground water remedial wells and the air stripper are operational. The hardware for each of the SVE systems is in operational condition.

The SVE systems at sumps 1, 2, and 3 were shut down in July 2004 and not operating at the time of the inspection. These sumps were re-started and sampled in October 2004 to evaluate rebound effects. The EPA has not evaluated the costs of O&M activities expended by the PRPs.

Opportunities for Optimization: The PRPs are evaluating the SVE system to determine if operation of parts of the system should be discontinued. VOC concentrations and removal rates at all of the areas being addressed by the SVE systems are exhibiting an asymptotic trend. The PRPs may approach EPA to perform soil sampling to evaluate the effectiveness of the SVE systems regarding removal of contaminant mass from soil. This information in addition to the asymptotic trend may result in a request to discontinue operation of the SVE systems. Review by the PRP, the ORD, EPA regional staff, and the state will be implemented to address the concerns that containment along the west side of the site is not being maintained and to consider adjustments to the system.

Early Indicators of Potential Issues: No issues or problems have been identified which could place protectiveness at risk. The EPA is not aware of any use of the ground water at the site for potable purposes. Equipment or changes have not been an issue during implementation and operation of the RA. The EPA has determined that additional study and review of the effectiveness of the pump and treat operation along the western border of the site needs to be considered.

Implementation of Institutional Controls: Institutional controls were not part of the RA. Institutional controls at the OU site area can be considered to be in place because there is no use of the ground water for potable purposes, only industrial. All drinking water is supplied by the city of Wichita. All owners and operators at the site are respondents to the Consent Decree or successor owners/operators and are aware of the contaminants at the site.

Question B: Are the assumptions used at the time of the remedy selection still valid?

Changes in Standards and To Be Considereds: The MCLs for the contaminants of concern have not changed during the last five years. The five-year review identified state risk-based standards that have been developed during the last five years. Kansas has not promulgated its risk-based standards; therefore, these new standards fall under the category of To Be Considered. The standards developed by Kansas for site contaminants in ground water are not more stringent than existing federal standards.

Changes in Exposure Pathways: Land use in the area of the site has not changed during the last five years, and no future plans to change the land use have been identified. No new/different contaminants or sources have been identified at the site during the five-year review. The baseline risk assessment focused on potential or actual risks to human health posed by contaminants at or released from the Coleman OU property. The human population most likely to be exposed to contaminated ground water and air are those individuals living and working in the vicinity. The exposure assumptions and pathways used to develop the Human Health Risk Assessment are still valid. A review by an EPA regional risk assessor and toxicologist included a comparison of the toxicity values used in the original risk assessment, completed in 1991 to present and the impact on risk estimates if the current reference doses were used. The compounds where the reference dose value changed had the hazard quotient recalculated and compared to the original risk assessment. The impact was considered to be insignificant in all cases because no recalculated hazard quotients exceed 1.0.

Changes in Toxicity and Other Contaminant Characteristics: The review indicated no significant impacts.

Changes in Risk Assessment Methodologies: Changes in risk assessment methodologies since the time of the ROD do not call into question the protectiveness of the remedy.

Expected Progress Towards Meeting Remedial Action Objectives: The remedy is progressing as expected. The SVE system may have removed the majority of the VOCs which can be addressed by the system. The ground water remedial system continues to remove contaminants from the ground water, but may need to be adjusted to insure containment, particularly on the west side of the site area.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No ecological targets were identified during the baseline risk assessment and none were identified during the five-year review and therefore, monitoring of ecological targets is not necessary. No weather-related events have affected the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

Technical Assessment Summary

According to the data reviewed, the site inspection, and the interviews, the remedy is functioning as intended by the ROD. There have been no changes in the physical conditions of the site that would affect the protectiveness of the remedy. The stabilization of VOC removal rates at relatively low concentrations is an indicator that the SVE system may have removed the majority of the VOCs which can be addressed by the system. The ground water remedial system continues to maintain hydraulic control of ground water across most of the site and may need to be adjusted on the western edge. There have been no changes of significance in the toxicity factors for the contaminants of concern that were used in the baseline risk assessment, and there

has been no change to the standardized risk assessment methodology that could affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

8.0 ISSUES

As discussed, the PRPs are evaluating the SVE systems to determine when they may consider discontinuing the operations at each of the locations. The PRPs, EPA, and the state need to review the ground water extraction system to determine if changes need to be made on the onsite system and determine the impact on the immediate area surrounding the site, which is part of the NIC site.

9.0 RECOMMENDATIONS AND FOLLOW-UP ACTIONS

Continue to collect quarterly SVE systems performance data to evaluate system operation. The PRPs are evaluating the SVE system to determine if operation of parts of the system should be discontinued. The VOC concentrations and removal rates at all of the areas being addressed by the SVE systems are exhibiting an asymptotic trend. The PRPs may approach EPA to perform soil sampling to evaluate the effectiveness of the SVE systems regarding removal of contaminant mass from soil. This information in addition to the asymptotic trend may result in a request to discontinue operation of the SVE systems.

Continue the ground water monitoring compliance program to confirm hydraulic control of the ground water contaminant plume at the Coleman OU, particularly after the review of the system is complete and any adjustments to the system are made. The compliance monitoring program should continue to consist of the two procedures in place for confirming hydraulic control of the ground water contaminant plume currently utilized. The first procedure is an evaluation of water elevation data on and near the Coleman OU to verify the direction of ground water flow and the extent of hydraulic control exerted by the operating recovery wells. The second procedure consists of the collection of ground water quality data from a specified point of compliance wells to evaluate the effectiveness of the contamination removal. Air stripper performance data should continue to be collected to evaluate percent removal for each treatment system and the air emission rates of each treatment system.

10.0 PROTECTIVENESS STATEMENT

The remedy at the Coleman OU of the 29th and Mead Superfund site is protective of human health and the environment through removal of soil VOC contamination by the SVE system and hydraulic containment of ground water contamination by the ground water remedial system.

Long-term protectiveness of the RA will continue to be verified by obtaining additional ground water sampling to verify hydraulic containment by the ground water remediation system in addition to the removal of contamination of the soil.

11.0 NEXT REVIEW

This is a statutory site that requires ongoing five-year reviews. The next review will be conducted ten years from the date of the initiation of the onsite construction (March 9, 2010).

12.0 OTHER COMMENTS

No other comments are necessary.

Tables

Table 1
Sump Area Flow & VOC Data
Coleman Operable Unit
Wichita, Kansas

SITE	DATE	FLOW scfs	Blower Vacuum "H2O	Differential Pressure "H2O	FLOW scfm	PID ppmv	CONCENTRATIONS 1,1,1-TCA ug/l	PCE ug/l	Toluene ug/l	cis-1,2-DCE ug/l	1,1-DCE ug/l	Vinyl Chloride ug/l	TCE ug/l	TOTAL VOCs ug/l	REMOVAL RATE lbs/day	NUMBER OF DAYS	TOTAL LBS REMOVED PER PERIOD
SUMP-1	05/15/2000	0.63	65	0.27	37.8	31	8.50	0.26	1.500	42	6.7	2.9	41	102.86	0.350	0.04	0.01
SUMP-1	05/16/2000	0.69	68	0.12	41.4	38	6.90	<0.34	0.250	25	2.6	0.44	63	98.19	0.365	1	0.37
SUMP-1	05/23/2000	0.81	68	0.19	48.6	30	16.00	0.36	5.500	8.0	1.6	0.42	20	51.88	0.227	7	1.59
SUMP-1	05/31/2000	0.78	73	0.04	46.8	16	0.31	<0.069	4.900	3.9	1.1	0.30	14	24.00	0.101	8	0.81
SUMP-1	06/06/2000	0.92	75	0.12	55.2	12	1.30	0.17	1.400	3.0	1.1	0.22	8.0	15.19	0.075	6	0.45
SUMP-1	06/28/2000	0.92	70	0.30	55.2	268	1.10	<1.4	160.000	50.0	1.1	3.90	260	476.1	2.363	22	51.99
SUMP-1	07/19/2000	0.88	67	0.04	52.8	5	0.32	0.05	0.470	1.6	0.7	0.06	3.7	6.87	0.033	21	0.69
SUMP-1	09/25/2000	0.62	67	—	37.2	58	8.30	<0.69	0.052	1.7	1.0	0.12	2.7	13.83	0.046	68	3.15
SUMP-1	10/23/2000	0.85	69	0.19	51.0	6	9.10	0.09	0.170	1.0	0.4	<0.026	2.6	13.39	0.061	28	1.72
SUMP-1	11/30/2000	1.04	72	0.21	62.4	2	0.47	0.01	0.120	0.5	0.1	0.01	1.2	2.42	0.014	38	0.52
SUMP-1	12/12/2000	0.77	68	0.31	46.2	70	4.50	0.06	0.410	0.7	0.2	<0.01	5.50	11.39	0.047	12	0.57
SUMP-1	01/25/2001	0.82	68	0.31	49.2	12	0.15	0.21	0.100	0.2	0.6	<0.0013	0.73	1.44	0.006	44	0.28
SUMP-1	02/12/2001	1.46	80	0.40	45.0	4	1.10	0.17	0.055	0.6	0.1	0.005	1.10	3.08	0.012	18	0.22
SUMP-1	03/20/2001	0.93	52	0.00	55.8	2	0.36	0.04	0.058	0.4	0.03	0.01	0.31	1.17	0.006	36	0.21
SUMP-1	04/24/2001	0.59	53	0.09	35.4	4	0.05	0.01	0.100	0.4	0.04	0.05	0.22	0.77	0.002	35	0.09
SUMP-1	05/17/2001	1.09	26	0.08	65.4	0	0.03	0.02	0.170	0.0	<0.002	<0.0013	0.07	0.29	0.002	23	0.04
SUMP-1	06/25/2001	0.77	70	1.17	46.2	10	0.14	0.03	0.110	1.0	0.1	0.004	0.95	2.31	0.010	39	0.37
SUMP-1	07/24/2001	0.50	70	0.06	30.0	7	1.00	0.02	0.120	0.1	0.4	<0.0013	0.44	2.02	0.005	29	0.16
SUMP-1	08/27/2001	1.01	71	0.20	60.6	14	2.20	0.08	0.100	2.0	0.2	<0.0043	2.4	6.95	0.038	34	1.29
SUMP-1	09/26/2001	0.56	70	0.03	33.6	2	0.35	0.23	0.140	1.2	0.1	<0.0052	2.6	4.63	0.014	30	0.42
SUMP-1	10/23/2001	0.95	71	0.19	57.0	1	1.40	0.32	0.43	0.48	0.06	<0.0052	3.0	5.69	0.029	27	0.79
SUMP-1	11/19/2001	0.63	68	0.07	37.8	6	0.71	0.19	0.32	0.76	0.07	<0.0052	3.0	5.05	0.017	27	0.46
SUMP-1	12/26/2001	1.15	74	0.09	69.0	10	0.75	0.04	0.07	0.38	0.06	<0.0052	1.20	2.50	0.015	37	0.57
SUMP-1	01/25/2002	1.09	70	0.32	65.4	10	0.03	0.01	0.040	0.1	0.01	<0.0013	0.35	0.51	0.003	30	0.09
SUMP-1	02/25/2002	1.03	65	0.13	61.8	0	0.19	0.01	0.050	0.1	0.02	<0.0013	0.34	0.72	0.004	31	0.12
SUMP-1	03/19/2002	0.77	69	0.06	46.2	4	0.02	0.01	0.065	0.1	0.01	<0.0013	0.26	0.44	0.002	22	0.04
SUMP-1	04/22/2002	0.45	73	0.80	27.0	3	0.01	0.04	0.100	0.1	0.01	<0.010	0.20	0.27	0.001	34	0.02
SUMP-1	05/13/2002	1.27	71	0.07	76.2	3	0.05	0.01	0.180	0.3	0.02	<0.0013	0.42	0.93	0.006	21	0.13
SUMP-1	06/18/2002	0.92	65	0.14	55.2	4	12.00	<1.7	24.000	8.8	<1.0	<0.65	340	384.8	1.910	36	68.75
SUMP-1	07/01/2002	0.72	65	0.17	43.2	1	0.32	0.04	0.200	0.4	0.04	<0.0026	1.20	2.16	0.008	13	0.11
SUMP-1	08/05/2002	0.86	68	0.13	51.6	0	0.02	0.01	0.035	0.1	0.01	<0.0013	0.23	0.38	0.002	35	0.06
SUMP-1	09/04/2002	0.98	68	0.15	58.8	6	0.08	0.01	0.046	0.2	0.02	<0.0013	0.88	1.25	0.007	30	0.20
SUMP-1	10/01/2002	0.72	65	0.08	43.2	1	0.08	0.01	0.084	0.2	0.02	<0.0013	0.57	0.99	0.004	27	0.10
SUMP-1	11/06/2002	0.62	69	0.15	37.2	14	0.77	<0.069	1.400	0.6	0.04	<0.026	18.00	20.76	0.069	1	0.07
SUMP-1**	12/03/2002	0.45	67	0.10	27.6	4	0.10	0.01	0.084	0.2	0.02	<0.0013	0.62	1.01	0.003	27	0.07
SUMP-1	01/07/2003	0.45	68	0.08	27.0	0	0.01	0.02	0.190	<0.002	<0.002	<0.0013	0.01	0.23	0.001	35	0.02
SUMP-1**	02/03/2003	1.40	65	0.18	84.0	0	0.05	0.02	0.047	0.1	0.0	<0.0013	0.28	0.05	0.000	1	0.00
SUMP-1	03/03/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-1	03/18/2003	1.46	79	0.05	87.6	3	0.72	0.05	2.30	0.24	0.06	<0.017	11	14.37	0.113	15	1.70
SUMP-1	04/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	21	0.00
SUMP-1	05/14/2003	1.43	65	0.20	85.8	0	0.05	<0.028	0.04	0.11	<0.016	<0.010	5.60	0.11	0.001	36	0.03
SUMP-1	06/09/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	26	0.00
SUMP-1	07/09/2003	1.00	83	0.20	60.0	2.1	0.11	0.01	0.09	0.31	0.02	<0.0013	0.93	1.47	0.008	30	0.24
SUMP-1	08/12/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	34	0.00
SUMP-1	09/08/2003	0.71	82	0.20	42.6	0.20	0.12	0.01	0.10	0.36	0.02	<0.0026	1.40	2.01	0.008	27	0.21
SUMP-1	10/13/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-1	11/11/2003	0.83	85	0.16	49.8	0.00	0.11	0.32	0.70	0.20	0.19	<0.0043	2.40	2.83	0.013	29	0.37
SUMP-1**	12/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SUMP-1	01/12/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-1	02/09/2004	0.48	72	0.06	28.8	0.00	0.34	0.01	0.04	0.25	0.03	<0.0026	1.30	1.97	0.005	28	0.14
SUMP-1	03/08/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-1	04/12/2004	0.48	74	0.11	28.8	3.20	0.18	0.01	0.06	0.19	0.02	<0.0020	0.76	1.21	0.003	35	0.11
SUMP-1	05/10/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-1	07/01/2004	0.40	68	0.10	24.0	1.30	—	—	—	—	—	—	—	1.21	0.003	52	0.14
SUMP-1	10/05/2004	0.61	63	0.22	36.6	2.40	0.46	0.01	0.07	0.26	0.08	<0.0026	1.50	2.38	0.008	1	0.01
														SUMP 1 TOTAL LBS REMOVED			139.46

*Sumps 1 and 2 have common blower. **SUMP-1 SVE System shut down in December 2002, February 2003, and December 2003.

Laboratory analyses by EPA Method TO-14
Data not collected during August 2000 due to strike at York facility
— = No reading recorded

Table I
Sump Area Flow & VOC Data
Coleman Operable Unit
Wichita, Kansas

SITE	DATE	FLOW scfs	Blower Vacuum "H2O	Differential Pressure "H2O	FLOW scfm	PID ppmv	CONCENTRATIONS 1,1,1-TCA ug/l	PCE ug/l	Toluene ug/l	cis-1,2-DCE ug/l	1,1-DCE ug/l	Vinyl Chloride ug/l	TCE ug/l	TOTAL VOCs ug/l	REMOVAL RATE lbs/day	NUMBER OF DAYS	TOTAL LBS REMOVED PER PERIOD
SUMP-2	05/15/2000	3.17	65	0.27	90.2	37	220	1.00	<0.55	2.0	52	0.44	5	280.44	2.274	0.04	
SUMP-2	05/16/2000	0.98	68	0.12	58.8	29	150	<0.69	<0.38	2.4	49	0.65	9	211.05	1.116	1	1.12
SUMP-2	05/23/2000	1.10	68	0.19	66.0	25	30	0.350	5.600	2.2	12	0.43	10	60.48	0.358	7	2.51
SUMP-2	05/30/2000	0.94	73	0.04	56.4	16	10	0.094	3.600	1.3	5.40	0.1	7	27.50	0.140	7	0.98
SUMP-2	06/05/2000	1.04	75	0.12	62.4	8	8.00	0.13	1.200	0.84	4.60	0.025	4	18.40	0.103	6	0.62
SUMP-2	06/28/2000	0.82	70	0.30	49.2	170	4.40	<0.86	87.000	22.00	2.80	0.760	120	236.96	1.048	23	24.11
SUMP-2	07/19/2000	0.95	67	0.04	57.0	5	3.90	0.09	<0.0076	0.24	2.30	<0.0052	1.00	7.53	0.039	21	0.81
SUMP-2	09/25/2000	0.97	67	—	58.2	80	31.00	0.17	<0.076	0.34	6.30	0.780	1.20	39.79	0.208	68	14.16
SUMP-2	10/23/2000	1.05	68	0.19	63.0	0	9.20	0.08	0.160	0.20	2.60	<0.026	0.90	13.14	0.074	28	2.08
SUMP-2	11/30/2000	1.03	72	0.21	61.8	0	6.60	<0.023	0.150	0.07	1.30	<0.0087	0.36	8.48	0.047	38	1.79
SUMP-2	12/12/2000	1.17	68	0.31	70.2	19	14.00	<0.069	0.240	0.12	1.70	<0.026	2.70	18.76	0.118	12	1.42
SUMP-2	01/25/2001	1.64	68	0.31	98.4	10	4.00	0.34	0.095	0.04	0.53	<0.0065	0.52	5.53	0.029	44	1.28
SUMP-2	02/12/2001	2.27	80	0.43	45.0	5	4.20	0.16	0.043	0.09	0.58	<0.0052	0.72	5.79	0.023	18	0.42
SUMP-2	03/20/2001	1.07	52	0.00	64.2	0	5.90	0.08	0.072	0.05	0.52	<0.013	0.49	7.10	0.041	36	1.48
SUMP-2	04/24/2001	0.91	53	0.09	54.6	6	1.10	0.01	0.086	0.04	0.28	<0.0017	0.16	1.67	0.008	35	0.29
SUMP-2	05/17/2001	2.10	26	0.08	126	0	0.01	0.01	0.09	<0.002	<0.002	<0.0013	0.03	0.14	0.002	23	0.04
SUMP-2	06/25/2001	0.77	70	1.17	46.2	5	0.43	0.02	0.10	0.099	0.12	<0.0013	0.26	1.03	0.004	39	0.17
SUMP-2	07/24/2001	0.86	70	0.06	51.6	6	1.20	0.02	0.15	0.980	0.20	<0.0065	2.90	5.45	0.025	29	0.73
SUMP-2	08/27/2001	0.99	71	0.20	59.4	3	4.50	0.07	0.12	0.120	0.65	<0.0065	0.43	5.89	0.031	34	1.07
SUMP-2	09/26/2001	0.94	70	0.03	56.4	1	2.40	0.16	0.10	0.160	0.30	<0.0043	0.68	3.80	0.019	30	0.58
SUMP-2	10/23/2001	1.08	71	0.19	64.8	1	3.70	0.20	0.25	0.10	0.36	<0.0052	1.40	6.01	0.035	27	0.95
SUMP-2	11/19/2001	1.10	68	0.07	66.0	7	8.90	0.10	0.16	0.09	0.85	<0.013	1.00	11.10	0.066	27	1.78
SUMP-2	12/26/2001	1.11	74	0.09	66.6	11	39.00	0.30	<0.076	0.18	1.00	<0.052	0.81	41.29	0.247	37	9.15
SUMP-2	01/25/2002	0.93	70	0.32	55.8	0	0.01	0.01	0.06	0.010	<0.002	<0.0013	0.20	0.28	0.001	30	0.04
SUMP-2	02/25/2002	1.25	65	0.13	75.0	0	1.40	0.03	0.06	0.044	0.10	<0.0026	0.14	1.77	0.012	31	0.37
SUMP-2	03/19/2002	0.75	69	0.06	45.0	4	1.10	0.01	0.06	0.015	0.06	<0.0026	0.12	1.37	0.006	22	0.12
SUMP-2	04/22/2002	0.79	73	0.60	47.4	2	2.10	0.03	0.08	0.043	0.19	<0.0052	0.22	2.66	0.011	34	0.39
SUMP-2	05/13/2002	1.20	71	0.07	72.0	3	3.60	<0.014	0.09	0.033	0.23	<0.0052	0.19	41.42	0.268	21	5.63
SUMP-2	06/18/2002	1.05	66	0.14	63.0	4	11.00	<1.4	21.00	6.500	<0.81	<0.52	280	318.50	1.804	36	64.95
SUMP-2	07/01/2002	0.92	65	0.17	55.2	2	1.20	0.03	0.16	0.042	0.15	<0.0026	0.37	1.96	0.010	13	0.13
SUMP-2	08/05/2002	0.84	66	0.13	50.4	1	0.34	0.01	0.02	0.008	0.05	<0.0013	0.79	0.70	0.003	35	0.11
SUMP-2	09/04/2002	0.65	68	0.15	39.0	3	0.50	0.01	0.04	0.014	0.06	<0.0013	0.16	0.80	0.003	30	0.08
SUMP-2	10/01/2002	1.08	65	0.08	64.8	1	0.36	0.01	0.06	0.019	0.05	<0.0013	0.11	0.61	0.004	27	0.10
SUMP-2	11/06/2002	1.00	69	0.15	60.0	16	1.20	<0.069	0.98	0.360	0.04	<0.026	14.00	16.58	0.089	1	0.09
SUMP-2**	12/03/2002	1.91	67	0.10	114.6	4	0.16	0.00	0.07	0.014	0.03	<0.0013	0.12	0.40	0.004	27	0.11
SUMP-2	01/07/2003	0.94	68	0.08	56.4	0	0.01	0.01	0.14	<0.0040	<0.0040	<0.0026	0.01	0.16	0.001	35	0.03
SUMP-2**	02/03/2003	0.58	65	0.18	34.8	0	0.13	0.01	0.03	0.010	0.014	<0.0013	0.07	0.27	0.001	27	0.02
SUMP-2**	03/03/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-2**	03/18/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	15	0.00
SUMP-2	04/08/2003	2.10	—	0.40	126	2	0.24	0.02	0.19	0.04	0.06	<0.0013	0.51	1.06	0.012	21	0.25
SUMP-2***	05/14/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	36	0.00
SUMP-2	06/09/2003	1.82	70	0.30	109.2	7	0.11	0.06	0.38	0.01	0.03	<0.0013	1.00	1.59	0.016	26	0.40
SUMP-2***	07/09/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	30	0.00
SUMP-2	08/12/2003	3.32	74	0.35	199.2	0	0.21	<0.0034	0.13	0.03	0.10	<0.0013	0.23	0.70	0.013	34	0.43
SUMP-2	09/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SUMP-2	10/10/2003	2.63	73	0.50	157.8	14	<0.28	0.42	<0.19	<0.20	<0.20	<0.13	68	68.42	0.971	35	33.98
SUMP-2***	11/11/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	29	0.00
SUMP-2**	12/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SUMP-2	01/12/2004	1.65	45	0.25	99.0	0	0.09	0.02	0.19	0.01	0.03	<0.0013	0.08	0.41	0.004	35	0.13
SUMP-2	02/09/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-2	03/08/2004	2.01	45	0.25	120.6	0	0.06	0.01	0.04	0.01	0.02	<0.0013	0.10	0.22	0.002	28	0.07
SUMP-2	04/12/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-2	05/10/2004	1.95	45	0.25	117	2	0.11	0.01	0.16	0.01	0.02	<0.0013	0.75	1.06	0.011	28	0.31
SUMP-2	07/01/2004	1.20	68	0.10	72	3	—	—	—	—	—	—	—	1.06	0.007	52	0.36
SUMP-2	10/06/2004	1.59	63	0.19	95	3	0.22	0.01	0.07	0.03	0.06	<0.0013	0.24	0.63	0.005	1	0.01
															SUMP 2 TOTAL LBS REMOVED		175.62

*Sumps 1 and 2 have common blower **SUMP-2 SVE System shut down in December 2002, February, March and December 2003 ***System was used for bleed air only in May, July, September, and November 2003

Laboratory analysis by EPA Method TO-14
Data not collected during August 2000 due to strike at York facility.
— = No reading recorded

Table 1
Sump Area Flow & VOC Data
Coleman Operable Unit
Wichita, Kansas

SITE	DATE	FLOW scfs	Blower Vacuum "H2O	Differential Pressure "H2O	FLOW scfm	PID ppmv	CONCENTRATIONS 1,1,1-TCA ug/l	PCE ug/l	Toluene ug/l	cis-1,2-DCE ug/l	1,1-DCE ug/l	Vinyl Chloride ug/l	TCE ug/l	TOTAL VOCs ug/l	REMOVAL RATE lbs/day	NUMBER OF DAYS	TOTAL LBS REMOVED PER PERIOD
SUMP-3	05/15/2000	0.36	54	0.21	22.8	48	7.00	<1.4	<0.79	2.9	8.90	<1.1	220	238.80	0.490	0.10	0.05
SUMP-3	05/16/2000	0.22	52	0.07	13.2	90	3.80	<0.69	<0.38	1.0	8.20	<0.26	120	133.00	0.158	1	0.16
SUMP-3	05/23/2000	0.42	52	0.25	25.2	31	2.80	<0.18	3.700	0.88	4.10	<0.087	44	55.28	0.125	7	0.88
SUMP-3	05/30/2000	0.60	54	0.52	36.0	17	3.30	0.220	2.400	0.43	3.20	<0.052	27	36.55	0.118	7	0.83
SUMP-3	06/05/2000	0.69	56	0.68	41.4	9	1.10	0.090	0.930	0.18	2.60	<0.024	16	20.90	0.078	6	0.47
SUMP-3	06/28/2000	0.90	54	1.15	54.0	3	0.54	<0.069	0.370	0.06	1.40	<0.026	8	10.47	0.051	23	1.17
SUMP-3	07/19/2000	0.99	57	1.40	59.4	20	2.00	<0.23	<0.13	0.28	5.30	<0.087	24	31.58	0.169	21	3.54
SUMP-3	09/25/2000	0.99	64	1.41	59.4	39	3.60	<0.069	0.045	0.18	2.10	<0.026	14	19.93	0.106	68	7.24
SUMP-3	10/23/2000	1.22	52	2.07	73.2	0	1.60	0.150	0.170	0.11	1.40	<0.01	6.1	9.53	0.063	28	1.76
SUMP-3	11/30/2000	1.33	51	2.40	79.8	6	1.10	0.032	0.087	0.07	0.80	<0.0058	4.1	6.19	0.044	38	1.69
SUMP-3	12/12/2000	1.36	50	2.50	81.6	37	1.40	0.047	0.463	0.11	0.52	<0.01	7.0	9.51	0.070	12	0.84
SUMP-3	01/25/2001	1.38	48	2.60	82.8	8	—	—	—	—	—	—	—	9.51	0.071	44	3.12
SUMP-3	02/12/2001	1.24	47	2.10	74.4	1	0.74	0.210	0.055	0.06	0.45	<0.0058	2.6	4.11	0.028	18	0.50
SUMP-3	03/20/2001	0.38	27	0.20	22.8	58	0.17	0.040	0.046	0.04	0.34	<0.0032	1.7	2.33	0.005	36	0.17
SUMP-3	04/24/2001	1.37	26	2.53	82.2	5	0.13	0.016	0.100	0.03	0.31	<0.0035	1.4	1.99	0.015	35	0.51
SUMP-3	05/17/2001	1.35	26	2.46	81.0	0	0.13	0.027	0.110	0.02	0.24	<0.0026	1.3	1.82	0.013	23	0.31
SUMP-3	06/25/2001	1.39	45	2.60	83.4	9	0.13	0.021	0.080	0.03	0.28	<0.0026	1.5	2.04	0.015	39	0.60
SUMP-3	07/24/2001	1.36	45	2.50	81.6	4	0.29	0.025	0.092	0.08	0.34	<0.0074	4.8	5.62	0.041	29	1.20
SUMP-3	08/27/2001	1.33	45	2.40	79.8	1	0.42	0.062	0.073	0.06	0.42	<0.0058	2.2	3.24	0.023	34	0.79
SUMP-3	09/26/2001	1.39	45	2.61	83.4	9	0.22	0.170	0.100	0.06	0.30	<0.0026	1.8	2.65	0.020	30	0.60
SUMP-3	10/23/2001	1.33	45	2.40	79.8	3	0.62	0.29	0.41	0.14	0.27	<0.0052	3.4	5.13	0.037	27	0.99
SUMP-3	11/19/2001	1.35	47	2.40	81.0	10	0.29	0.14	0.25	0.08	0.08	<0.0026	1.6	2.44	0.018	27	0.48
SUMP-3	12/26/2001	1.41	47	2.70	84.6	14	0.65	0.04	0.05	0.04	0.24	<0.0052	1.0	2.02	0.015	37	0.57
SUMP-3	01/25/2002	1.41	55	2.72	84.6	7	0.11	0.030	0.040	0.03	0.19	<0.0026	2.0	2.40	0.018	30	0.55
SUMP-3	02/25/2002	1.51	54	3.08	90.6	0	0.12	0.008	0.067	0.02	0.18	<0.0013	0.7	1.08	0.009	31	0.27
SUMP-3	03/19/2002	1.62	46	3.60	97.2	0	65.00	<6.9	76.000	51.00	5.60	<2.6	1700	1917.60	16.759	22	368.69
SUMP-3	04/22/2002	0.76	45	0.80	45.6	5	0.20	0.035	0.091	0.03	0.21	<0.0013	0.8	1.34	0.006	34	0.19
SUMP-3	05/13/2002	1.51	45	3.10	90.6	0	0.24	0.011	0.100	0.16	0.19	<0.0013	0.7	1.26	0.010	21	0.22
SUMP-3	06/18/2002	1.45	44	2.88	87.0	2	11.00	<1.4	24.000	8.70	<0.81	<0.52	350	393.70	3.080	36	110.87
SUMP-3	07/01/2002	1.37	45	2.57	82.2	0	0.30	0.031	0.140	0.02	0.20	<0.0013	0.8	1.49	0.011	13	0.14
SUMP-3	08/05/2002	1.43	55	2.80	85.8	0	0.06	0.008	0.012	0.01	0.96	<0.0013	0.6	0.74	0.006	35	0.20
SUMP-3	09/04/2002	1.40	44	2.70	84.0	2	0.15	0.013	0.220	0.02	0.22	<0.0026	1.1	1.72	0.013	30	0.39
SUMP-3	10/01/2002	1.43	45	2.80	85.8	0	0.01	0.006	0.048	0.00	<0.002	<0.0013	0.02	0.09	0.001	27	0.02
SUMP-3	11/06/2002	1.57	45	3.40	94.2	18	1.20	<0.14	1.500	0.72	<0.081	<0.052	26.00	29.42	0.249	1	0.25
SUMP-3**	12/03/2002	1.48	45	3.00	88.8	1	0.01	<0.0034	0.067	0.00	<0.002	<0.0013	0.06	0.14	0.001	27	0.03
SUMP-3	01/07/2003	1.59	48	3.50	95.4	0	0.01	0.014	0.170	<0.0040	<0.0040	<0.0026	0.01	0.20	0.002	35	0.06
SUMP-3**	02/03/2003	1.54	45	3.27	92.4	3	<0.0028	0.009	0.038	0.00	<0.0020	<0.0013	0.04	0.09	0.001	27	0.02
SUMP-3	03/03/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-3	03/18/2003	1.35	45	2.51	81.0	1	0.56	0.04	1.800	0.1	0.2	<0.013	9.00	11.64	0.085	15	1.27
SUMP-3	04/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	21	0.00
SUMP-3	05/14/2003	1.24	45	2.12	74.4	0	0.06	0.01	0.03	0.01	0.10	<0.0013	0.84	1.04	0.007	36	0.25
SUMP-3	06/09/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-3	07/09/2003	1.69	45	3.90	101.4	0.00	0.13	0.01	0.11	0.02	0.18	<0.0026	1.50	1.95	0.018	30	0.53
SUMP-3	08/12/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	34	0.00
SUMP-3	09/08/2003	1.50	46	3.10	90.0	0.80	0.05	0.01	0.08	0.02	0.07	<0.0013	0.80	1.03	0.008	27	0.23
SUMP-3	10/13/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-3	11/11/2003	1.46	45	2.95	87.6	0.00	0.04	0.02	0.05	0.01	0.05	<0.0032	1.70	1.88	0.015	29	0.43
SUMP-3	12/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SUMP-3	01/12/2004	1.50	46	3.12	90.0	0.00	0.07	0.02	0.19	0.01	0.09	<0.0026	1.10	1.47	0.012	35	0.42
SUMP-3**	02/09/2004	1.33	47	2.43	79.8	0.00	0.08	0.01	0.04	0.02	0.10	<0.0026	1.10	1.34	0.010	28	0.27
SUMP-3	03/08/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-3	04/12/2004	1.13	53	1.76	67.8	2.30	0.08	0.01	0.06	0.02	0.08	<0.0017	1.00	1.24	0.008	35	0.27
SUMP-3	05/10/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-3	07/01/2004	1.31	46	2.36	78.6	1.00	—	—	—	—	—	—	—	1.24	0.009	52	0.46
SUMP-3	10/06/2004	1.39	50	2.66	83.4	1.70	0.07	0.01	0.07	0.02	0.07	<0.0034	1.80	2.04	0.015	1	0.02
														SUMP 3 TOTAL LBS REMOVED			514.47

*SUMP-3 SVE System shut down in December 2002 and February 2003. **System left running February 2004

Laboratory analysis by EPA Method TO-14
Data not collected during August 2000 due to strike at York facility.
— = No reading recorded

Table 1
Sump Area Flow & VOC Data
Coleman Operable Unit
Wichita, Kansas

SITE	DATE	FLOW scfs	Blower Vacuum "H2O	Differential Pressure "H2O	FLOW scfm	PID ppmv	CONCENTRATIONS 1,1,1-TCA ug/l	PCE ug/l	Toluene ug/l	cis-1,2-DCE ug/l	1,1-DCE ug/l	Vinyl Chloride ug/l	TCE ug/l	TOTAL VOCs ug/l	REMOVAL RATE lbs/day	NUMBER OF DAYS	TOTAL LBS REMOVED PER PERIOD
SUMP-4_5	05/15/00	1.93	--	0.32	115.8	1378	30	<6.9	<3.8	49	17	<2.6	1800	1896.00	19.741	0.08	1.58
SUMP-4_5	5/16/2000	1.61	60	0.10	96.6	105	5.40	<1.1	<0.64	7.6	2.0	<0.43	240	255.00	2.215	1	2.21
SUMP-4_5	5/23/2000	1.68	54	0.07	100.8	130	5.60	<0.92	6.600	7.8	1.8	<0.43	270	291.60	2.643	7	18.50
SUMP-4_5	5/30/2000	0.89	88	0.08	53.4	193	7.00	<2.3	2.800	13	3.1	<0.87	460	485.90	2.330	7	16.33
SUMP-4_5	6/2/2000	0.66	—	0.04	39.6	168	3.50	<1.4	<0.76	9.5	1.6	<0.52	250	264.60	0.942	3	2.83
SUMP-4_5	6/28/2000	1.50	64	0.04	90.0	6	0.07	<0.014	0.490	0.0	0.0	<0.0052	1.1	1.70	0.014	26	0.36
SUMP-4_5	7/19/2000	1.31	64	0.07	78.6	22	0.84	<0.28	<0.15	2.3	0.3	<0.10	53	56.48	0.399	21	8.38
SUMP-4_5	9/25/2000	3.27	63	0.20	120	44	1.70	<0.28	<0.15	1.1	<0.16	<0.10	64	66.80	0.721	68	49.01
SUMP-4_5	10/23/2000	0.99	66	0.04	59.4	0	1.10	<0.069	0.170	0.3	0.1	<0.026	12	13.63	0.073	28	2.04
SUMP-4_5	11/30/2000	0.79	67	0.08	47.4	8	0.54	<0.092	0.058	0.3	0.1	<0.035	19	19.93	0.085	38	3.23
SUMP-4_5	12/12/2000	9.78	65	0.20	120	5	0.59	<0.028	0.210	0.1	0.0	<0.010	6.9	7.82	0.084	12	1.01
SUMP-4_5	1/25/2001	2.47	68	0.25	120	0	0.22	0.150	0.052	0.0	0.0	<0.0013	0.4	0.84	0.009	44	0.40
SUMP-4_5	2/12/2001	6.48	64	0.20	120	0	0.37	0.150	0.036	0.0	0.0	<0.0013	0.7	1.30	0.014	18	0.25
SUMP-4_5	3/20/2001	1.77	59	0.08	106.2	3	0.10	0.034	0.044	0.0	0.0	<0.0013	0.3	0.47	0.004	36	0.16
SUMP-4_5	4/24/2001	1.46	57	0.05	87.6	4	0.02	0.009	0.097	0.0	0.0	<0.0013	0.2	0.40	0.003	35	0.11
SUMP-4_5	5/17/2001	1.56	55	0.08	93.6	0	0.03	0.020	0.120	0.0	0.0	<0.0013	0.4	0.85	0.007	23	0.16
SUMP-4_5	6/25/2001	2.80	68	0.18	168	9	0.03	0.022	0.093	0.0	0.0	<0.0013	0.5	0.67	0.010	39	0.40
SUMP-4_5	7/24/2001	1.14	67	0.07	68.4	4	0.15	0.013	0.100	0.0	0.0	<0.0013	0.8	1.13	0.007	29	0.20
SUMP-4_5	8/27/2001	2.51	68	0.15	150.6	1	0.32	0.063	0.100	0.0	0.0	<0.0013	0.7	1.23	0.017	34	0.57
SUMP-4_5	9/26/2001	1.67	70	0.04	100.2	6	0.09	0.170	0.110	0.1	0.0	<0.0013	0.9	1.39	0.012	30	0.37
SUMP-4_5	10/23/2001	1.52	60	0.16	91.2	26	0.85	0.32	0.36	0.90	<0.13	<0.087	42	44.43	0.364	27	9.84
SUMP-4_5	11/19/2001	3.36	48	0.30	201.6	56	2.60	0.10	0.16	0.17	0.04	<0.013	5.3	8.57	0.155	27	4.19
SUMP-4_5	12/26/2001	3.54	55	0.45	212.4	12	0.46	<0.14	<0.076	0.59	0.10	<0.052	29	30.15	0.576	37	21.30
SUMP-4_5	1/25/2002	4.67	70	0.38	280.2	10	0.17	<0.034	0.023	0.1	0.1	<0.013	9.0	9.35	0.235	30	7.06
SUMP-4_5	2/25/2002	3.42	62	0.39	205.2	0	0.15	<0.034	0.030	0.1	0.1	<0.013	6.5	6.79	0.125	31	3.89
SUMP-4_5	3/19/2002	2.16	64	0.10	129.6	0	0.16	<0.028	0.036	0.1	0.0	<0.010	6.5	6.81	0.079	22	1.75
SUMP-4_5	4/22/2002	2.25	58	0.24	135	5	0.22	0.038	0.054	0.1	0.0	<0.013	7.6	8.06	0.098	34	3.33
SUMP-4_5	5/13/2002	6.33	65	0.10	379.8	0	0.20	<0.028	0.079	0.1	0.0	<0.010	6.1	6.49	0.222	21	4.65
SUMP-4_5	6/18/2002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36	NA
SUMP-4_5	7/1/2002	3.19	64	0.50	191.4	3.10	0.21	<0.046	0.10	0.18	<0.027	<0.017	6.80	7.29	0.125	13	1.63
SUMP-4_5	8/5/2002	3.22	60	0.25	193	2.30	0.07	0.05	0.02	0.11	<0.016	<0.010	6.20	6.44	0.112	35	3.92
SUMP-4_5	9/4/2002	4.02	55	0.50	241.2	2.80	0.12	<0.069	0.17	0.20	<0.040	<0.026	8.00	8.49	0.184	30	5.52
SUMP-4_5	10/1/2002	2.08	50	0.20	124.8	0.00	0.01	0.01	0.06	0.01	<0.002	<0.0013	0.32	0.41	0.005	27	0.12
SUMP-4_5	11/6/2002	2.64	55	0.14	158.4	6.50	0.66	<0.14	0.94	0.46	<0.081	<0.052	24.00	26.06	0.371	1	0.37
SUMP-4_5*	12/3/2002	3.25	85	--	195	--	0.01	<0.0034	0.03	<0.002	<0.002	<0.0013	0.02	0.06	0.001	27	0.03
SUMP-4_5	1/7/2003	3.08	75	0.13	184.8	0.00	0.01	0.01	0.09	<0.002	<0.002	<0.0013	0.01	0.11	0.002	35	0.06
SUMP-4_5*	2/3/2003	4.23	75	0.25	253.8	0.00	<0.0028	<0.0034	0.01	<0.0020	<0.0020	<0.0013	0.01	0.02	0.001	27	0.01
SUMP-4_5	3/3/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-4_5	3/18/2003	2.73	75	0.35	163.8	1	0.31	0.07	1.000	0.1	<0.040	<0.026	14.00	15.50	0.228	15	3.42
SUMP-4_5	4/8/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	21	0.00
SUMP-4_5	05/14/2003	2.39	85	0.25	143.4	0.30	0.00	<0.0034	0.02	0.02	<0.002	<0.0013	0.07	5.80	0.075	36	2.69
SUMP-4_5	06/09/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	26	0.00
SUMP-4_5	07/09/2003	3.12	75	0.25	187.2	85.70	0.05	<0.028	0.12	0.17	<0.016	<0.010	4.30	4.64	0.078	30	2.34
SUMP-4_5	08/12/2003	1.30	76	0.25	78	0.00	0.07	<0.028	0.05	0.22	<0.016	<0.010	5.80	6.14	0.043	34	1.46
SUMP-4_5	09/08/2003	1.66	80	0.25	99.6	1.90	0.06	0.02	0.08	0.17	0.01	<0.0052	4.30	4.64	0.042	27	1.12
SUMP-4_5	10/13/2003	0.86	84	0.07	51.6	26.50	<0.37	<0.46	<0.25	<0.27	<0.27	<0.17	89.00	89.00	0.413	35	14.45
SUMP-4_5	11/11/2003	2.34	82	0.10	140.4	0.00	0.04	0.03	0.05	0.07	<0.016	<0.010	4.10	4.28	0.054	29	1.57
SUMP-4_5*	12/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SUMP-4_5*	01/12/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-4_5*	02/09/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-4_5	03/08/2004	1.67	82	0.25	100.2	0.00	0.09	0.02	0.05	0.06	0.01	<0.0052	3.40	3.62	0.033	28	0.91
SUMP-4_5	04/12/2004	2.23	80	0.45	133.8	0.10	0.04	<0.014	0.04	0.08	0.01	<0.0052	2.00	2.17	0.026	35	0.91
SUMP-4_5	05/10/2004	1.68	67	0.25	100.8	0.60	0.02	0.01	0.09	0.03	<0.004	<0.0026	1.20	1.35	0.012	28	0.34
SUMP-4_5	07/01/2004	1.84	75	0.23	110.4	0.00	—	—	—	—	—	—	—	1.35	0.013	52	0.70
SUMP-4_5	10/05/2004	2.92	53	0.19	175.2	3.00	0.03	<0.014	0.05	0.10	<0.0079	<0.0051	2.50	2.69	0.042	96	4.06
														SUMP 4_5 TOTAL LBS REMOVED			209.78

*SUMP-4/5 SVE System shut down in December 2002, February 2003 and December 2003 through February 2004

Laboratory analysis by EPA Method TO-14
Data not collected during August 2000 due to stake at York facility

Table I
Sump Area Flow & VOC Data
Coleman Operable Unit
Wichita, Kansas

SITE	DATE	FLOW scfs	Blower Vacuum "H2O	Differential Pressure "H2O	FLOW scfm	PID ppmv	CONCENTRATIONS 1,1,1-TCA ug/l	PCE ug/l	Toluene ug/l	cis-1,2-DCE ug/l	1,1-DCE ug/l	Vinyl Chloride ug/l	TCE ug/l	TOTAL VOCs ug/l	REMOVAL RATE lbs/day	NUMBER OF DAYS	TOTAL LBS REMOVED PER PERIOD
SUMP-6	05/17/2000	0.47	68	0.09	28.2	1387	<28	<34	<19	21	<20	<13	4800	4821.00	12.224	0.06	0.76
SUMP-6	05/18/2000	0.56	67	0.07	33.6	1204	<11	<14	16	10	<8.1	<5.2	2400	2426.00	7.329	1	7.33
SUMP-6	05/23/2000	0.84	57	0.18	50.4	311	<5.5	<6.9	<3.8	<4.0	<4.0	<2.6	910	910.00	4.124	5	20.62
SUMP-6	05/30/2000	1.00	65	---	60.0	119	<1.1	<1.4	1.8	1.3	<0.81	<0.52	300	303.10	1.635	7	11.45
SUMP-6	06/05/2000	1.23	60	0.44	73.8	98	<0.55	<0.69	0.65	0.82	<0.4	<0.26	140	141.47	0.939	6	5.63
SUMP-6	06/28/2000	1.55	48	0.74	93.0	19	<0.22	<0.28	0.30	0.32	<0.16	<0.10	61	61.62	0.515	23	11.85
SUMP-6	07/19/2000	1.65	47	0.80	99.0	25	<0.28	<0.34	<0.19	0.44	<0.20	<0.13	68	68.44	0.609	21	12.79
SUMP-6	09/25/2000	1.94	38	0.96	116.4	23	0.850	<0.14	<0.076	0.14	<0.081	<0.052	29	29.99	0.314	68	21.34
SUMP-6	10/23/2000	2.03	35	0.99	121.8	22	0.620	<0.23	<0.13	0.28	<0.13	<0.087	48	48.90	0.536	28	14.99
SUMP-6	11/30/2000	2.09	36	1.06	125.4	20	0.290	0.150	<0.076	0.14	<0.081	<0.052	33	33.58	0.379	38	14.39
SUMP-6	12/12/2000	2.17	35	1.05	130.2	36	0.170	<0.14	<0.076	0.08	<0.081	<0.052	27	27.25	0.319	12	3.83
SUMP-6	01/25/2001	0.81	76	0.08	48.6	2	0.140	0.110	0.07	<0.04	<0.04	<0.026	9	9.12	0.040	44	1.75
SUMP-6	02/12/2001	0.30	73	0.20	18.0	31	0.270	0.120	<0.038	0.07	<0.04	<0.026	19	19.46	0.031	18	0.57
SUMP-6	03/20/2001	0.48	63	0.01	28.8	7	0.072	<0.069	<0.038	0.04	<0.04	<0.026	11	11.11	0.029	36	1.04
SUMP-6	04/24/2001	0.66	60	0.20	39.6	12	<0.055	<0.069	0.09	<0.04	<0.04	<0.026	11	11.09	0.039	35	1.36
SUMP-6	05/17/2001	1.03	59	0.00	61.8	0	0.032	<0.014	0.05	0.01	<0.0081	<0.0052	4	3.80	0.021	23	0.49
SUMP-6	06/25/2001	1.30	61	0.04	78.0	15	<0.055	<0.069	0.08	0.05	<0.04	<0.026	10	10.03	0.070	39	2.74
SUMP-6	07/24/2001	1.24	60	0.50	74.4	6	0.140	<0.069	0.09	0.08	<0.04	<0.026	10	10.21	0.068	29	1.98
SUMP-6	08/27/2001	0.74	60	0.35	44.4	4	0.180	<0.069	0.08	0.06	<0.04	<0.026	12	12.33	0.049	34	1.67
SUMP-6	09/26/2001	0.80	61	0.45	48.0	14	0.081	0.150	0.10	0.06	<0.040	<0.040	9	8.99	0.039	30	1.16
SUMP-6	10/23/2001	0.93	58	0.56	55.8	10	0.22	0.20	0.28	0.10	<0.027	<0.017	10	10.30	0.052	27	1.40
SUMP-6	11/19/2001	1.88	37	1.13	112.8	14	0.47	<0.069	0.10	0.05	<0.040	<0.026	9	9.41	0.095	27	2.58
SUMP-6	12/26/2001	2.64	37	2.00	158.4	8	0.27	<0.069	<0.038	0.06	<0.040	<0.026	10	10.33	0.147	37	5.44
SUMP-6	01/25/2002	2.23	35	0.93	133.8	20	<0.055	<0.069	<0.038	0.15	<0.040	<0.026	19	19.15	0.230	30	6.91
SUMP-6	02/25/2002	2.19	36	1.36	131.4	9	0.030	<0.034	0.04	0.05	<0.020	<0.013	9	9.02	0.107	31	3.30
SUMP-6	03/19/2002	1.89	36	0.90	113.4	4	0.030	0.100	0.05	0.04	<0.016	<0.010	6	5.91	0.060	22	1.33
SUMP-6	04/22/2002	0.68	70	0.00	40.8	5	<0.037	<0.046	0.06	0.03	<0.027	<0.017	10	9.80	0.036	34	1.22
SUMP-6	05/13/2002	0.96	69	0.20	57.6	3	0.042	0.088	0.07	0.03	<0.016	<0.010	6	6.63	0.034	21	0.72
SUMP-6	06/18/2002	0.91	67	0.25	54.6	5	4.100	<0.76	13.00	3.50	<0.45	<0.29	160	180.60	0.887	36	31.92
SUMP-6	07/01/2002	0.80	70	0.25	48.0	0	0.110	0.034	0.11	0.05	<0.016	<0.010	6	6.50	0.028	13	0.36
SUMP-6	08/05/2002	1.00	67	0.35	60.0	0	<0.022	0.250	0.03	0.03	<0.016	<0.010	7	7.01	0.038	35	1.32
SUMP-6	09/04/2002	0.43	67	0.35	25.8	7	<0.055	<0.069	0.11	0.30	<0.040	<0.026	8	8.81	0.020	30	0.61
SUMP-6	10/01/2002	0.80	66	0.25	48.0	1	<0.28	<0.34	1.00	1.10	<0.2	<0.13	80	82.10	0.354	27	9.57
SUMP-6	11/06/2002	0.30	70	0.18	18.0	10	0.620	<0.088	1.00	0.46	<0.050	<0.032	18	20.08	0.032	1	0.03
SUMP-6**	12/03/2002	0.66	71	0.25	39.6	6	0.033	<0.017	0.07	0.02	<0.010	<0.0065	3	3.43	0.012	27	0.33
SUMP-6	01/07/2003	0.53	73	0.24	31.8	0	0.023	0.021	0.25	<0.0040	<0.0040	<0.0026	0	0.71	0.002	35	0.07
SUMP-6**	02/03/2003	0.39	75	0.20	23.4	2	<0.0028	0.007	0.22	0.00	<0.0020	<0.0013	0	0.30	0.001	27	0.02
SUMP-6	03/03/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-6	03/18/2003	2.16	38	1.15	129.6	3	0.38	0.23	1.300	0.1	<0.040	<0.026	16.00	18.00	0.210	15	3.15
SUMP-6	04/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	21	0.00
SUMP-6	05/14/2003	2.04	35	1.10	122.4	1.30	<0.037	<0.046	<0.025	0.05	<0.027	<0.017	11.00	11.05	0.122	36	4.38
SUMP-6	06/09/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	26	0.00
SUMP-6	07/09/2003	1.95	35	2.00	117.0	4.30	<0.022	<0.028	0.07	0.03	<0.016	<0.010	4.50	4.60	0.048	30	1.45
SUMP-6	08/12/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	34	0.00
SUMP-6	09/08/2003	1.99	39	1.10	119.4	2.60	0.02	<0.028	0.07	0.04	<0.016	<0.010	7.40	7.53	0.081	27	2.18
SUMP-6	10/13/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-6	11/11/2003	1.98	—	0.90	118.8	0.00	<0.028	0.06	0.05	<0.020	<0.020	<0.013	6.80	6.91	0.074	29	2.14
SUMP-6	12/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SUMP-6	01/12/2004	1.88	40	0.95	112.8	0.20	<0.016	<0.020	0.14	0.01	<0.012	<0.0074	3.60	3.75	0.038	35	1.33
SUMP-6	02/09/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-6	03/08/2004	1.91	40	1.10	114.6	0.70	<0.018	<0.023	0.04	0.02	<0.013	<0.0087	5.40	5.46	0.056	28	1.57
SUMP-6	04/12/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-6	05/10/2004	2.02	38	1.00	121.2	0.90	0.02	<0.014	0.09	0.01	<0.0081	<0.0052	3.10	3.22	0.035	28	0.98
SUMP-6	07/01/2004	1.58	65	0.60	94.8	4.20	—	—	—	—	—	—	—	3.22	0.027	52	1.40
SUMP-6	09/30/2004	0.31	70	0.67	18.6	—	<0.022	<0.027	0.08	0.03	<0.016	<0.010	4.70	4.81	0.008	91	0.73
														SUMP 6 TOTAL LBS REMOVED			224.25

*Sumps 6 and 7 have common blower **SUMP-6 SVE System shut down in December 2002 and February 2003

Laboratory analysis by EPA Method TO-14
Data not collected during August 2000 due to strike at York facility
— = No reading recorded

Table 1
Sump Area Flow & VOC Data
Coleman Operable Unit
Wichita, Kansas

SITE	DATE	FLOW scfs	Blower Vacuum "H2O	Differential Pressure "H2O	FLOW scfm	PID ppmv	CONCENTRATIONS 1,1,1-TCA ug/l	PCE ug/l	Toluene ug/l	cis-1,2-DCE ug/l	1,1-DCE ug/l	Vinyl Chloride ug/l	TCE ug/l	TOTAL VOCs ug/l	REMOVAL RATE lbs/day	NUMBER OF DAYS	TOTAL LBS REMOVED PER PERIOD
SUMP-7	05/17/2000	0.53	68	0.09	31.8	323	<2.8	<3.4	<1.9	49	<2.8	<1.3	690	739.0	2.113	0.06	0.13
SUMP-7	05/18/2000	0.63	67	0.07	37.8	4	<2.2	<2.8	8.400	38	<1.6	<1.0	460	506.4	1.721	1	1.72
SUMP-7	05/23/2000	0.55	57	0.18	33.0	144	<1.1	<1.4	3.600	21	<0.81	0.540	300	325.1	0.965	5	4.82
SUMP-7	05/30/2000	0.68	65	—	40.8	106	<1.1	<1.4	2.000	16	<0.81	<0.52	220	238.0	0.873	7	6.11
SUMP-7	06/05/2000	0.45	60	0.44	27.0	41	<0.28	<0.34	0.790	4.6	<0.20	<0.13	48	53.4	0.130	6	0.78
SUMP-7	06/28/2000	0.25	48	0.74	15.0	36	<0.28	<0.34	0.230	6.3	<0.20	<0.13	55	61.5	0.083	23	1.91
SUMP-7	07/19/2000	0.09	47	0.80	5.4	36	0.060	<0.046	0.100	0.8	<0.027	<0.017	9	9.5	0.005	21	0.10
SUMP-7	09/25/2000	0.00	38	0.96	0.0	1132	<9.2	<11	<6.4	400.0	<6.7	<4.3	2400	2800.0	0.000	68	0.00
SUMP-7	10/23/2000	0.00	35	0.99	0.0	1153	<11	<14	42.000	700.0	<8.1	<5.2	2600	3342.0	0.000	28	0.00
SUMP-7	11/30/2000	0.12	36	1.06	7.2	1085	<9.2	<11	15.000	620.0	<6.7	<4.3	2300	2935.0	1.900	38	72.20
SUMP-7	12/12/2000	0.00	35	1.05	0.0	809	<3.7	<4.6	6.500	300.0	<2.7	<1.7	1400	1706.5	0.000	12	0.00
SUMP-7	01/26/2001	0.84	76	0.08	50.4	41	<0.55	<0.69	<0.38	47.0	<0.40	0.870	150	197.9	0.897	44	39.45
SUMP-7	02/12/2001	0.12	73	0.20	7.2	35	<2.2	<2.8	<1.5	140.0	<1.6	<1.0	400	540.0	0.350	18	6.29
SUMP-7	03/20/2001	0.28	63	0.01	16.8	49	<1.1	<1.4	<0.76	61.0	<0.81	<0.52	190	251.0	0.379	36	13.65
SUMP-7	04/24/2001	0.20	60	0.20	12.0	222	<1.1	<1.4	<0.76	240.0	0.950	23.000	390	654.0	0.706	35	24.70
SUMP-7	05/17/2001	0.57	59	0.00	34.2	0	--	—	--	—	—	--	---	654.0	2.011	23	46.25
SUMP-7	06/25/2001	0.37	61	0.04	22.2	48	<0.28	<0.34	<0.19	34.000	<0.2	<0.13	53	87.0	0.174	39	6.77
SUMP-7	07/24/2001	0.48	60	0.50	28.8	16	<0.28	<0.34	<0.19	39.000	<0.2	<0.13	58	97.0	0.251	29	7.28
SUMP-7	08/27/2001	0.37	60	0.35	22.2	57	<0.28	<0.34	<0.19	53.000	<0.2	0.870	92	145.9	0.291	34	9.90
SUMP-7	09/26/2001	0.77	61	0.45	46.2	32	<0.18	<0.23	<0.13	48.000	<0.13	<0.087	59	107.0	0.444	30	13.33
SUMP-7	10/23/2001	1.01	58	0.56	60.6	31	0.19	0.27	0.28	9.90	<0.10	0.17	35	45.81	0.250	27	6.74
SUMP-7	11/19/2001	0.09	37	1.13	5.4	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SUMP-7	12/26/2001	0.35	37	2.00	21.0	—	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SUMP-7	01/25/2002	0.96	35	0.93	57.6	18.90	<0.11	<0.14	<0.076	5.700	<0.081	0.100	31	36.8	0.191	30	5.72
SUMP-7	02/25/2002	1.04	36	1.35	62.4	10.30	<0.037	<0.046	0.031	3.500	<0.027	0.047	9.6	13.2	0.074	31	2.29
SUMP-7	03/19/2002	0.00	36	0.90	0.0	4.20	<0.055	<0.069	0.040	2.900	<0.040	0.037	9.8	12.8	0.000	22	0.00
SUMP-7	04/22/2002	0.78	70	0.30	46.8	7.40	<0.055	<0.069	0.056	1.500	<0.040	0.039	16	17.6	0.074	34	2.52
SUMP-7	05/13/2002	1.69	69	0.20	101.4	1.60	0.023	0.150	0.077	0.150	<0.016	<0.010	4.7	5.1	0.046	21	0.98
SUMP-7	06/18/2002	0.72	67	0.25	43.2	47.30	3.000	<0.46	10.000	3.400	<0.27	<0.17	120	136.4	0.530	36	19.07
SUMP-7	07/01/2002	0.72	70	0.25	43.2	1.10	<0.0028	0.009	0.013	0.048	<0.0020	<0.0013	0.32	0.4	0.002	13	0.02
SUMP-7	08/05/2002	0.76	67	0.35	45.6	0.10	<0.011	0.240	0.020	0.390	<0.0081	<0.0052	3.3	4.0	0.016	35	0.57
SUMP-7	09/04/2002	0.93	67	0.35	55.8	5.40	<0.028	0.039	0.120	0.750	<0.020	<0.013	7.5	8.4	0.042	30	1.27
SUMP-7	10/01/2002	0.89	66	0.25	53.4	0.00	<0.011	0.020	0.049	0.450	<0.0081	0.011	2.3	2.8	0.014	27	0.37
SUMP-7	11/06/2002	0.67	70	0.2	40.2	6.60	0.620	<0.069	1.000	0.470	<0.040	<0.026	16.0	18.1	0.065	1	0.07
SUMP-7**	12/03/2002	0.66	71	0.3	39.6	3.40	0.031	<0.0069	0.088	0.072	<0.004	<0.0026	1.2	1.4	0.005	27	0.13
SUMP-7	01/07/2003	0.70	73	0.2	42.0	0.00	0.012	0.017	0.190	0.058	<0.0040	<0.0040	1.3	1.6	0.006	35	0.21
SUMP-7**	02/03/2003	0.82	75	0.20	49.2	5.60	<0.0055	0.009	0.220	0.120	<0.0040	<0.0026	1.4	1.7	0.008	27	0.21
SUMP-7	03/03/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-7	03/18/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	15	0.00
SUMP-7	04/08/2003	1.06	—	0.35	63.6	6.70	0.09	0.03	0.21	0.64	<0.016	<0.010	5.8	6.78	0.039	21	0.81
SUMP-7	05/14/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	36	0.00
SUMP-7	06/09/2003	1.07	82	0.35	64.2	0.00	0.02	0.02	0.18	0.13	<0.0081	<0.0052	2.2	2.54	0.015	26	0.38
SUMP-7	07/09/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	30	0.00
SUMP-7	08/12/2003	1.15	80	0.34	69.0	5.70	<0.11	0.19	<0.076	2.70	<0.081	<0.052	27.0	29.89	0.185	34	6.30
SUMP-7	09/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SUMP-7	10/13/2003	0.75	83	0.08	45.0	18	<0.28	0.40	<0.19	0.29	<0.20	<0.13	60.0	60.69	0.246	35	8.59
SUMP-7	11/11/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	29	0.00
SUMP-7	12/08/2003	0.59	70	0.09	35.4	0	0	<0.069	1	0	<0.040	<0.026	9.2	10.53	0.034	27	0.90
SUMP-7	01/12/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-7	02/09/2004	0.41	84	0.04	24.6	0	<0.018	0	0	0	<0.013	<0.0087	4.1	4.55	0.010	28	0.28
SUMP-7	03/08/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-7	04/12/2004	0.92	64	0.65	55.2	3	<0.055	<0.069	0.04	<0.040	<0.040	<0.026	11	11.04	0.055	35	1.92
SUMP-7	05/10/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-7	07/01/2004	0.28	65	0.03	16.8	—	—	—	—	—	—	—	—	11.04	0.017	52	0.87
SUMP-7	09/30/2004	0.74	70	—	44.4	4	<0.011	0.04	0.07	0.34	<0.0079	<0.0051	3.5	3.94	0.016	91	1.43
															SUMP 7 TOTAL LBS REMOVED		317.05

*Sumps 6 and 7 have common blower **SUMP-7 SVE System shut down in December 2002 and February 2003

Laboratory analysis by EPA Method TO-14
Data not collected during August 2000 due to strike at York facility.
— = No reading recorded

Table 1
Sump Area Flow & VOC Data
Coleman Operable Unit
Wichita, Kansas

SITE	DATE	FLOW scfs	Blower Vacuum "H2O	Differential Pressure "H2O	FLOW scfm	PID ppmv	CONCENTRATIONS 1,1,1-TCA ug/l	PCE ug/l	Toluene ug/l	cis-1,2-DCE ug/l	1,1-DCE ug/l	Vinyl Chloride ug/l	TCE ug/l	TOTAL VOCs ug/l	REMOVAL RATE lbs/day	NUMBER OF DAYS	TOTAL LBS REMOVED PER PERIOD
SUMP-8	05/17/2000	0.54	68	0.20	32.4	579	<5.5	<6.9	<3.8	22,000	<4	<2.6	1500	1522.00	4.434	0.83	3.69
SUMP-8	05/18/2000	1.12	70	0.04	67.2	382	<3.7	<4.6	6,500	24,000	<2.7	<1.7	13000	1330.50	8.039	1	8.04
SUMP-8	05/23/2000	0.90	66	0.07	54.0	164	<2.2	<2.8	7,100	9,600	<1.6	<1.0	470	486.70	2.363	5	11.82
SUMP-8	05/30/2000	1.33	72	0.15	79.8	125	<1.1	<1.4	2,000	9,500	<0.81	<0.52	240	251.50	1.805	7	12.63
SUMP-8	06/05/2000	1.44	70	0.16	86.4	98	<0.55	<0.69	0.830	7,900	<0.40	<0.26	120	128.73	1.000	6	6.00
SUMP-8	06/28/2000	1.55	68	0.17	93.0	17	<0.22	<0.28	0.310	1,900	<0.16	<0.10	41	43.21	0.361	23	8.31
SUMP-8	07/19/2000	1.55	68	0.12	93.0	31	<0.22	<0.28	<0.15	2,500	<0.16	<0.10	49	51.50	0.431	21	9.04
SUMP-8	09/25/2000	2.22	61	0.24	133.2	37	0.910	<0.14	<0.076	5,200	<0.081	<0.052	36	42.11	0.504	68	34.29
SUMP-8	10/23/2000	2.49	47	0.43	149.4	158	<1.1	<1.4	<0.76	22,000	<0.81	<0.52	180	202.00	2.713	28	75.98
SUMP-8	11/30/2000	2.53	43	0.49	151.8	50	0.150	<0.17	<0.096	5,400	<0.1	<0.065	42	47.55	0.649	38	24.66
SUMP-8	12/12/2000	2.60	44	0.59	156.0	52	0.450	<0.17	0.340	3,900	<0.1	<0.065	40	44.69	0.627	12	7.52
SUMP-8	01/25/2001	2.56	50	0.45	153.6	8	0.680	0.250	0.074	1,200	<0.04	<0.026	13	15.20	0.210	44	9.24
SUMP-8	02/12/2001	2.62	49	0.20	157.2	31	—	—	—	—	—	—	—	15.20	0.215	18	3.87
SUMP-8	03/20/2001	2.37	26	0.60	142.2	4	0.18	<0.069	0.04	1.20	<0.04	<0.026	10	11.22	0.143	36	5.16
SUMP-8	04/24/2001	1.33	26	0.53	79.8	32	<0.11	<0.14	<0.076	4.00	<0.081	<0.052	28	32.00	0.230	35	8.04
SUMP-8	05/17/2001	0.21	27	0.37	72.0	0	0.38	0.06	0.36	0.49	<0.02	<0.013	8.0	9.29	0.060	23	1.38
SUMP-8	06/25/2001	1.30	55	0.24	78.0	0	<0.055	0.07	0.06	1.20	<0.04	<0.026	12	13.33	0.093	39	3.65
SUMP-8	07/24/2001	1.23	60	0.50	73.8	15	<0.11	<0.14	<0.076	1.50	<0.081	<0.052	15	16.50	0.109	29	3.18
SUMP-8	08/27/2001	1.16	63	0.36	69.6	9	0.10	0.12	0.10	1.40	<0.04	<0.026	13	14.72	0.092	34	3.13
SUMP-8	09/26/2001	1.12	61	0.50	67.2	11	0.06	0.26	0.14	1.30	<0.044	<0.028	16	17.76	0.107	30	3.22
SUMP-8	10/23/2001	1.14	48	0.35	68.4	10	0.14	0.20	0.24	0.60	<0.040	<0.026	11	12.18	0.075	27	2.02
SUMP-8	11/19/2001	0.12	50	0.57	7.2	6	0.16	<0.069	0.06	0.69	<0.040	<0.026	11	11.93	0.008	27	0.21
SUMP-8	12/26/2001	2.39	54	0.60	143.4	10	<0.079	<0.098	<0.055	1.10	<0.058	<0.037	18	19.10	0.246	37	9.11
SUMP-8	01/25/2002	1.49	38	0.33	89.4	9	<0.055	<0.069	<0.038	0.31	<0.040	<0.026	11	11.31	0.091	30	2.73
SUMP-8	02/25/2002	0.63	39	0.80	37.8	4	<0.069	<0.086	<0.048	0.97	<0.050	<0.032	17	17.97	0.061	31	1.89
SUMP-8	03/19/2002	0.56	38	0.30	33.6	17	<0.011	0.03	0.04	0.12	<0.0080	<0.0052	3.4	3.59	0.011	22	0.24
SUMP-8	04/22/2002	2.29	39	0.35	137.4	0	<0.055	<0.069	0.05	0.36	<0.040	<0.026	13	13.41	0.166	34	5.63
SUMP-8	05/13/2002	1.69	39	0.30	101.4	0	<0.028	0.05	0.08	0.20	<0.020	<0.013	7.8	8.13	0.074	21	1.56
SUMP-8	06/18/2002	1.16	40	0.35	69.6	14	2.70	<0.46	8.80	2.30	<0.27	<0.17	110	123.80	0.775	36	27.89
SUMP-8	07/01/2002	1.36	41	0.35	81.6	4	<0.028	0.06	<0.019	0.17	<0.020	<0.013	7.9	8.13	0.060	13	0.78
SUMP-8	08/05/2002	1.21	51	0.40	72.6	0	<0.022	0.07	0.02	0.21	<0.016	<0.010	7.2	7.50	0.049	35	1.71
SUMP-8	09/04/2002	1.41	44	0.35	84.6	4	<0.037	0.05	0.13	0.28	<0.027	<0.017	10	10.06	0.077	30	2.30
SUMP-8	10/01/2002	2.27	44	0.30	136.2	2	<0.022	0.05	0.06	0.15	<0.016	<0.010	4.9	5.16	0.063	27	1.71
SUMP-8	11/06/2002	1.38	58	0.25	82.8	11	0.36	<0.069	0.70	0.26	<0.040	<0.026	11.0	12.32	0.092	1	0.09
SUMP-8	12/03/2002	1.95	40	0.40	117.0	—	0.00	<0.0034	0.02	0.01	<0.002	<0.0013	0.3	0.33	0.003	27	0.09
SUMP-8	01/07/2003	2.28	40	0.35	136.8	0	<0.0028	0.00	0.06	0.01	<0.0020	<0.0013	0.2	0.27	0.003	35	0.12
SUMP-8	02/03/2003	1.96	64	0.30	117.6	0	<0.0028	0.01	0.03	0.02	<0.0020	<0.0013	0.6	0.68	0.007	27	0.19
SUMP-8	03/03/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-8	03/18/2003	2.28	49	0.25	136.8	0	0.26	0.10	1.200	0.1	<0.027	<0.017	11.0	12.68	0.156	15	2.34
SUMP-8	04/08/2003	2.09	80	1.15	125.4	0	0.03	0.06	0.100	0.2	<0.020	<0.013	6.60	7.03	0.079	21	1.66
SUMP-8	05/14/2003	2.40	60	0.30	144.0	10.00	<0.011	<0.014	0.03	0.14	<0.0081	<0.0052	4.10	4.27	0.065	36	1.99
SUMP-8	06/09/2003	2.16	65	0.45	129.6	0.10	<0.022	0.06	0.32	0.08	<0.016	<0.010	4.70	5.16	0.060	26	1.56
SUMP-8	07/09/2003	3.12	61	0.35	67.3	4.70	<0.028	<0.034	0	.0	<0.020	<0.013	6	6.46	0.039	30	1.17
SUMP-8	08/12/2003	2.08	50	0.45	124.8	4.20	<0.055	0	0	1	<0.040	<0.026	15	15.73	0.177	34	6.00
SUMP-8	09/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SUMP-8	10/13/2003	1.79	60	0.45	107.4	17.10	<0.28	<0.34	<0.19	0.22	<0.20	<0.13	55.0	55.22	0.533	35	18.66
SUMP-8	11/11/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	29	0.00
SUMP-8	12/08/2003	2.66	55	0.50	159.6	0.20	0.03	0.07	0.50	0.16	<0.016	<0.010	7.0	7.76	0.111	27	3.00
SUMP-8	01/12/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-8	02/09/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-8	03/08/2004	1.38	45	0.50	82.8	0.30	<0.016	0.03	0.03	0.16	<0.012	<0.0074	4.0	4.22	0.031	28	0.88
SUMP-8	04/12/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-8	05/10/2004	2.55	55	0.35	153.0	0.90	<0.016	0.03	0.10	0.10	<0.012	<0.0074	3.6	3.83	0.053	28	1.47
SUMP-8	07/01/2004	1.90	60	0.30	114.0	2.80	—	—	—	—	—	—	—	3.83	0.039	52	2.04
SUMP-8	10/04/2004	1.33	83	0	79.8	4	<0.022	0.06	0.06	0.23	<0.016	<0.010	6.3	6.65	0.048	95	4.53
														SUMP 8 TOTAL LBS REMOVED			346.44

*SUMP-8 SVE System shut down in December 2002 and February 2003

Laboratory analysis by EPA Method TO-14
Data not collected during August 2000 due to strike at York facility
— = No reading recorded

Table 1
Sump Area Flow & VOC Data
Coleman Operable Unit
Wichita, Kansas

SITE	DATE	FLOW scfs	Blower Vacuum "H2O	Differential Pressure "H2O	FLOW scfm	PID ppmv	CONCENTRATIONS 1,1,1-TCA ug/l	PCE ug/l	Toluene ug/l	cis-1,2-DCE ug/l	1,1-DCE ug/l	Vinyl Chloride ug/l	TCE ug/l	TOTAL VOCs ug/l	REMOVAL RATE lbs/day	NUMBER OF DAYS	TOTAL LBS REMOVED PER PERIOD
SUMP-9	05/17/2000	0.47	67	0.04	28.2	200	7.80	2.8	<1.5	56	<1.6	<1	550	616.60	1.563	0.83	1.30
SUMP-9	05/18/2000	0.45	70	0.05	27.0	92	3.80	<1.1	7.5	23	0.75	<0.43	190	225.05	0.546	1	0.55
SUMP-9	05/23/2000	0.47	68	0.07	28.2	47	1.70	0.53	4.5	10	0.28	<0.17	100	117.01	0.297	5	1.48
SUMP-9	05/30/2000	0.56	75	0.09	33.6	47	0.95	<0.34	2.4	6.2	<0.2	0.22	71	80.77	0.244	7	1.71
SUMP-9	06/05/2000	0.44	78	0.04	26.4	34	0.40	<0.34	0.98	5.20	<0.2	0.27	42	48.85	0.116	6	0.70
SUMP-9	06/28/2000	0.26	75	0.02	15.6	7	0.31	<0.11	0.30	2.20	<0.062	<0.040	20	22.81	0.032	23	0.74
SUMP-9	07/19/2000	0.23	86	0.06	13.8	19	0.81	<0.28	<0.15	5.20	<0.16	<0.10	47	53.01	0.066	21	1.38
SUMP-9	09/25/2000	0.31	100+	0.02	18.6	36	1.20	<0.34	<0.19	9.40	<0.20	<0.13	41	51.60	0.086	68	5.87
SUMP-9	10/23/2000	0.33	100	0.11	19.8	14	0.35	<0.34	<0.19	10.00	<0.20	<0.13	69	79.35	0.141	28	3.96
SUMP-9	11/30/2000	0.36	100+	0.08	21.6	29	0.23	<0.17	<0.096	6.30	<0.1	<0.65	38	44.53	0.086	38	3.29
SUMP-9	12/12/2000	0.00	—	—	0.0	0	—	—	—	—	—	—	—	44.53	0.000	12	0.00
SUMP-9	01/25/2001	0.55	100+	0.10	33.0	7	0.13	0.150	0.08	1.70	<0.040	<0.026	10	12.06	0.036	44	1.57
SUMP-9	02/12/2001	0.99	100	0.30	59.4	24	0.39	0.220	<0.038	4.20	<0.040	<0.026	21	25.81	0.138	18	2.48
SUMP-9	03/20/2001	0.63	62	0.20	37.8	4	0.09	<0.069	0.05	2.00	<0.04	<0.026	11	13.14	0.045	36	1.61
SUMP-9	04/24/2001	—	—	—	0.00	—	—	—	—	—	—	—	—	13.14	0.000	35	0.00
SUMP-9	05/17/2001	0.53	38	0.02	31.8	0	0.35	<0.026	0.31	1.00	<0.016	<0.01	7	9.06	0.026	23	0.60
SUMP-9	06/25/2001	0.35	70	0.12	21.0	7	0.12	<0.092	0.06	2.50	<0.054	<0.035	15	17.68	0.033	39	1.30
SUMP-9	07/24/2001	0.40	70	0.02	24.0	10	0.22	<0.14	0.08	2.40	<0.081	<0.052	16	18.70	0.040	29	1.17
SUMP-9	08/27/2001	0.52	70	3.28	31.2	27	1.20	<0.28	1.90	1.50	<0.16	<0.10	43	47.60	0.134	34	4.54
SUMP-9	09/26/2001	0.62	Broken	0.02	37.2	16	<0.024	<0.030	0.02	0.17	<0.017	<0.011	1.4	1.59	0.005	30	0.16
SUMP-9	10/23/2001	0.36	69	0.19	21.6	15	0.24	0.20	0.32	1.50	<0.040	<0.026	13	15.26	0.030	27	0.80
SUMP-9	11/19/2001	0.79	75	0.20	47.4	14	0.46	<0.14	0.11	2.40	<0.081	<0.052	20	22.97	0.098	27	2.64
SUMP-9	12/26/2001	1.04	75	0.25	62.4	21	0.12	<0.14	<0.076	1.90	<0.081	<0.052	24	26.02	0.146	37	5.40
SUMP-9	01/25/2002	0.53	74	0.20	31.8	9	<0.055	<0.069	<0.038	0.77	<0.040	<0.026	14	14.77	0.042	30	1.27
SUMP-9	02/25/2002	0.99	76	1.10	59.4	4	<0.055	<0.069	0.04	0.92	<0.040	<0.026	12	12.96	0.069	31	2.15
SUMP-9	03/19/2002	1.09	73	0.07	65.4	15	0.01	0.021	0.05	0.27	<0.0080	<0.0052	2.9	3.25	0.019	22	0.42
SUMP-9	04/22/2002	0.51	73	0.09	30.6	0	<0.079	<0.098	<0.055	1.20	<0.058	<0.037	20	21.20	0.058	34	1.98
SUMP-9	05/13/2002	0.48	72	0.09	28.8	0	0.02	0.024	0.09	0.11	<0.0081	<0.0052	3.0	3.24	0.008	21	0.18
SUMP-9	06/18/2002	0.61	70	0.07	36.6	7	5.10	<0.92	14.00	5.20	<0.54	<0.35	200	224.30	0.738	36	26.57
SUMP-9	07/01/2002	0.35	70	0.03	21.0	9	<0.11	<0.14	<0.076	1.20	<0.081	<0.052	25	26.20	0.049	13	0.64
SUMP-9	08/05/2002	0.56	75	0.04	33.6	1	<0.055	<0.069	<0.038	0.48	<0.040	<0.026	10	10.38	0.031	35	1.10
SUMP-9	09/04/2002	0.44	75	0.05	26.4	3	<0.074	<0.092	0.13	0.70	<0.054	<0.035	14	14.83	0.035	30	1.06
SUMP-9	10/01/2002	0.56	66	0.25	33.6	0	0.02	<0.028	0.05	0.31	<0.016	<0.010	4.6	4.96	0.015	27	0.41
SUMP-9	11/06/2002	OFF	—	—	0.0	—	—	—	—	—	—	—	0.0	0.00	0.000	36	0.00
SUMP-9	12/03/2002	1.93	80	0.05	115.8	1.30	0.00	<0.0034	0.02	0.00	<0.002	<0.0013	0.1	0.13	0.001	27	0.04
SUMP-9	01/07/2003	0.77	80	0.05	46.2	0.00	<0.0055	<0.0069	0.01	<0.0040	<0.0040	<0.0026	0.0	0.05	0.000	35	0.01
SUMP-9	02/03/2003	1.33	80	0.05	79.8	0.00	<0.0028	0.01	0.05	0.01	<0.0020	<0.0013	0.3	0.38	0.003	27	0.07
SUMP-9	03/03/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	0.0	0.00	0.000	28	0.00
SUMP-9	03/18/2003	1.11	—	0	66.6	8	0.56	<0.14	1.800	1.1	<0.081	<0.052	28.0	31.46	0.188	15	2.83
SUMP-9	04/08/2003	0.46	80	0	27.6	6	0.05	<0.034	0.140	0.5	<0.020	<0.013	8.3	8.96	0.022	21	0.47
SUMP-9	05/14/2003	0.53	80	0.06	31.8	4.10	<0.028	<0.034	0.06	0.15	<0.020	<0.013	5.3	5.51	0.016	36	0.57
SUMP-9	06/09/2003	0.51	80	0.05	30.6	8.90	0.08	<0.086	0.38	0.83	<0.050	<0.032	17.0	18.09	0.050	26	1.29
SUMP-9	07/09/2003	0.72	79	0.06	43.2	9.40	<0.11	<0.14	0.09	0.64	<0.081	<0.052	18.0	18.73	0.073	30	2.18
SUMP-9	08/12/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	34	0.00
SUMP-9	09/08/2003	0.80	80	0.06	48.0	9.30	<0.069	<0.086	0.06	0.68	<0.050	<0.032	20.0	20.74	0.089	27	2.42
SUMP-9	10/13/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SUMP-9**	11/11/2003	0.66	75	0.06	39.6	1.00	<0.069	<0.086	<0.048	0.38	<0.050	<0.032	12.0	12.38	0.044	29	1.28
SUMP-9	12/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SUMP-9	01/12/2004	0.61	75	0.07	36.6	1.90	<0.092	<0.11	0.20	0.52	<0.067	<0.043	19.0	19.72	0.065	35	2.27
SUMP-9	02/09/2004	0.48	75	0.06	28.8	2.90	<0.069	<0.086	<0.048	0.64	<0.050	<0.032	19.0	19.64	0.051	28	1.42
SUMP-9	03/08/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SUMP-9	04/12/2004	1.16	90	0.06	69.6	55.20	<0.069	<0.086	<0.048	0.45	<0.050	<0.032	14.00	14.45	0.090	35	3.16
SUMP-9	05/10/2004	1.16	—	—	69.6	—	—	—	—	—	—	—	—	14.45	0.090	28	2.53
SUMP-9	07/01/2004	1.09	75	0.23	65.4	7.70	—	—	—	—	—	—	—	14.45	0.085	52	4.42
SUMP-9	10/04/2004	1.24	73	0.25	74.4	7.10	<0.068	<0.085	0.05	0.29	<0.050	<0.032	13.0	14.62	0.098	95	9.29
															SUMP 9 TOTAL LBS REMOVED		113.26

*SUMP-9 SVE System shut down in December 2002 and February 2003 **SUMP 9 sample date November 25, 2003 due to laboratory analysis exceeding calibration range

Laboratory analyses by EPA Method TO-14
Data not collected during August 2000 due to strike at York facility.
— = No reading recorded

Table 1
Sump Area Flow & VOC Data
Coleman Operable Unit
Wichita, Kansas

SITE	DATE	FLOW scfs	Blower Vacuum "H2O	Differential Pressure "H2O	FLOW scfm	PID ppmv	CONCENTRATIONS 1,1,1-TCA ug/l	PCE ug/l	Toluene ug/l	cis-1,2-DCE ug/l	1,1-DCE ug/l	Vinyl Chloride ug/l	TCE ug/l	TOTAL VOCs ug/l	REMOVAL RATE lbs/day	NUMBER OF DAYS	TOTAL LBS REMOVED PER PERIOD
SOUTHFIELD	05/17/2000	0.38	75	0.05	22.8	1735	7.1	<2.8	<1.5	490	<1.6	<1	480.0	997.10	2.044	0.83	1.70
SOUTHFIELD	05/18/2000	0.23	75	0.04	13.8	2000*	23	<28	2300	3600	140	910	5100	12073	14.980	1	14.98
SOUTHFIELD	05/23/2000	0.41	75	0.05	24.6	2000*	82	<69	1900	3700	150	730	14000	20562	45.480	5	227.40
SOUTHFIELD	05/30/2000	0.43	75	0.095	25.8	2000*	87	<76	1800	3000	94	520	16000	21501	49.877	7	349.14
SOUTHFIELD	06/05/2000	0.36	75	0.04	21.6	2000*	<75	<93	2300	3000	72	620	10000	18992	36.884	6	221.31
SOUTHFIELD	06/28/2000	0.25	77	0.01	15.0	2000*	52.00	<34	3400	2500	58	430	8500	14940	20.149	23	463.43
SOUTHFIELD	07/19/2000	0.24	88	0.19	14.4	2000*	87.00	<28	<15	1500	72	170	3800	5629	7.288	21	153.05
SOUTHFIELD	09/25/2000	1.99	51	0.60	119.4	151	4.20	<0.69	81	33	1	4	130	253	2.717	68	184.77
SOUTHFIELD	10/23/2000	1.91	53	0.71	114.6	103	5.10	<0.69	75	34	2	5	160	280	2.887	28	80.84
SOUTHFIELD	11/30/2000	0.82	87	0.13	49.2	277	6.80	<1.4	69	41	2	5	360	484	2.142	38	81.47
SOUTHFIELD	12/12/2000	0.60	70	0.10	34.6	45.9	1.20	<0.34	9	6	0	0	81	97	0.305	12	3.66
SOUTHFIELD	01/25/2001	0.00	—	—	0.0	0.00	—	—	—	—	—	—	—	97	0.000	44	0.00
SOUTHFIELD	02/12/2001	0.00	—	—	0.0	0.00	—	—	—	—	—	—	—	97	0.000	18	0.00
SOUTHFIELD	03/20/2001	0.36	71	0.10	21.6	148	17.00	<1.4	150	96	8.20	25.00	310	606	1.177	36	42.38
SOUTHFIELD	04/24/2001	0.41	64.3	0.05	24.6	209	23.00	<1.1	170	53	6.40	9.80	220	482	1.067	35	37.33
SOUTHFIELD	05/17/2001	0.59	64.6	0.05	35.4	0.00	18.00	<1.4	130	38	4.00	4.80	180	375	1.193	23	27.44
SOUTHFIELD	06/25/2001	0.58	—	0.08	34.8	98.8	6.30	0.49	66	22	1.80	2.30	91	190	0.594	39	23.17
SOUTHFIELD	07/24/2001	0.63	—	0.30	37.8	17.8	0.74	<0.17	3.1	3.8	0.14	0.17	32	40	0.136	29	3.94
SOUTHFIELD	08/27/2001	2.02	39	—	121.2	14.0	0.63	<0.14	2.2	5.2	0.17	0.23	25	33	0.364	34	12.39
SOUTHFIELD	09/26/2001	1.95	37	0.46	111	13.2	1.10	0.34	4.1	6.5	0.34	0.37	30	43	0.427	30	12.80
SOUTHFIELD	10/23/2001	2.16	—	0.60	129.6	18.1	0.44	0.27	1.4	1.9	0.11	0.13	13	17.25	0.201	27	5.43
SOUTHFIELD	11/19/2001	2.06	40	0.81	123.6	6.3	0.39	<0.069	0.6	1.8	0.08	0.07	12	14.89	0.165	27	4.47
SOUTHFIELD	12/26/2001	1.94	40	0.75	116.4	13.0	0.49	0.17	2.3	3.0	0.13	0.08	18	24.17	0.253	37	9.36
SOUTHFIELD	01/25/2002	0.00	0	0.00	0.00	—	—	—	—	—	—	—	—	0.00	0.000	30	0.00
SOUTHFIELD	02/25/2002	0.00	0	0.00	0.00	—	—	—	—	—	—	—	—	0.00	0.000	31	0.00
SOUTHFIELD	03/19/2002	1.30	59	0.15	78.18	3.6	0.50	<0.086	0.4	3.0	0.23	0.40	19	23.48	0.165	22	3.63
SOUTHFIELD	04/22/2002	0.73	40	0.25	43.6	0.00	1.00	<0.14	0.8	4.0	0.41	0.30	28	34.53	0.135	34	4.80
SOUTHFIELD	05/13/2002	1.60	50	0.25	96.0	2.20	0.02	0.03	0.1	0.1	<0.0081	<0.0052	3	3.34	0.029	21	0.61
SOUTHFIELD	06/18/2002	0.42	66	0.04	25.2	33.6	12.00	<1.4	19.0	32.0	3.00	1.50	360	427.50	0.969	36	34.87
SOUTHFIELD	07/01/2002	0.84	75	0.65	50.4	10.4	1.80	<0.34	0.7	11.0	0.58	0.23	79	93.28	0.423	13	5.50
SOUTHFIELD	08/05/2002	0.93	70	0.06	55.8	8.0	1.00	<0.14	1.7	5.7	0.29	0.33	33	42.02	0.211	35	7.38
SOUTHFIELD	09/04/2002	1.01	70	0.07	60.6	23.9	1.70	<0.34	1.4	8.2	0.41	0.14	71	82.85	0.451	30	13.54
SOUTHFIELD	10/01/2002	0.86	70	0.10	51.6	21.7	0.82	<0.34	1.5	5.8	0.28	<0.13	40	48.40	0.225	27	6.06
SOUTHFIELD	11/06/2002	0.43	84	0.04	25.8	405	11.00	<1.4	14.0	11.0	1.00	<0.52	260	297.00	0.689	36	24.80
SOUTHFIELD	12/03/2002	0.35	80	0.03	21.0	2.7	0.68	0.02	0.7	1.5	0.31	0.34	2	5.90	0.011	27	0.30
SOUTHFIELD	01/07/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SOUTHFIELD	02/03/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SOUTHFIELD	03/03/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SOUTHFIELD	03/18/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	15	0.00
SOUTHFIELD	04/08/2003	0.51	84	0.08	30.6	55.5	3.60	0.60	11.0	17.0	2.60	1.20	83	119.00	0.327	21	6.88
SOUTHFIELD	05/14/2003	0.40	81	0.06	24.0	40.5	1.20	0.35	12.0	6.2	0.53	0.26	31	51.54	0.111	36	4.00
SOUTHFIELD	06/09/2003	0.43	80	0.07	25.8	20.00	0.88	0.21	8.0	4.4	0.32	0.23	19	33.04	0.077	26	1.99
SOUTHFIELD	07/09/2003	1.05	74	0.90	63.0	80.9	7.80	1.30	56.0	32.0	2.30	1.60	120	220.00	1.246	30	37.39
SOUTHFIELD	08/12/2003	0.44	80	0.08	26.4	100	6.70	1.70	39.0	30.0	2.00	0.88	140	220.28	0.523	34	17.78
SOUTHFIELD	09/08/2003	0.43	85	0.07	25.8	19.7	0.98	<0.23	<0.13	5.4	0.16	<0.087	53	59.54	0.138	27	3.73
SOUTHFIELD	10/13/2003	0.25	82	0.04	15.0	58.2	4.00	1.40	29.0	24.0	1.50	2.70	140	202.60	0.273	35	9.56
SOUTHFIELD	11/11/2003	0.19	83	0.08	11.4	22	1.80	0.34	9.1	12.0	0.74	1.30	38	63.28	0.065	29	1.88
SOUTHFIELD	12/08/2003	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	27	0.00
SOUTHFIELD	01/12/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	35	0.00
SOUTHFIELD	02/09/2004	OFF	—	—	0.0	—	—	—	—	—	—	—	—	0.00	0.000	28	0.00
SOUTHFIELD	03/08/2004	0.51	85	0.06	30.6	25.7	3.80	0.53	7.9	13.0	1.50	1.60	41	69.33	0.191	28	5.34
SOUTHFIELD	04/12/2004	0.39	82	0.08	23.4	9.8	3.90	<0.23	3.8	11.0	1.80	0.82	37	58.32	0.123	35	4.29
SOUTHFIELD	05/10/2004	0.39	—	—	23.4	—	—	—	—	—	—	—	—	58.32	0.123	28	3.44
SOUTHFIELD	07/01/2004	0.40	84	0.04	24.0	17.40	—	—	—	—	—	—	—	58.32	0.126	52	6.54
SOUTHFIELD	10/04/2004	1.01	75	0.21	60.6	23.20	0.21	0.03	0.33	0.69	0.06	0.04	3.80	5.36	0.029	95	2.77
														SOUTHFIELD TOTAL LBS REMOVED			2167.28

SOUTHFIELD system was not operated in January and February 2002, and January, February, and March 2003 due to cold weather

Laboratory analysis by EPA Method TO-14
Data not collected during August 2000 due to issue at York facility
* Maximum reading

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	05/24/00	23.5	<0.5	100	23.5	0.47	1.76148	41.39478	8000	0.0000002	1.13	0.00
PCE	05/24/00	1	<0.5	100	1	0.47	1.7766	1.7766	8000	0.0000000	0.05	0.00
111TCA	05/24/00	<0.5	<0.5	NC	0	0.47	1.7766	0	8000	0.0000000	0.00	0.00
11DCE	05/24/00	4.7	<0.5	100	4.7	0.47	1.7766	8.35002	8000	0.0000000	0.23	0.00
Vinyl Chloride	05/24/00	124	<0.5	100	124	0.47	1.7766	220.2984	8000	0.0000010	6.03	0.01
Toluene	05/24/00	<0.5	<0.5	NC	0	0.47	1.7766	0	8000	0.0000000	0.00	0.00
cis12DCE	05/24/00	<0.5	<0.5	NC	0	0.47	1.7766	0	8000	0.0000000	0.00	0.00
TCE	06/12/00	205	<0.5	100	205	199.00	752.22	154205.1	8000	0.0006807	7994.10	17.63
PCE	06/12/00	1.6	<0.5	100	1.6	199.00	752.22	1203.552	8000	0.0000053	62.39	0.14
111TCA	06/12/00	3.4	<0.5	100	3.4	199.00	752.22	2557.548	8000	0.0000113	132.59	0.29
11DCE	06/12/00	3.8	<0.5	100	3.8	199.00	752.22	2858.436	8000	0.0000126	148.18	0.33
Vinyl Chloride	06/12/00	<0.5	<0.5	NC	0	199.00	752.22	0	8000	0.0000000	0.00	0.00
Toluene	06/12/00	<0.5	<0.5	NC	0	199.00	752.22	0	8000	0.0000000	0.00	0.00
cis12DCE	06/12/00	27.8	<0.5	100	27.8	199.00	752.22	20911.716	8000	0.0000923	1084.08	2.39
TCE	07/18/00	154	<0.5	100	154	204.00	771.12	118752.48	8000	0.0005242	5985.21	13.20
PCE	07/18/00	<0.5	<0.5	NC	0	204.00	771.12	0	8000	0.0000000	0.00	0.00
111TCA	07/18/00	33.1	<0.5	100	33.1	204.00	771.12	25524.072	8000	0.0001127	1286.43	2.84
11DCE	07/18/00	5.7	<0.5	100	5.7	204.00	771.12	4395.384	8000	0.0000194	221.53	0.49
Vinyl Chloride	07/18/00	<0.5	<0.5	NC	0	204.00	771.12	0	8000	0.0000000	0.00	0.00
Toluene	07/18/00	<0.5	<0.5	NC	0	204.00	771.12	0	8000	0.0000000	0.00	0.00
cis12DCE	07/18/00	5.2	<0.5	100	5.2	204.00	771.12	4009.824	8000	0.0000177	202.10	0.45
TCE	08/22/00	124	<0.5	100	124	207.00	782.46	97025.04	8000	0.0004283	3912.10	8.63
PCE	08/22/00	0.9	<0.5	100	0.9	207.00	782.46	704.214	8000	0.0000031	28.39	0.06
111TCA	08/22/00	22	<0.5	100	22	207.00	782.46	17214.12	8000	0.0000760	694.08	1.53
11DCE	08/22/00	5.2	<0.5	100	5.2	207.00	782.46	4068.792	8000	0.0000180	164.06	0.36
Vinyl Chloride	08/22/00	<0.5	<0.5	NC	0	207.00	782.46	0	8000	0.0000000	0.00	0.00
Toluene	08/22/00	<0.5	<0.5	NC	0	207.00	782.46	0	8000	0.0000000	0.00	0.00
cis12DCE	08/22/00	4.2	<0.5	100	4.2	207.00	782.46	3286.332	8000	0.0000145	132.51	0.29

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	09/19/00	124	<0.5	100	124	202.00	763.56	94681.44	8000	0.0004180	3272.23	7.22
PCE	09/19/00	0.9	<0.5	100	0.9	202.00	763.56	687.204	8000	0.0000030	23.75	0.05
111TCA	09/19/00	21.8	<0.5	100	21.8	202.00	763.56	16645.608	8000	0.0000735	575.28	1.27
11DCE	09/19/00	5.1	<0.5	100	5.1	202.00	763.56	3894.156	8000	0.0000172	134.58	0.30
Vinyl Chloride	09/19/00	<0.5	<0.5	NC	0	202.00	763.56	0	8000	0.0000000	0.00	0.00
Toluene	09/19/00	<0.5	<0.5	NC	0	202.00	763.56	0	8000	0.0000000	0.00	0.00
cis12DCE	09/19/00	4.4	<0.5	100	4.4	202.00	763.56	3359.664	8000	0.0000148	116.11	0.26
TCE	10/13/00	136	<0.5	100	136	206.00	778.68	105900.48	8000	0.0004675	5032.46	11.10
PCE	10/13/00	<0.5	<0.5	NC	0	206.00	778.68	0	8000	0.0000000	0.00	0.00
111TCA	10/13/00	21.8	<0.5	100	21.8	206.00	778.68	16975.224	8000	0.0000749	806.67	1.78
11DCE	10/13/00	4.1	<0.5	100	4.1	206.00	778.68	3192.588	8000	0.0000141	151.71	0.33
Vinyl Chloride	10/13/00	<0.5	<0.5	NC	0	206.00	778.68	0	8000	0.0000000	0.00	0.00
Toluene	10/13/00	<0.5	<0.5	NC	0	206.00	778.68	0	8000	0.0000000	0.00	0.00
cis12DCE	10/13/00	4.3	<0.5	100	4.3	206.00	778.68	3348.324	8000	0.0000148	159.11	0.35
TCE	11/15/00	153	<0.5	100	153	207.00	782.46	119716.38	8000	0.0005285	12067.57	26.61
PCE	11/15/00	0.8	<0.5	100	0.8	207.00	782.46	625.968	8000	0.0000028	63.10	0.14
111TCA	11/15/00	27	<0.5	100	27	207.00	782.46	21126.42	8000	0.0000933	2129.57	4.70
11DCE	11/15/00	6.7	<0.5	100	6.7	207.00	782.46	5242.482	8000	0.0000231	528.45	1.17
Vinyl Chloride	11/15/00	<0.5	<0.5	NC	0	207.00	782.46	0	8000	0.0000000	0.00	0.00
Toluene	11/15/00	<0.5	<0.5	NC	0	207.00	782.46	0	8000	0.0000000	0.00	0.00
cis12DCE	11/15/00	6.7	<0.5	100	6.7	207.00	782.46	5242.482	8000	0.0000231	528.45	1.17
TCE	1/24/2001	77.7	<0.5	100	77.7	200.00	756	58741.2	8000	0.000259302	2453.07	5.41
PCE	1/24/2001	0.8	<0.5	100	0.8	200.00	756	604.8	8000	2.66977E-06	25.26	0.06
TCA111	1/24/2001	18.9	<0.5	100	18.9	200.00	756	14288.4	8000	6.30734E-05	596.69	1.32
1,1-DCE	1/24/2001	4.5	<0.5	100	4.5	200.00	756	3402	8000	1.50175E-05	142.07	0.31
Vinyl chloride	1/24/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
cis-1,2-DCE	1/24/2001	3.5	<0.5	100	3.5	200.00	756	2646	8000	1.16803E-05	110.50	0.24

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	2/22/2001	3.2	<0.5	100	3.2	200.00	756	2419.2	8000	1.06791E-05	66.19	0.15
PCE	2/22/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
TCA111	2/22/2001	11	<0.5	100	11	200.00	756	8316	8000	3.67094E-05	227.53	0.50
1,1-DCE	2/22/2001	2.3	<0.5	100	2.3	200.00	756	1738.8	8000	7.6756E-06	47.57	0.10
Vinyl chloride	2/22/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
cis-1,2-DCE	2/22/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
TCE	3/13/2001	74	<0.5	100	74	200.00	756	55944	8000	0.000246954	2900.18	6.39
PCE	3/13/2001	0.9	<0.5	100	0.9	200.00	756	680.4	8000	3.0035E-06	35.27	0.08
TCA111	3/13/2001	23.1	<0.5	100	23.1	200.00	756	17463.6	8000	7.70897E-05	905.33	2.00
1,1-DCE	3/13/2001	5.2	<0.5	100	5.2	200.00	756	3931.2	8000	1.73535E-05	203.80	0.45
Vinyl chloride	3/13/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
cis-1,2-DCE	3/13/2001	3.4	<0.5	100	3.4	200.00	756	2570.4	8000	1.13465E-05	133.25	0.29
TCE	4/18/2001	75.3	<0.5	100	75.3	200.00	756	56926.8	8000	0.000251293	1639.51	3.62
PCE	4/18/2001	0.9	<0.5	100	0.9	200.00	756	680.4	8000	3.0035E-06	19.60	0.04
TCA111	4/18/2001	18.2	<0.5	100	18.2	200.00	756	13759.2	8000	6.07374E-05	396.27	0.87
1,1-DCE	4/18/2001	5	<0.5	100	5	200.00	756	3780	8000	1.66861E-05	108.87	0.24
Vinyl chloride	4/18/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
cis-1,2-DCE	4/18/2001	3.2	<0.5	100	3.2	200.00	756	2419.2	8000	1.06791E-05	69.67	0.15
TCE	5/8/2001	81	<0.5	100	81	200.00	756	61236	8000	0.000270315	2469.07	5.44
PCE	5/8/2001	0.8	<0.5	100	0.8	200.00	756	604.8	8000	2.66977E-06	24.39	0.05
TCA111	5/8/2001	16.3	<0.5	100	16.3	200.00	756	12322.8	8000	5.43967E-05	496.86	1.10
1,1-DCE	5/8/2001	4.7	<0.5	100	4.7	200.00	756	3553.2	8000	1.56849E-05	143.27	0.32
Vinyl chloride	5/8/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
cis-1,2-DCE	5/8/2001	3.2	<0.5	100	3.2	200.00	756	2419.2	8000	1.06791E-05	97.54	0.22
TCE	6/5/2001	108	<0.5	100	108	200.00	756	81648	8000	0.00036042	6584.18	14.52
PCE	6/5/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
TCA111	6/5/2001	22	<0.5	100	22	200.00	756	16632	8000	7.34188E-05	1341.22	2.96
1,1-DCE	6/5/2001	5.4	<0.5	100	5.4	200.00	756	4082.4	8000	1.8021E-05	329.21	0.73
Vinyl chloride	6/5/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
cis-1,2-DCE	6/5/2001	4.1	<0.5	100	4.1	200.00	756	3099.6	8000	1.36826E-05	249.96	0.55

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	Monthly Air Emissions (g)	Monthly Air Emissions (lbs)
TCE	7/31/2001	150	<0.5	100	150	150.00	567	85050	8000	0.000375437	1837.10	4.05
PCE	7/31/2001	<0.5	<0.5	NC	0	150.00	567	0	8000	0	0.00	0.00
TCA111	7/31/2001	26.2	<0.5	100	26.2	150.00	567	14855.4	8000	6.55763E-05	320.88	0.71
1,1-DCE	7/31/2001	7.1	<0.5	100	7.1	150.00	567	4025.7	8000	1.77707E-05	86.96	0.19
Vinyl chloride	7/31/2001	<0.5	<0.5	NC	0	150.00	567	0	8000	0	0.00	0.00
cis-1,2-DCE	7/31/2001	5.1	<0.5	100	5.1	150.00	567	2891.7	8000	1.27649E-05	62.46	0.14
TCE	8/15/2001	152	<0.5	100	152	208.71	788.9238	119916.4176	8000	0.000529348	5871.19	12.95
PCE	8/15/2001	0.6	<0.5	100	0.6	208.71	788.9238	473.35428	8000	2.08953E-06	23.18	0.05
TCA111	8/15/2001	24.1	<0.5	100	24.1	208.71	788.9238	19013.06358	8000	8.39295E-05	930.89	2.05
1,1-DCE	8/15/2001	6.4	<0.5	100	6.4	208.71	788.9238	5049.11232	8000	2.22883E-05	247.21	0.55
Vinyl chloride	8/15/2001	<0.5	<0.5	NC	0	208.71	788.9238	0	8000	0	0.00	0.00
cis-1,2-DCE	8/15/2001	5.1	<0.5	100	5.1	208.71	788.9238	4023.51138	8000	1.7761E-05	196.99	0.43
TCE	9/18/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
PCE	9/18/2001	0.7	<0.5	100	0.7	200.00	756	529.2	8000	2.33605E-06	22.86	0.05
TCA111	9/18/2001	15.3	<0.5	100	15.3	200.00	756	11566.8	8000	5.10594E-05	499.69	1.10
1,1-DCE	9/18/2001	4.4	<0.5	100	4.4	200.00	756	3326.4	8000	1.46838E-05	143.70	0.32
Vinyl chloride	9/18/2001	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
cis-1,2-DCE	9/18/2001	3.8	<0.5	100	3.8	200.00	756	2872.8	8000	1.26814E-05	124.11	0.27
TCE	10/18/2001	10.5	<0.5	100	10.5	158.22	598.0716	6279.7518	8000	2.77208E-05	298.42	0.66
PCE	10/18/2001	<0.5	<0.5	NC	0	158.22	598.0716	0	8000	0	0.00	0.00
TCA111	10/18/2001	5.9	<0.5	100	5.9	158.22	598.0716	3528.62244	8000	1.55764E-05	167.68	0.37
1,1-DCE	10/18/2001	1.7	<0.5	100	1.7	158.22	598.0716	1016.72172	8000	4.48812E-06	48.32	0.11
Vinyl chloride	10/18/2001	<0.5	<0.5	NC	0	158.22	598.0716	0	8000	0	0.00	0.00
cis-1,2-DCE	10/18/2001	<0.5	<0.5	NC	0	158.22	598.0716	0	8000	0	0.00	0.00
TCE	11/20/2001	139	<0.5	100	139	205.05	775.089	107737.371	8000	0.000475586	5585.18	12.32
PCE	11/20/2001	0.9	<0.5	100	0.9	205.05	775.089	697.5801	8000	3.07933E-06	36.16	0.08
TCA111	11/20/2001	20	<0.5	100	20	205.05	775.089	15501.78	8000	6.84297E-05	803.62	1.77
1,1-DCE	11/20/2001	6.2	<0.5	100	6.2	205.05	775.089	4805.5518	8000	2.12132E-05	249.12	0.55
Vinyl chloride	11/20/2001	<0.5	<0.5	NC	0	205.05	775.089	0	8000	0	0.00	0.00
cis-1,2-DCE	11/20/2001	5.6	<0.5	100	5.6	205.05	775.089	4340.4984	8000	1.91603E-05	225.01	0.50

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	12/26/2001	154	<0.5	100	154	198.07	748.7046	115300.5084	8000	0.000508972	5645.19	12.45
PCE	12/26/2001	<0.5	<0.5	NC	0	198.07	748.7046	0	8000	0	0.00	0.00
TCA111	12/26/2001	23.2	<0.5	100	23.2	198.07	748.7046	17369.94672	8000	7.66763E-05	850.44	1.88
1,1-DCE	12/26/2001	7.3	<0.5	100	7.3	198.07	748.7046	5465.54358	8000	2.41266E-05	267.60	0.59
Vinyl chloride	12/26/2001	<0.5	<0.5	NC	0	198.07	748.7046	0	8000	0	0.00	0.00
cis-1,2-DCE	12/26/2001	6.3	<0.5	100	6.3	198.07	748.7046	4716.83898	8000	2.08216E-05	230.94	0.51
TCE	1/29/2002	144	<0.5	100	144	208.88	789.5664	113697.5616	8000	0.000501896	3438.26	7.58
PCE	1/29/2002	1	<0.5	100	1	208.88	789.5664	789.5664	8000	3.48539E-06	23.88	0.05
TCA111	1/29/2002	19.8	<0.5	100	19.8	208.88	789.5664	15633.41472	8000	6.90107E-05	472.76	1.04
1,1-DCE	1/29/2002	6.4	<0.5	100	6.4	208.88	789.5664	5053.22496	8000	2.23065E-05	152.81	0.34
Vinyl chloride	1/29/2002	<0.5	<0.5	NC	0	208.88	789.5664	0	8000	0	0.00	0.00
cis-1,2-DCE	1/29/2002	6.2	<0.5	100	6.2	208.88	789.5664	4895.31168	8000	2.16094E-05	148.04	0.33
TCE	2/19/2002	143	<0.5	100	143	200.00	756	108108	8000	0.000477222	5915.75	13.04
PCE	2/19/2002	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
TCA111	2/19/2002	20.3	<0.5	100	20.3	200.00	756	15346.8	8000	6.77455E-05	839.79	1.85
1,1-DCE	2/19/2002	6.6	<0.5	100	6.6	200.00	756	4989.6	8000	2.20256E-05	273.03	0.60
Vinyl chloride	2/19/2002	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
cis-1,2-DCE	2/19/2002	6.2	<0.5	100	6.2	200.00	756	4687.2	8000	2.06908E-05	256.49	0.57
TCE	3/29/2002	58.5	<0.5	100	58.5	200.00	756	44226	8000	0.000195227	1528.47	3.37
PCE	3/29/2002	1.8	<0.5	100	1.8	200.00	756	1360.8	8000	6.00699E-06	47.03	0.10
TCA111	3/29/2002	17.4	<0.5	100	17.4	200.00	756	13154.4	8000	5.80676E-05	454.62	1.00
1,1-DCE	3/29/2002	4.6	<0.5	100	4.6	200.00	756	3477.6	8000	1.53512E-05	120.19	0.27
Vinyl chloride	3/29/2002	<0.5	<0.5	NC	0	200.00	756	0	8000	0	0.00	0.00
cis-1,2-DCE	3/29/2002	2.6	<0.5	100	2.6	200.00	756	1965.6	8000	8.67677E-06	67.93	0.15
TCE	4/22/2002	96.7	<0.5	100	96.7	124.46	470.4588	45493.36596	8000	0.000200822	1441.25	3.18
PCE	4/22/2002	1.6	<0.5	100	1.6	124.46	470.4588	752.73408	8000	3.3228E-06	23.85	0.05
TCA111	4/22/2002	19.7	<0.5	100	19.7	124.46	470.4588	9268.03836	8000	4.0912E-05	293.62	0.65
1,1-DCE	4/22/2002	6.1	<0.5	100	6.1	124.46	470.4588	2869.79868	8000	1.26682E-05	90.92	0.20
Vinyl chloride	4/22/2002	<0.5	<0.5	NC	0	124.46	470.4588	0	8000	0	0.00	0.00
cis-1,2-DCE	4/22/2002	4.5	<0.5	100	4.5	124.46	470.4588	2117.0646	8000	9.34538E-06	67.07	0.15

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	5/14/2002	80	<0.5	100	80	201.07	760.0446	60803.568	8000	0.0002684	3064.54	6.76
PCE	5/14/2002	0.8	<0.5	100	0.8	201.07	760.0446	608.03568	8000	0.0000027	30.65	0.07
TCA111	5/14/2002	13	<0.5	100	13	201.07	760.0446	9880.5798	8000	0.0000436	497.99	1.10
1,1-DCE	5/14/2002	3.7	<0.5	100	3.7	201.07	760.0446	2812.16502	8000	0.0000124	141.74	0.31
Vinyl chloride	5/14/2002	<0.5	<0.5	NC	0	201.07	760.0446	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	5/14/2002	3.5	<0.5	100	3.5	201.07	760.0446	2660.1561	8000	0.0000117	134.07	0.30
TCE	6/18/2002	72	<0.5	100	72	201.05	759.969	54717.768	8000	0.0002415	1103.13	2.43
PCE	6/18/2002	0.76	<0.5	100	0.76	201.05	759.969	577.57644	8000	0.0000025	11.64	0.03
TCA111	6/18/2002	14	<0.5	100	14	201.05	759.969	10639.566	8000	0.0000470	214.50	0.47
1,1-DCE	6/18/2002	4.1	<0.5	100	4.1	201.05	759.969	3115.8729	8000	0.0000138	62.82	0.14
Vinyl chloride	6/18/2002	<0.5	<0.5	NC	0	201.05	759.969	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	6/18/2002	3.9	<0.5	100	3.9	201.05	759.969	2963.8791	8000	0.0000131	59.75	0.13
TCE	7/2/2002	65	<0.5	100	65	201.39	761.2542	49481.523	8000	0.0002184	2422.65	5.34
PCE	7/2/2002	1	<0.5	100	1	201.39	761.2542	761.2542	8000	0.0000034	37.27	0.08
TCA111	7/2/2002	17	<0.5	100	17	201.39	761.2542	12941.3214	8000	0.0000571	633.62	1.40
1,1-DCE	7/2/2002	4.2	<0.5	100	4.2	201.39	761.2542	3197.26764	8000	0.0000141	156.54	0.35
Vinyl chloride	7/2/2002	<0.5	<0.5	NC	0	201.39	761.2542	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	7/2/2002	4.1	<0.5	100	4.1	201.39	761.2542	3121.14222	8000	0.0000138	152.81	0.34
TCE	8/5/2002	27	<0.5	100	27	186.59	705.3102	19043.3754	8000	0.0000841	822.68	1.81
PCE	8/5/2002	1	<0.5	100	1	186.59	705.3102	705.3102	8000	0.0000031	30.47	0.07
TCA111	8/5/2002	2.2	<0.5	100	2.2	186.59	705.3102	1551.68244	8000	0.0000068	67.03	0.15
1,1-DCE	8/5/2002	1.2	<0.5	100	1.2	186.59	705.3102	846.37224	8000	0.0000037	36.56	0.08
Vinyl chloride	8/5/2002	<0.5	<0.5	NC	0	186.59	705.3102	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	8/5/2002	1.5	<0.5	100	1.5	186.59	705.3102	1057.9653	8000	0.0000047	45.70	0.10
TCE	9/4/2002	83	<0.5	100	83	159.75	603.855	50119.965	8000	0.0002212	2020.86	4.46
PCE	9/4/2002	<1	<0.5	NC	0	159.75	603.855	0	8000	0.0000000	0.00	0.00
TCA111	9/4/2002	15	<0.5	100	15	159.75	603.855	9057.825	8000	0.0000400	365.22	0.81
1,1-DCE	9/4/2002	3.1	<0.5	100	3.1	159.75	603.855	1871.9505	8000	0.0000083	75.48	0.17
Vinyl chloride	9/4/2002	<1	<0.5	NC	0	159.75	603.855	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	9/4/2002	2.9	<0.5	100	2.9	159.75	603.855	1751.1795	8000	0.0000077	70.61	0.16

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	10/2/2002	66	<0.5	100	66	180.66	682.8948	45071.0568	8000	0.0001990	2206.71	4.87
PCE	10/2/2002	0.84	<0.5	100	0.84	180.66	682.8948	573.631632	8000	0.0000025	28.09	0.06
TCA111	10/2/2002	9.4	<0.5	100	9.4	180.66	682.8948	6419.21112	8000	0.0000283	314.29	0.69
1,1-DCE	10/2/2002	3.1	<0.5	100	3.1	180.66	682.8948	2116.97388	8000	0.0000093	103.65	0.23
Vinyl chloride	10/2/2002	<0.5	<0.5	NC	0	180.66	682.8948	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	10/2/2002	3.5	<0.5	100	3.5	180.66	682.8948	2390.1318	8000	0.0000106	117.02	0.26
TCE	11/5/2002	77	<0.5	100	77	201.04	759.9312	58514.7024	8000	0.0002583	2359.34	5.20
PCE	11/5/2002	0.73	<0.5	100	0.73	201.04	759.9312	554.749776	8000	0.0000024	22.37	0.05
TCA111	11/5/2002	12	<0.5	100	12	201.04	759.9312	9119.1744	8000	0.0000403	367.69	0.81
1,1-DCE	11/5/2002	3.4	<0.5	100	3.4	201.04	759.9312	2583.76608	8000	0.0000114	104.18	0.23
Vinyl chloride	11/5/2002	<0.5	<0.5	NC	0	201.04	759.9312	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	11/5/2002	3.2	<0.5	100	3.2	201.04	759.9312	2431.77984	8000	0.0000107	98.05	0.22
TCE	12/3/2002	74	<0.5	100	74	215.13	813.1914	60176.1636	8000	0.0002656	3032.92	6.69
PCE	12/3/2002	<1	<0.5	NC	0	215.13	813.1914	0	8000	0.0000000	0.00	0.00
TCA111	12/3/2002	6.5	<0.5	100	6.5	215.13	813.1914	5285.7441	8000	0.0000233	266.41	0.59
1,1-DCE	12/3/2002	3.9	<0.5	100	3.9	215.13	813.1914	3171.44646	8000	0.0000140	159.84	0.35
Vinyl chloride	12/3/2002	<1	<0.5	NC	0	215.13	813.1914	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	12/3/2002	3.9	<0.5	100	3.9	215.13	813.1914	3171.44646	8000	0.0000140	159.84	0.35
TCE	1/7/2003	72	<0.5	100	72	203.95	770.931	55507.032	8000	0.0002450	2158.14	4.76
PCE	1/7/2003	<1	<0.5	NC	0	203.95	770.931	0	8000	0.0000000	0.00	0.00
TCA111	1/7/2003	<1	<0.5	NC	0	203.95	770.931	0	8000	0.0000000	0.00	0.00
1,1-DCE	1/7/2003	3.6	<0.5	100	3.6	203.95	770.931	2775.3516	8000	0.0000123	107.91	0.24
Vinyl chloride	1/7/2003	<1	<0.5	NC	0	203.95	770.931	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	1/7/2003	4.1	<0.5	100	4.1	203.95	770.931	3160.8171	8000	0.0000140	122.89	0.27
TCE	2/3/2003	81	<0.5	100	81	203.22	768.1716	62221.8996	8000	0.0002747	2598.42	5.73
PCE	2/3/2003	<1	<0.5	NC	0	203.22	768.1716	0	8000	0.0000000	0.00	0.00
TCA111	2/3/2003	9.3	<0.5	100	9.3	203.22	768.1716	7143.99588	8000	0.0000315	298.34	0.66
1,1-DCE	2/3/2003	3.5	<0.5	100	3.5	203.22	768.1716	2688.6006	8000	0.0000119	112.28	0.25
Vinyl chloride	2/3/2003	<1	<0.5	NC	0	203.22	768.1716	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	2/3/2003	3.9	<0.5	100	3.9	203.22	768.1716	2995.86924	8000	0.0000132	125.11	0.28

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
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GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	3/4/2003	92	<0.5	100	92	202.09	763.9002	70278.8184	8000	0.0003102	2833.68	6.25
PCE	3/4/2003	<1	<0.5	NC	0	202.09	763.9002	0	8000	0.0000000	0.00	0.00
TCA111	3/4/2003	11	<0.5	100	11	202.09	763.9002	8402.9022	8000	0.0000371	338.81	0.75
1,1-DCE	3/4/2003	3.1	<0.5	100	3.1	202.09	763.9002	2368.09062	8000	0.0000105	95.48	0.21
Vinyl chloride	3/4/2003	<1	<0.5	NC	0	202.09	763.9002	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	3/4/2003	3.7	<0.5	100	3.7	202.09	763.9002	2826.43074	8000	0.0000125	113.96	0.25
TCE	4/1/2003	90	<0.5	100	90	199.19	752.9382	67764.438	8000	0.0002991	3317.79	7.32
PCE	4/1/2003	<1	<0.5	NC	0	199.19	752.9382	0	8000	0.0000000	0.00	0.00
TCA111	4/1/2003	13	<0.5	100	13	199.19	752.9382	9788.1966	8000	0.0000432	479.24	1.06
1,1-DCE	4/1/2003	2.5	<0.5	100	2.5	199.19	752.9382	1882.3455	8000	0.0000083	92.16	0.20
Vinyl chloride	4/1/2003	<1	<0.5	NC	0	199.19	752.9382	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	4/1/2003	2.6	<0.5	100	2.6	199.19	752.9382	1957.63932	8000	0.0000086	95.85	0.21
TCE	5/5/2003	68	<0.5	100	68	200.52	757.9656	51541.6608	8000	0.0002275	2226.63	4.91
PCE	5/5/2003	0.67	<0.5	100	0.67	200.52	757.9656	507.836952	8000	0.0000022	21.94	0.05
TCA111	5/5/2003	11	<0.5	100	11	200.52	757.9656	8337.6216	8000	0.0000368	360.19	0.79
1,1-DCE	5/5/2003	2	<0.5	100	2	200.52	757.9656	1515.9312	8000	0.0000067	65.49	0.14
Vinyl chloride	5/5/2003	<1	<0.5	NC	0	200.52	757.9656	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	5/5/2003	2.1	<0.5	100	2.1	200.52	757.9656	1591.72776	8000	0.0000070	68.76	0.15
TCE	6/4/2003	51	<0.5	100	51	161.68	611.1504	31168.6704	8000	0.0001376	1211.85	2.67
PCE	6/4/2003	0.9	<0.5	100	0.9	161.68	611.1504	550.03536	8000	0.0000024	21.39	0.05
TCA111	6/4/2003	12	<0.5	100	12	161.68	611.1504	7333.8048	8000	0.0000324	285.14	0.63
1,1-DCE	6/4/2003	3	<0.5	100	3	161.68	611.1504	1833.4512	8000	0.0000081	71.29	0.16
Vinyl chloride	6/4/2003	<1	<0.5	NC	0	161.68	611.1504	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	6/4/2003	2.8	<0.5	100	2.8	161.68	611.1504	1711.22112	8000	0.0000076	66.53	0.15
TCE	7/1/2003	66	<0.5	100	66	205.42	776.4876	51248.1816	8000	0.0002262	2509.14	5.53
PCE	7/1/2003	0.81	<0.5	100	0.81	205.42	776.4876	628.954956	8000	0.0000028	30.79	0.07
TCA111	7/1/2003	11	<0.5	100	11	205.42	776.4876	8541.3636	8000	0.0000377	418.19	0.92
1,1-DCE	7/1/2003	2.9	<0.5	100	2.9	205.42	776.4876	2251.81404	8000	0.0000099	110.25	0.24
Vinyl chloride	7/1/2003	<0.5	<0.5	NC	0	205.42	776.4876	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	7/1/2003	2.5	<0.5	100	2.5	205.42	776.4876	1941.219	8000	0.0000086	95.04	0.21

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	8/4/2003	73	<0.5	100	73	191.13	722.4714	52740.4122	8000	0.0002328	2202.47	4.86
PCE	8/4/2003	<1	<0.5	NC	0	191.13	722.4714	0	8000	0.0000000	0.00	0.00
TCA111	8/4/2003	8.3	<0.5	100	8.3	191.13	722.4714	5996.51262	8000	0.0000265	250.42	0.55
1,1-DCE	8/4/2003	3	<0.5	100	3	191.13	722.4714	2167.4142	8000	0.0000096	90.51	0.20
Vinyl chloride	8/4/2003	<1	<0.5	NC	0	191.13	722.4714	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	8/4/2003	2.8	<0.5	100	2.8	191.13	722.4714	2022.91992	8000	0.0000089	84.48	0.19
TCE	9/2/2003	69	<0.5	100	69	196.31	742.0518	51201.5742	8000	0.0002260	3022.98	6.67
PCE	9/2/2003	<1	<0.5	NC	0	196.31	742.0518	0	8000	0.0000000	0.00	0.00
TCA111	9/2/2003	7.5	<0.5	100	7.5	196.31	742.0518	5565.3885	8000	0.0000246	328.58	0.72
1,1-DCE	9/2/2003	2.9	<0.5	100	2.9	196.31	742.0518	2151.95022	8000	0.0000095	127.05	0.28
Vinyl chloride	9/2/2003	<1	<0.5	NC	0	196.31	742.0518	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	9/2/2003	3.6	<0.5	100	3.6	196.31	742.0518	2671.38648	8000	0.0000118	157.72	0.35
TCE	10/13/2003	66	<0.5	100	66	195.87	740.3886	48865.6476	8000	0.0002157	1477.72	3.26
PCE	10/13/2003	0.8	<0.5	100	0.8	195.87	740.3886	592.31088	8000	0.0000026	17.91	0.04
TCA111	10/13/2003	9.5	<0.5	100	9.5	195.87	740.3886	7033.6917	8000	0.0000310	212.70	0.47
1,1-DCE	10/13/2003	2.9	<0.5	100	2.9	195.87	740.3886	2147.12694	8000	0.0000095	64.93	0.14
Vinyl chloride	10/13/2003	<0.5	<0.5	NC	0	195.87	740.3886	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	10/13/2003	2.8	<0.5	100	2.8	195.87	740.3886	2073.08808	8000	0.0000092	62.69	0.14
TCE	11/3/2003	75	<0.5	100	75	205.66	777.3948	58304.61	8000	0.0002574	2434.83	5.37
PCE	11/3/2003	0.84	<0.5	100	0.84	205.66	777.3948	653.011632	8000	0.0000029	27.27	0.06
TCA111	11/3/2003	11	<0.5	100	11	205.66	777.3948	8551.3428	8000	0.0000377	357.11	0.79
1,1-DCE	11/3/2003	3.2	<0.5	100	3.2	205.66	777.3948	2487.66336	8000	0.0000110	103.89	0.23
Vinyl chloride	11/3/2003	<0.5	<0.5	NC	0	205.66	777.3948	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	11/3/2003	3.9	<0.5	100	3.9	205.66	777.3948	3031.83972	8000	0.0000134	126.61	0.28
TCE	12/2/2003	91	<0.5	100	91	202.80	766.584	69759.144	8000	0.0003079	3415.45	7.53
PCE	12/2/2003	0.82	<0.5	100	0.82	202.80	766.584	628.59888	8000	0.0000028	30.78	0.07
TCA111	12/2/2003	9.6	<0.5	100	9.6	202.80	766.584	7359.2064	8000	0.0000325	360.31	0.79
1,1-DCE	12/2/2003	3.1	<0.5	100	3.1	202.80	766.584	2376.4104	8000	0.0000105	116.35	0.26
Vinyl chloride	12/2/2003	<0.5	<0.5	NC	0	202.80	766.584	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	12/2/2003	2.7	<0.5	100	2.7	202.80	766.584	2069.7768	8000	0.0000091	101.34	0.22

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	1/5/2004	84	<1.0	100	84	208.00	786.24	66044.16	8000	0.0002915	2758.04	6.08
PCE	1/5/2004	<1.0	<1.0	NC	0	208.00	786.24	0	8000	0.0000000	0.00	0.00
TCA111	1/5/2004	8.5	<1.0	100	8.5	208.00	786.24	6683.04	8000	0.0000295	279.09	0.62
1,1-DCE	1/5/2004	2.9	<1.0	100	2.9	208.00	786.24	2280.096	8000	0.0000101	95.22	0.21
Vinyl chloride	1/5/2004	<1.0	<1.0	NC	0	208.00	786.24	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	1/5/2004	3.8	<1.0	100	3.8	208.00	786.24	2987.712	8000	0.0000132	124.77	0.28
TCE	2/3/2004	85	<0.5	100	85	185.00	699.3	59440.5	8000	0.0002624	2311.08	5.10
PCE	2/3/2004	0.79	<0.5	100	0.79	185.00	699.3	552.447	8000	0.0000024	21.48	0.05
TCA111	2/3/2004	9.3	<0.5	100	9.3	185.00	699.3	6503.49	8000	0.0000287	252.86	0.56
1,1-DCE	2/3/2004	2.9	<0.5	100	2.9	185.00	699.3	2027.97	8000	0.0000090	78.85	0.17
Vinyl chloride	2/3/2004	<0.5	<0.5	NC	0	185.00	699.3	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	2/3/2004	3.7	<0.5	100	3.7	185.00	699.3	2587.41	8000	0.0000114	100.60	0.22
TCE	3/1/2004	84	<0.5	100	84	204.00	771.12	64774.08	8000	0.0002859	3264.66	7.20
PCE	3/1/2004	<1.0	<0.5	NC	0	204.00	771.12	0	8000	0.0000000	0.00	0.00
TCA111	3/1/2004	8.5	<0.5	100	8.5	204.00	771.12	6554.52	8000	0.0000289	330.35	0.73
1,1-DCE	3/1/2004	2.9	<0.5	100	2.9	204.00	771.12	2236.248	8000	0.0000099	112.71	0.25
Vinyl chloride	3/1/2004	<1.0	<0.5	NC	0	204.00	771.12	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	3/1/2004	3.8	<0.5	100	3.8	204.00	771.12	2930.256	8000	0.0000129	147.69	0.33
TCE	4/5/2004	56	<0.5	100	56	203.00	767.34	42971.04	8000	0.0001897	1794.49	3.96
PCE	4/5/2004	0.74	<0.5	100	0.74	203.00	767.34	567.8316	8000	0.0000025	23.71	0.05
TCA111	4/5/2004	7.5	<0.5	100	7.5	203.00	767.34	5755.05	8000	0.0000254	240.33	0.53
1,1-DCE	4/5/2004	2.6	<0.5	100	2.6	203.00	767.34	1995.084	8000	0.0000088	83.32	0.18
Vinyl chloride	4/5/2004	<0.5	<0.5	NC	0	203.00	767.34	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	4/5/2004	3.4	<0.5	100	3.4	203.00	767.34	2608.956	8000	0.0000115	108.95	0.24
TCE	5/4/2004	62	<0.5	100	62	198.00	748.44	46403.28	8000	0.0002048	2271.94	5.01
PCE	5/4/2004	0.75	<0.5	100	0.75	198.00	748.44	561.33	8000	0.0000025	27.48	0.06
TCA111	5/4/2004	7.1	<0.5	100	7.1	198.00	748.44	5313.924	8000	0.0000235	260.17	0.57
1,1-DCE	5/4/2004	2.2	<0.5	100	2.2	198.00	748.44	1646.568	8000	0.0000073	80.62	0.18
Vinyl chloride	5/4/2004	<0.5	<0.5	NC	0	198.00	748.44	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	5/4/2004	2.7	<0.5	100	2.7	198.00	748.44	2020.788	8000	0.0000089	98.94	0.22

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	6/7/2004	72	<0.5	100	72	201.00	759.78	54704.16	8000	0.0002415	1890.60	4.17
PCE	6/7/2004	0.77	<0.5	100	0.77	201.00	759.78	585.0306	8000	0.0000026	20.22	0.04
TCA111	6/7/2004	7	<0.5	100	7	201.00	759.78	5318.46	8000	0.0000235	183.81	0.41
1,1-DCE	6/7/2004	2.5	<0.5	100	2.5	201.00	759.78	1899.45	8000	0.0000084	65.65	0.14
Vinyl chloride	6/7/2004	<0.5	<0.5	NC	0	201.00	759.78	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	6/7/2004	2.8	<0.5	100	2.8	201.00	759.78	2127.384	8000	0.0000094	73.52	0.16
TCE	7/1/2004	59	<0.5	100	59	204.00	771.12	45496.08	8000	0.0002008	2162.00	4.77
PCE	7/1/2004	0.54	<0.5	100	0.54	204.00	771.12	416.4048	8000	0.0000018	19.79	0.04
TCA111	7/1/2004	8.3	<0.5	100	8.3	204.00	771.12	6400.296	8000	0.0000283	304.15	0.67
1,1-DCE	7/1/2004	2.3	<0.5	100	2.3	204.00	771.12	1773.576	8000	0.0000078	84.28	0.19
Vinyl chloride	7/1/2004	<1.0	<0.5	NC	0	204.00	771.12	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	7/1/2004	2.6	<0.5	100	2.6	204.00	771.12	2004.912	8000	0.0000089	95.27	0.21
TCE	8/3/2004	63	<0.5	100	63	210.00	793.8	50009.4	8000	0.0002208	2088.42	4.60
PCE	8/3/2004	0.67	<0.5	100	0.67	210.00	793.8	531.846	8000	0.0000023	22.21	0.05
TCA111	8/3/2004	6.7	<0.5	100	6.7	210.00	793.8	5318.46	8000	0.0000235	222.10	0.49
1,1-DCE	8/3/2004	2	<0.5	100	2	210.00	793.8	1587.6	8000	0.0000070	66.30	0.15
Vinyl chloride	8/3/2004	<1.0	<0.5	NC	0	210.00	793.8	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	8/3/2004	2.8	<0.5	100	2.8	210.00	793.8	2222.64	8000	0.0000098	92.82	0.20
TCE	9/1/2004	60	<0.5	100	60	104.00	393.12	23587.2	8000	0.0001041	1120.88	2.47
PCE	9/1/2004	0.59	<0.5	100	0.59	104.00	393.12	231.9408	8000	0.0000010	11.02	0.02
TCA111	9/1/2004	6.5	<0.5	100	6.5	104.00	393.12	2555.28	8000	0.0000113	121.43	0.27
1,1-DCE	9/1/2004	2.2	<0.5	100	2.2	104.00	393.12	864.864	8000	0.0000038	41.10	0.09
Vinyl chloride	9/1/2004	<1.0	<0.5	NC	0	104.00	393.12	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	9/1/2004	2.8	<0.5	100	2.8	104.00	393.12	1100.736	8000	0.0000049	52.31	0.12
TCE	10/4/2004	65	<1.0	100	65	110.00	415.8	27027	8000	0.0001193	1089.74	2.40
PCE	10/4/2004	0.66	<1.0	100	0.66	110.00	415.8	274.428	8000	0.0000012	11.07	0.02
TCA111	10/4/2004	6.8	<1.0	100	6.8	110.00	415.8	2827.44	8000	0.0000125	114.00	0.25
1,1-DCE	10/4/2004	2.6	<0.5	100	2.6	110.00	415.8	1081.08	8000	0.0000048	43.59	0.10
Vinyl chloride	10/4/2004	<2.0	<1.0	NC	0	110.00	415.8	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	10/4/2004	3.3	<1.0	100	3.3	110.00	415.8	1372.14	8000	0.0000061	55.33	0.12
TCE	11/1/2004	73	<1.0	100	73	210.00	793.8	57947.4	8000	0.0002558	2503.36	5.52
PCE	11/1/2004	0.58	<1.0	100	0.58	210.00	793.8	460.404	8000	0.0000020	19.89	0.04
TCA111	11/1/2004	5.5	<1.0	100	5.5	210.00	793.8	4365.9	8000	0.0000193	188.61	0.42
1,1-DCE	11/1/2004	2.7	<1.0	100	2.7	210.00	793.8	2143.26	8000	0.0000095	92.59	0.20
Vinyl chloride	11/1/2004	<2.5	<1.0	NC	0	210.00	793.8	0	8000	0.0000000	0.00	0.00

Table 2a
System Evaluation for North Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	RW-1 (ug/l)	AS-1-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	12/1/2004	75	<1.0	100	75		0	0	8000	0.0000000	NC	NC
PCE	12/1/2004	0.65	<1.0	100	0.65		0	0	8000	0.0000000	NC	NC
TCA111	12/1/004	8.2	<1.0	100	8.2		0	0	8000	0.0000000	NC	NC
1,1-DCE	12/1/2004	3.1	<1.0	100	3.1		0	0	8000	0.0000000	NC	NC
Vinyl chloride	12/1/2004	<2.5	<1.0	NC	0		0	0	8000	0.0000000	NC	NC
cis-1,2-DCE	12/1/2004	3.8	<1.0	100	3.8		0	0	8000	0.0000000	NC	NC

Notes: NC = Not Calculable NA = Not Available

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Total Mass Removed: 459418.51 1013.02

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	Monthly Air Emissions (g)	Monthly Air Emissions (lbs)
TCE	05/24/00	186	<0.5	100	186	337.00	1273.86	236937.96	8000	0.00104592	6482.71	14.29
PCE	05/24/00	<0.5	<0.5	NC	0	337.00	1273.86	0	8000	0.00000000	0.00	0.00
111TCA	05/24/00	3.2	<0.5	100	3.2	337.00	1273.86	4076.352	8000	0.00001799	111.53	0.25
11DCE	05/24/00	3.1	<0.5	100	3.1	337.00	1273.86	3948.966	8000	0.00001743	108.05	0.24
Vinyl Chloride	05/24/00	1.2	<0.5	100	1.2	337.00	1273.86	1528.632	8000	0.00000675	41.82	0.09
Toluene	05/24/00	<0.5	<0.5	NC	0	337.00	1273.86	0	8000	0.00000000	0.00	0.00
cis12DCE	05/24/00	26.1	<0.5	100	26.1	337.00	1273.86	33247.746	8000	0.00014677	909.67	2.01
TCE	06/12/00	154	<0.5	100	154	367.00	1387.26	213638.04	8000	0.00094306	11075.15	24.42
PCE	06/12/00	1.1	<0.5	100	1.1	367.00	1387.26	1525.986	8000	0.00000674	79.11	0.17
111TCA	06/12/00	32.1	<0.5	100	32.1	367.00	1387.26	44531.046	8000	0.00019657	2308.52	5.09
11DCE	06/12/00	6.9	<0.5	100	6.9	367.00	1387.26	9572.094	8000	0.00004225	496.22	1.09
Vinyl Chloride	06/12/00	<0.5	<0.5	NC	0	367.00	1387.26	0	8000	0.00000000	0.00	0.00
Toluene	06/12/00	<0.5	<0.5	NC	0	367.00	1387.26	0	8000	0.00000000	0.00	0.00
cis12DCE	06/12/00	5.6	<0.5	100	5.6	367.00	1387.26	7768.656	8000	0.00003429	402.73	0.89
TCE	07/18/00	212	<0.5	100	212	341.00	1288.98	273263.76	8000	0.00120627	13772.68	30.37
PCE	07/18/00	<0.5	<0.5	NC	0	341.00	1288.98	0	8000	0.00000000	0.00	0.00
111TCA	07/18/00	3.4	<0.5	100	3.4	341.00	1288.98	4382.532	8000	0.00001935	220.88	0.49
11DCE	07/18/00	3.1	<0.5	100	3.1	341.00	1288.98	3995.838	8000	0.00001764	201.39	0.44
Vinyl Chloride	07/18/00	1	<0.5	100	1	341.00	1288.98	1288.98	8000	0.00000569	64.97	0.14
Toluene	07/18/00	<0.5	<0.5	NC	0	341.00	1288.98	0	8000	0.00000000	0.00	0.00
cis12DCE	07/18/00	25.3	<0.5	100	25.3	341.00	1288.98	32611.194	8000	0.00014396	1643.63	3.62
TCE	08/22/00	177	<0.5	100	177	360.00	1360.80	240861.6	8000	0.00106324	9711.67	21.41
PCE	08/22/00	<0.5	<0.5	NC	0	360.00	1360.80	0	8000	0.00000000	0.00	0.00
111TCA	08/22/00	2.8	<0.5	100	2.8	360.00	1360.80	3810.24	8000	0.00001682	153.63	0.34
11DCE	08/22/00	3.2	<0.5	100	3.2	360.00	1360.80	4354.56	8000	0.00001922	175.58	0.39
Vinyl Chloride	08/22/00	<0.5	<0.5	NC	0	360.00	1360.80	0	8000	0.00000000	0.00	0.00
Toluene	08/22/00	<0.5	<0.5	NC	0	360.00	1360.80	0	8000	0.00000000	0.00	0.00
cis12DCE	08/22/00	23.1	<0.5	100	23.1	360.00	1360.80	31434.48	8000	0.00013876	1267.46	2.79

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions** (g)	**Monthly Air Emissions** (lbs)
TCE	09/19/00	145	<0.5	100	145	220.00	831.60	120582	8000	0.00053229	4167.37	9.19
PCE	09/19/00	<0.5	<0.5	NC	0	220.00	831.60	0	8000	0.00000000	0.00	0.00
111TCA	09/19/00	2.1	<0.5	100	2.1	220.00	831.60	1746.36	8000	0.00000771	60.36	0.13
11DCE	09/19/00	2.1	<0.5	100	2.1	220.00	831.60	1746.36	8000	0.00000771	60.36	0.13
Vinyl Chloride	09/19/00	<0.5	<0.5	NC	0	220.00	831.60	0	8000	0.00000000	0.00	0.00
Toluene	09/19/00	<0.5	<0.5	NC	0	220.00	831.60	0	8000	0.00000000	0.00	0.00
cis12DCE	09/19/00	20.6	<0.5	100	20.6	220.00	831.60	17130.96	8000	0.00007562	592.05	1.31
TCE	10/13/00	191	<0.5	100	191	341.00	1288.98	246195.18	8000	0.00108678	11699.35	25.80
PCE	10/13/00	<0.5	<0.5	NC	0	341.00	1288.98	0	8000	0.00000000	0.00	0.00
111TCA	10/13/00	2.7	<0.5	100	2.7	341.00	1288.98	3480.246	8000	0.00001536	165.38	0.36
11DCE	10/13/00	2.3	<0.5	100	2.3	341.00	1288.98	2964.654	8000	0.00001309	140.88	0.31
Vinyl Chloride	10/13/00	0.8	<0.5	100	0.8	341.00	1288.98	1031.184	8000	0.00000455	49.00	0.11
Toluene	10/13/00	<0.5	<0.5	NC	0	341.00	1288.98	0	8000	0.00000000	0.00	0.00
cis12DCE	10/13/00	23.7	<0.5	100	23.7	341.00	1288.98	30548.826	8000	0.00013485	1451.70	3.20
TCE	11/15/00	220	<0.5	100	220	292.00	1103.76	242827.2	8000	0.00107191	24477.31	53.97
PCE	11/15/00	1.2	<0.5	100	1.2	292.00	1103.76	1324.512	8000	0.00000585	133.51	0.29
111TCA	11/15/00	3.1	<0.5	100	3.1	292.00	1103.76	3421.656	8000	0.00001510	344.91	0.76
11DCE	11/15/00	3.5	<0.5	100	3.5	292.00	1103.76	3863.16	8000	0.00001705	389.41	0.86
Vinyl Chloride	11/15/00	<0.5	<0.5	NC	0	292.00	1103.76	0	8000	0.00000000	0.00	0.00
Toluene	11/15/00	<0.5	<0.5	NC	0	292.00	1103.76	0	8000	0.00000000	0.00	0.00
cis12DCE	11/15/00	32	<0.5	100	32	292.00	1103.76	35320.32	8000	0.00015591	3560.34	7.85
TCE	01/24/01	252	<0.5	100	252	366.47	1385.26	349084.6632	8000	0.00154097	14577.97	32.14
PCE	01/24/01	<0.5	<0.5	NC	0	366.47	1385.26	0	8000	0.00000000	0.00	0.00
111TCA	01/24/01	3.1	<0.5	100	3.1	366.47	1385.26	4294.29546	8000	0.00001896	179.33	0.40
11DCE	01/24/01	4.1	<0.5	100	4.1	366.47	1385.26	5679.55206	8000	0.00002507	237.18	0.52
Vinyl Chloride	01/24/01	<0.5	<0.5	NC	0	366.47	1385.26	0	8000	0.00000000	0.00	0.00
cis12DCE	01/24/01	39.1	<0.5	100	39.1	366.47	1385.26	54163.53306	8000	0.00023909	2261.90	4.99

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions** (g)	**Monthly Air Emissions** (lbs)
TCE	02/22/01	230	<0.5	100	230	372.85	1409.37	324155.79	8000	0.00143092	8869.02	19.56
PCE	02/22/01	<0.5	<0.5	NC	0	372.85	1409.37	0	8000	0.00000000	0.00	0.00
111TCA	02/22/01	<0.5	<0.5	NC	0	372.85	1409.37	0	8000	0.00000000	0.00	0.00
11DCE	02/22/01	3.8	<0.5	100	3.8	372.85	1409.37	5355.6174	8000	0.00002364	146.53	0.32
Vinyl Chloride	02/22/01	<0.5	<0.5	NC	0	372.85	1409.37	0	8000	0.00000000	0.00	0.00
cis12DCE	02/22/01	31.2	<0.5	100	31.2	372.85	1409.37	43972.4376	8000	0.00019411	1203.10	2.65
TCE	03/13/01	235	<0.5	100	235	267.41	1010.81	237540.303	8000	0.00104858	12314.26	27.15
PCE	03/13/01	<0.5	<0.5	NC	0	267.41	1010.81	0	8000	0.00000000	0.00	0.00
111TCA	03/13/01	2.8	<0.5	100	2.8	267.41	1010.81	2830.26744	8000	0.00001249	146.72	0.32
11DCE	03/13/01	3.8	<0.5	100	3.8	267.41	1010.81	3841.07724	8000	0.00001696	199.12	0.44
Vinyl Chloride	03/13/01	<0.5	<0.5	NC	0	267.41	1010.81	0	8000	0.00000000	0.00	0.00
cis12DCE	03/13/01	<0.5	<0.5	NC	0	267.41	1010.81	0	8000	0.00000000	0.00	0.00
TCE	04/18/01	237	<0.5	100	237	200.00	756.00	179172	8000	0.00079092	4902.21	10.81
PCE	04/18/01	<0.5	<0.5	NC	0	200.00	756.00	0	8000	0.00000000	0.00	0.00
111TCA	04/18/01	2.1	<0.5	100	2.1	200.00	756.00	1587.6	8000	0.00000701	43.44	0.10
11DCE	04/18/01	3.5	<0.5	100	3.5	200.00	756.00	2646	8000	0.00001168	72.40	0.16
Vinyl Chloride	04/18/01	<0.5	<0.5	NC	0	200.00	756.00	0	8000	0.00000000	0.00	0.00
cis12DCE	04/18/01	27.5	<0.5	100	27.5	200.00	756.00	20790	8000	0.00009177	568.82	1.25
TCE	05/07/01	210	<0.5	100	210	200.00	756.00	158760	8000	0.00070082	6629.91	14.62
PCE	05/07/01	<0.5	<0.5	NC	0	200.00	756.00	0	8000	0.00000000	0.00	0.00
111TCA	05/07/01	1.7	<0.5	100	1.7	200.00	756.00	1285.2	8000	0.00000567	53.67	0.12
11DCE	05/07/01	3	<0.5	100	3	200.00	756.00	2268	8000	0.00001001	94.71	0.21
Vinyl Chloride	05/07/01	<0.5	<0.5	NC	0	200.00	756.00	0	8000	0.00000000	0.00	0.00
cis12DCE	05/07/01	26.7	<0.5	100	26.7	200.00	756.00	20185.2	8000	0.00008910	842.95	1.86
TCE	06/05/01	272	<0.5	100	272	320.13	1210.09	329144.8608	8000	0.00145295	26542.60	58.53
PCE	06/05/01	<0.5	<0.5	NC	0	320.13	1210.09	0	8000	0.00000000	0.00	0.00
111TCA	06/05/01	2.6	<0.5	100	2.6	320.13	1210.09	3146.23764	8000	0.00001389	253.72	0.56
11DCE	06/05/01	3.9	<0.5	100	3.9	320.13	1210.09	4719.35646	8000	0.00002083	380.57	0.84
Vinyl Chloride	06/05/01	<0.5	<0.5	NC	0	320.13	1210.09	0	8000	0.00000000	0.00	0.00
cis12DCE	06/05/01	31	<0.5	100	31	320.13	1210.09	37512.8334	8000	0.00016559	3025.08	6.67

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions** (g)	**Monthly Air Emissions** (lbs)
TCE	07/31/01	244	<0.5	100	244	366.38	1384.92	337919.6016	8000	0.00149168	7299.16	16.09
PCE	07/31/01	<0.5	<0.5	NC	0	366.38	1384.92	0	8000	0.00000000	0.00	0.00
111TCA	07/31/01	2.8	<0.5	100	2.8	366.38	1384.92	3877.76592	8000	0.00001712	83.76	0.18
11DCE	07/31/01	3.9	<0.5	100	3.9	366.38	1384.92	5401.17396	8000	0.00002384	116.67	0.26
Vinyl Chloride	07/31/01	<0.5	<0.5	NC	0	366.38	1384.92	0	8000	0.00000000	0.00	0.00
cis12DCE	07/31/01	33.8	<0.5	100	33.8	366.38	1384.92	46810.17432	8000	0.00020663	1011.11	2.23
TCE	08/15/01	230	<0.5	100	230	414.58	1567.11	360435.852	8000	0.00159108	17647.18	38.91
PCE	08/15/01	<0.5	<0.5	NC	0	414.58	1567.11	0	8000	0.00000000	0.00	0.00
111TCA	08/15/01	2.6	<0.5	100	2.6	414.58	1567.11	4074.49224	8000	0.00001799	199.49	0.44
11DCE	08/15/01	3.8	<0.5	100	3.8	414.58	1567.11	5955.02712	8000	0.00002629	291.56	0.64
Vinyl Chloride	08/15/01	<0.5	<0.5	NC	0	414.58	1567.11	0	8000	0.00000000	0.00	0.00
cis12DCE	08/15/01	34.7	<0.5	100	34.7	414.58	1567.11	54378.80028	8000	0.00024004	2662.42	5.87
TCE	09/18/01	81.8	<0.5	100	81.8	236.97	895.75	73272.07188	8000	0.00032345	3059.88	6.75
PCE	09/18/01	<0.5	<0.5	NC	0	236.97	895.75	0	8000	0.00000000	0.00	0.00
111TCA	09/18/01	<0.5	<0.5	NC	0	236.97	895.75	0	8000	0.00000000	0.00	0.00
11DCE	09/18/01	0.9	<0.5	100	0.9	236.97	895.75	806.17194	8000	0.00000356	33.67	0.07
Vinyl Chloride	09/18/01	1.8	<0.5	100	1.8	236.97	895.75	1612.34388	8000	0.00000712	67.33	0.15
cis12DCE	09/18/01	25	<0.5	100	25	236.97	895.75	22393.665	8000	0.00009885	935.17	2.06
TCE	10/17/01	246	<0.5	100	246	426.06	1610.51	396184.6728	8000	0.00174888	19397.46	42.77
PCE	10/17/01	<0.5	<0.5	NC	0	426.06	1610.51	0	8000	0.00000000	0.00	0.00
111TCA	10/17/01	2.4	<0.5	100	2.4	426.06	1610.51	3865.21632	8000	0.00001706	189.24	0.42
11DCE	10/17/01	3.9	<0.5	100	3.9	426.06	1610.51	6280.97652	8000	0.00002773	307.52	0.68
Vinyl Chloride	10/17/01	1.7	<0.5	100	1.7	426.06	1610.51	2737.86156	8000	0.00001209	134.05	0.30
cis12DCE	10/17/01	42.1	<0.5	100	42.1	426.06	1610.51	67802.33628	8000	0.00029930	3319.65	7.32
TCE	11/20/01	232	<0.5	100	232	404.61	1529.43	354826.7856	8000	0.00156632	18394.47	40.56
PCE	11/20/01	<0.5	<0.5	NC	0	404.61	1529.43	0	8000	0.00000000	0.00	0.00
111TCA	11/20/01	2.8	<0.5	100	2.8	404.61	1529.43	4282.39224	8000	0.00001890	222.00	0.49
11DCE	11/20/01	4.2	<0.5	100	4.2	404.61	1529.43	6423.58836	8000	0.00002836	333.00	0.73
Vinyl Chloride	11/20/01	<0.5	<0.5	NC	0	404.61	1529.43	0	8000	0.00000000	0.00	0.00
cis12DCE	11/20/01	40.9	<0.5	100	40.9	404.61	1529.43	62553.51522	8000	0.00027613	3242.82	7.15

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions** (g)	**Monthly Air Emissions** (lbs)
TCE	12/26/01	216	<0.5	100	216	339.22	1282.25	276966.3456	8000	0.00122262	13560.45	29.90
PCE	12/26/01	<0.5	<0.5	NC	0	339.22	1282.25	0	8000	0.00000000	0.00	0.00
111TCA	12/26/01	2.9	<0.5	100	2.9	339.22	1282.25	3718.52964	8000	0.00001641	182.06	0.40
11DCE	12/26/01	3.8	<0.5	100	3.8	339.22	1282.25	4872.55608	8000	0.00002151	238.56	0.53
Vinyl Chloride	12/26/01	<0.5	<0.5	NC	0	339.22	1282.25	0	8000	0.00000000	0.00	0.00
cis12DCE	12/26/01	38.9	<0.5	100	38.9	339.22	1282.25	49879.58724	8000	0.00022018	2442.14	5.38
TCE	01/29/02	216	<0.5	100	216	438.89	1659.00	358344.9072	8000	0.00158185	10836.50	23.89
PCE	01/29/02	<0.5	<0.5	NC	0	438.89	1659.00	0	8000	0.00000000	0.00	0.00
111TCA	01/29/02	2.7	<0.5	100	2.7	438.89	1659.00	4479.31134	8000	0.00001977	135.46	0.30
11DCE	01/29/02	3.7	<0.5	100	3.7	438.89	1659.00	6138.31554	8000	0.00002710	185.63	0.41
Vinyl Chloride	01/29/02	<0.5	<0.5	NC	0	438.89	1659.00	0	8000	0.00000000	0.00	0.00
cis12DCE	01/29/02	38.2	<0.5	100	38.2	438.89	1659.00	63373.96044	8000	0.00027975	1916.45	4.23
TCE	02/19/02	211	<0.5	100	211	200.00	756.00	159516	8000	0.00070415	8728.83	19.25
PCE	02/19/02	<0.5	<0.5	NC	0	200.00	756.00	0	8000	0.00000000	0.00	0.00
111TCA	02/19/02	2.7	<0.5	100	2.7	200.00	756.00	2041.2	8000	0.00000901	111.70	0.25
11DCE	02/19/02	3.7	<0.5	100	3.7	200.00	756.00	2797.2	8000	0.00001235	153.06	0.34
Vinyl Chloride	02/19/02	<0.5	<0.5	NC	0	200.00	756.00	0	8000	0.00000000	0.00	0.00
cis12DCE	02/19/02	35.1	<0.5	100	35.1	200.00	756.00	26535.6	8000	0.00011714	1452.05	3.20
TCE	03/29/02	187	<0.5	100	187	200.00	756.00	141372	8000	0.00062406	4885.88	10.77
PCE	03/29/02	<0.5	<0.5	NC	0	200.00	756.00	0	8000	0.00000000	0.00	0.00
111TCA	03/29/02	2.1	<0.5	100	2.1	200.00	756.00	1587.6	8000	0.00000701	54.87	0.12
11DCE	03/29/02	3.1	<0.5	100	3.1	200.00	756.00	2343.6	8000	0.00001035	81.00	0.18
Vinyl Chloride	03/29/02	1	<0.5	100	1	200.00	756.00	756	8000	0.00000334	26.13	0.06
cis12DCE	03/29/02	30.2	<0.5	100	30.2	200.00	756.00	22831.2	8000	0.00010078	789.06	1.74
TCE	04/22/02	218	<0.5	100	218	390.98	1477.90	322183.1592	8000	0.00142222	10206.90	22.51
PCE	04/22/02	0.6	<0.5	100	0.6	390.98	1477.90	886.74264	8000	0.00000391	28.09	0.06
111TCA	04/22/02	2.3	<0.5	100	2.3	390.98	1477.90	3399.18012	8000	0.00001501	107.69	0.24
11DCE	04/22/02	3.4	<0.5	100	3.4	390.98	1477.90	5024.87496	8000	0.00002218	159.19	0.35
Vinyl Chloride	04/22/02	1.2	<0.5	100	1.2	390.98	1477.90	1773.48528	8000	0.00000783	56.18	0.12
cis12DCE	04/22/02	35.9	<0.5	100	35.9	390.98	1477.90	53056.76796	8000	0.00023421	1680.86	3.71

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
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GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	Monthly Air Emissions (g)	Monthly Air Emissions (lbs)
TCE	05/14/02	40	<0.5	100	40	419.21	1584.61	63384.552	8000	0.00027980	3194.62	7.04
PCE	05/14/02	<0.5	<0.5	NC	0	419.21	1584.61	0	8000	0.00000000	0.00	0.00
111TCA	05/14/02	<0.5	<0.5	NC	0	419.21	1584.61	0	8000	0.00000000	0.00	0.00
11DCE	05/14/02	<0.5	<0.5	NC	0	419.21	1584.61	0	8000	0.00000000	0.00	0.00
Vinyl Chloride	05/14/02	<0.5	<0.5	NC	0	419.21	1584.61	0	8000	0.00000000	0.00	0.00
cis12DCE	05/14/02	29	<0.5	100	29	419.21	1584.61	45953.8002	8000	0.00020285	2316.10	5.11
TCE	6/18/2002	NA	<0.5	NC	NC	391.19	NC	NC	8000	NC	NC	NC
PCE	6/18/2002	NA	<0.5	NC	NC	391.19	NC	NC	8000	NC	NC	NC
111TCA	6/18/2002	NA	<0.5	NC	NC	391.19	NC	NC	8000	NC	NC	NC
11DCE	6/18/2002	NA	<0.5	NC	NC	391.19	NC	NC	8000	NC	NC	NC
Vinyl Chloride	6/18/2002	NA	<0.5	NC	NC	391.19	NC	NC	8000	NC	NC	NC
cis12DCE	6/18/2002	NA	<0.5	NC	NC	391.19	NC	NC	8000	NC	NC	NC
TCE	7/2/2002	130	<0.5	100	130	416.34	1573.77	204589.476	8000	0.00090312	10016.84	22.09
PCE	7/2/2002	<2	<0.5	NC	0	416.34	1573.77	0	8000	0.00000000	0.00	0.00
111TCA	7/2/2002	<2	<0.5	NC	0	416.34	1573.77	0	8000	0.00000000	0.00	0.00
11DCE	7/2/2002	2.30	<0.5	100	2.3	416.34	1573.77	3619.65996	8000	0.00001598	177.22	0.39
Vinyl Chloride	7/2/2002	<2	<0.5	NC	0	416.34	1573.77	0	8000	0.00000000	0.00	0.00
cis12DCE	7/2/2002	36.00	<0.5	100	36	416.34	1573.77	56655.5472	8000	0.00025010	2773.89	6.12
TCE	8/5/2002	120	<0.5	100	120	417.89	1579.62	189554.904	8000	0.00083675	8188.88	18.06
PCE	8/5/2002	<2	<0.5	NC	0	417.89	1579.62	0	8000	0.00000000	0.00	0.00
111TCA	8/5/2002	<2	<0.5	NC	0	417.89	1579.62	0	8000	0.00000000	0.00	0.00
11DCE	8/5/2002	<2	<0.5	NC	0	417.89	1579.62	0	8000	0.00000000	0.00	0.00
Vinyl Chloride	8/5/2002	<2	<0.5	NC	0	417.89	1579.62	0	8000	0.00000000	0.00	0.00
cis12DCE	8/5/2002	36.00	<0.5	100	36	417.89	1579.62	56866.4712	8000	0.00025103	2456.66	5.42
TCE	9/4/2002	200	<0.5	100	200	424.31	1603.89	320778.36	8000	0.00141601	12933.96	28.52
PCE	9/4/2002	<2	<0.5	NC	0	424.31	1603.89	0	8000	0.00000000	0.00	0.00
111TCA	9/4/2002	<2	<0.5	NC	0	424.31	1603.89	0	8000	0.00000000	0.00	0.00
11DCE	9/4/2002	<2	<0.5	NC	0	424.31	1603.89	0	8000	0.00000000	0.00	0.00
Vinyl Chloride	9/4/2002	<2	<0.5	NC	0	424.31	1603.89	0	8000	0.00000000	0.00	0.00
cis12DCE	9/4/2002	44.00	<0.5	100	44	424.31	1603.89	70571.2392	8000	0.00031152	2845.47	6.27

Table 2b
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GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions** (g)	**Monthly Air Emissions** (lbs)
TCE	10/2/2002	160.00	<0.5	100	160	606.17	2291.32	366611.616	8000	0.00161834	17949.55	39.58
PCE	10/2/2002	<2	<0.5	NC	0	606.17	2291.32	0	8000	0.00000000	0.00	0.00
TCA111	10/2/2002	<2	<0.5	NC	0	606.17	2291.32	0	8000	0.00000000	0.00	0.00
1,1-DCE	10/2/2002	2.20	<0.5	100	2.2	606.17	2291.32	5040.90972	8000	0.00002225	246.81	0.54
Vinyl chloride	10/2/2002	<2	<0.5	NC	0	606.17	2291.32	0	8000	0.00000000	0.00	0.00
cis-1,2-DCE	10/2/2002	48.00	<0.5	100	48	606.17	2291.32	109983.4848	8000	0.00048550	5384.86	11.87
TCE	11/5/2002	170.00	<0.5	100	170	273.80	1034.96	175943.88	8000	0.00077667	7094.15	15.64
PCE	11/5/2002	<2	<0.5	NC	0	273.80	1034.96	0	8000	0.00000000	0.00	0.00
TCA111	11/5/2002	<2	<0.5	NC	0	273.80	1034.96	0	8000	0.00000000	0.00	0.00
1,1-DCE	11/5/2002	<2	<0.5	NC	0	273.80	1034.96	0	8000	0.00000000	0.00	0.00
Vinyl chloride	11/5/2002	<2	<0.5	NC	0	273.80	1034.96	0	8000	0.00000000	0.00	0.00
cis-1,2-DCE	11/5/2002	42.00	<0.5	100	42	273.80	1034.96	43468.488	8000	0.00019188	1752.67	3.86
TCE	12/3/2002	150.00	<0.5	100	150	468.23	1769.91	265486.41	8000	0.00117194	13380.70	29.50
PCE	12/3/2002	<2	<0.5	NC	0	468.23	1769.91	0	8000	0.00000000	0.00	0.00
TCA111	12/3/2002	<2	<0.5	NC	0	468.23	1769.91	0	8000	0.00000000	0.00	0.00
1,1-DCE	12/3/2002	<2	<0.5	NC	0	468.23	1769.91	0	8000	0.00000000	0.00	0.00
Vinyl chloride	12/3/2002	<2	<0.5	NC	0	468.23	1769.91	0	8000	0.00000000	0.00	0.00
cis-1,2-DCE	12/3/2002	37.00	<0.5	100	37	468.23	1769.91	65486.6478	8000	0.00028908	3300.57	7.28
TCE	1/7/2003	130.00	<0.5	100	130	411.13	1554.0714	202029.282	8000	0.0008918	7855.00	17.32
PCE	1/7/2003	<2	<0.5	NC	0	411.13	1554.0714	0	8000	0.0000000	0.00	0.00
TCA111	1/7/2003	<2	<0.5	NC	0	411.13	1554.0714	0	8000	0.0000000	0.00	0.00
1,1-DCE	1/7/2003	2.00	<0.5	100	2	411.13	1554.0714	3108.1428	8000	0.0000137	120.85	0.27
Vinyl chloride	1/7/2003	<2	<0.5	NC	0	411.13	1554.0714	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	1/7/2003	34.00	<0.5	100	34	411.13	1554.0714	52838.4276	8000	0.0002332	2054.39	4.53
TCE	2/3/2003	130.00	<0.5	100	130	444.70	1680.966	218525.58	8000	0.0009646	9125.75	20.12
PCE	2/3/2003	<2	<0.5	NC	0	444.70	1680.966	0	8000	0.0000000	0.00	0.00
TCA111	2/3/2003	<2	<0.5	NC	0	444.70	1680.966	0	8000	0.0000000	0.00	0.00
1,1-DCE	2/3/2003	<2	<0.5	NC	0	444.70	1680.966	0	8000	0.0000000	0.00	0.00
Vinyl chloride	2/3/2003	<2	<0.5	NC	0	444.70	1680.966	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	2/3/2003	31.00	<0.5	100	31	444.70	1680.966	52109.946	8000	0.0002300	2176.14	4.80

Table 2b
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Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	Monthly Air Emissions (g)	Monthly Air Emissions (lbs)
TCE	3/4/2003	120.00	<0.5	100	120	444.30	1679.454	201534.48	8000	0.0008896	8125.98	17.92
PCE	3/4/2003	<2	<0.5	NC	0	444.30	1679.454	0	8000	0.0000000	0.00	0.00
TCA111	3/4/2003	<2	<0.5	NC	0	444.30	1679.454	0	8000	0.0000000	0.00	0.00
1,1-DCE	3/4/2003	<2	<0.5	NC	0	444.30	1679.454	0	8000	0.0000000	0.00	0.00
Vinyl chloride	3/4/2003	<2	<0.5	NC	0	444.30	1679.454	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	3/4/2003	27.00	<0.5	100	27	444.30	1679.454	45345.258	8000	0.0002002	1828.35	4.03
TCE	4/1/2003	140.00	<0.5	100	140	446.31	1687.0518	236187.252	8000	0.0010426	11563.88	25.50
PCE	4/1/2003	<2	<0.5	NC	0	446.31	1687.0518	0	8000	0.0000000	0.00	0.00
TCA111	4/1/2003	<2	<0.5	NC	0	446.31	1687.0518	0	8000	0.0000000	0.00	0.00
1,1-DCE	4/1/2003	<2	<0.5	NC	0	446.31	1687.0518	0	8000	0.0000000	0.00	0.00
Vinyl chloride	4/1/2003	<2	<0.5	NC	0	446.31	1687.0518	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	4/1/2003	27.00	<0.5	100	27	446.31	1687.0518	45550.3986	8000	0.0002011	2230.18	4.92
TCE	5/5/2003	160.00	<0.5	100	160	435.81	1647.3618	263577.888	8000	0.0011635	11386.72	25.11
PCE	5/5/2003	<1	<0.5	NC	0	435.81	1647.3618	0	8000	0.0000000	0.00	0.00
TCA111	5/5/2003	1.20	<0.5	100	1.2	435.81	1647.3618	1976.83416	8000	0.0000087	85.40	0.19
1,1-DCE	5/5/2003	<1	<0.5	NC	0	435.81	1647.3618	0	8000	0.0000000	0.00	0.00
Vinyl chloride	5/5/2003	<1	<0.5	NC	0	435.81	1647.3618	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	5/5/2003	24.00	<0.5	100	24	435.81	1647.3618	39536.6832	8000	0.0001745	1708.01	3.77
TCE	6/4/2003	130.00	<0.5	100	140	441.72	1669.7016	233758.224	8000	0.0010319	9088.64	20.04
PCE	6/4/2003	<1	<0.5	NC	0	441.72	1669.7016	0	8000	0.0000000	0.00	0.00
TCA111	6/4/2003	1.1	<0.5	100	0	441.72	1669.7016	0	8000	0.0000000	0.00	0.00
1,1-DCE	6/4/2003	1.5	<0.5	100	0	441.72	1669.7016	0	8000	0.0000000	0.00	0.00
Vinyl chloride	6/4/2003	<1	<0.5	NC	0	441.72	1669.7016	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	6/4/2003	24.00	<0.5	100	27	441.72	1669.7016	45081.9432	8000	0.0001990	1752.81	3.86
TCE	7/1/2003	140.00	<0.5	100	140	432.23	1633.8294	228736.116	8000	0.0010097	11199.07	24.69
PCE	7/1/2003	<2	<0.5	NC	0	432.23	1633.8294	0	8000	0.0000000	0.00	0.00
TCA111	7/1/2003	<2	<0.5	NC	0	432.23	1633.8294	0	8000	0.0000000	0.00	0.00
1,1-DCE	7/1/2003	<2	<0.5	NC	0	432.23	1633.8294	0	8000	0.0000000	0.00	0.00
Vinyl chloride	7/1/2003	<2	<0.5	NC	0	432.23	1633.8294	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	7/1/2003	23.00	<0.5	100	23	432.23	1633.8294	37578.0762	8000	0.0001659	1839.85	4.06

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions** (g)	**Monthly Air Emissions** (lbs)
TCE	8/4/2003	140.00	<0.5	100	140	444.61	1680.6258	235287.612	8000	0.0010386	9825.74	21.67
PCE	8/4/2003	<2	<0.5	NC	0	444.61	1680.6258	0	8000	0.0000000	0.00	0.00
TCA111	8/4/2003	<2	<0.5	NC	0	444.61	1680.6258	0	8000	0.0000000	0.00	0.00
1,1-DCE	8/4/2003	<2	<0.5	NC	0	444.61	1680.6258	0	8000	0.0000000	0.00	0.00
Vinyl chloride	8/4/2003	<2	<0.5	NC	0	444.61	1680.6258	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	8/4/2003	27.00	<0.5	100	27	444.61	1680.6258	45376.8966	8000	0.0002003	1894.96	4.18
TCE	9/2/2003	110.00	<0.5	100	110	431.80	1632.204	179542.44	8000	0.0007926	10600.33	23.37
PCE	9/2/2003	<1	<0.5	NC	0	431.80	1632.204	0	8000	0.0000000	0.00	0.00
TCA111	9/2/2003	<1	<0.5	NC	0	431.80	1632.204	0	8000	0.0000000	0.00	0.00
1,1-DCE	9/2/2003	1.7	<0.5	100	1.7	431.80	1632.204	2774.7468	8000	0.0000122	163.82	0.36
Vinyl chloride	9/2/2003	<1	<0.5	NC	0	431.80	1632.204	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	9/2/2003	29.00	<0.5	100	29	431.80	1632.204	47333.916	8000	0.0002089	2794.63	6.16
TCE	10/13/2003	120.00	<0.5	100	120	410.52	1551.7656	186211.872	8000	0.0008220	5631.12	12.42
PCE	10/13/2003	<1	<0.5	NC	0	410.52	1551.7656	0	8000	0.0000000	0.00	0.00
TCA111	10/13/2003	<1	<0.5	NC	0	410.52	1551.7656	0	8000	0.0000000	0.00	0.00
1,1-DCE	10/13/2003	1.4	<0.5	100	1.4	410.52	1551.7656	2172.47184	8000	0.0000096	65.70	0.14
Vinyl chloride	10/13/2003	1.1	<0.5	100	1.1	410.52	1551.7656	1706.94216	8000	0.0000075	51.62	0.11
cis-1,2-DCE	10/13/2003	30.00	<0.5	100	30	410.52	1551.7656	46552.968	8000	0.0002055	1407.78	3.10
TCE	11/3/2003	89.00	<0.5	100	89	145.66	550.5948	49002.9372	8000	0.0002163	2046.39	4.51
PCE	11/3/2003	<1	<0.5	NC	0	145.66	550.5948	0	8000	0.0000000	0.00	0.00
TCA111	11/3/2003	<1	<0.5	NC	0	145.66	550.5948	0	8000	0.0000000	0.00	0.00
1,1-DCE	11/3/2003	1.1	<0.5	100	1.1	145.66	550.5948	605.65428	8000	0.0000027	25.29	0.06
Vinyl chloride	11/3/2003	1.5	<0.5	100	1.5	145.66	550.5948	825.8922	8000	0.0000036	34.49	0.08
cis-1,2-DCE	11/3/2003	32.00	<0.5	100	32	145.66	550.5948	17619.0336	8000	0.0000778	735.78	1.62
TCE	12/2/2003	130.00	<0.5	100	130	319.47	1207.5966	156987.558	8000	0.0006930	7686.21	16.95
PCE	12/2/2003	<1	<0.5	NC	0	317.47	1200.0366	0	8000	0.0000000	0.00	0.00
TCA111	12/2/2003	<1	<0.5	NC	0	317.47	1200.0366	0	8000	0.0000000	0.00	0.00
1,1-DCE	12/2/2003	1.4	<0.5	100	1.4	317.47	1200.0366	1680.05124	8000	0.0000074	82.26	0.18
Vinyl chloride	12/2/2003	<1	<0.5	NC	0	317.47	1200.0366	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	12/2/2003	27.00	<0.5	100	27	317.47	1200.0366	32400.9882	8000	0.0001430	1586.37	3.50

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions (g)**	**Monthly Air Emissions (lbs)**
TCE	1/5/2004	110	<1.0	100	110	439.00	1659.42	182536.2	8000	0.0008058	7622.81	16.81
PCE	1/5/2004	<1.0	<1.0	NC	0	439.00	1659.42	0	8000	0.0000000	0.00	0.00
TCA111	1/5/2004	<1.0	<1.0	NC	0	439.00	1659.42	0	8000	0.0000000	0.00	0.00
1,1-DCE	1/5/2004	1.2	<1.0	100	1.2	439.00	1659.42	1991.304	8000	0.0000088	83.16	0.18
Vinyl chloride	1/5/2004	<1.0	<1.0	NC	0	439.00	1659.42	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	1/5/2004	27	<1.0	100	27	439.00	1659.42	44804.34	8000	0.0001978	1871.05	4.13
TCE	2/3/2004	110	<0.5	100	110	434.00	1640.52	180457.2	8000	0.0007966	7016.27	15.47
PCE	2/3/2004	<1.0	<0.5	NC	0	434.00	1640.52	0	8000	0.0000000	0.00	0.00
TCA111	2/3/2004	<1.0	<0.5	NC	0	434.00	1640.52	0	8000	0.0000000	0.00	0.00
1,1-DCE	2/3/2004	1.2	<0.5	100	1.2	434.00	1640.52	1968.624	8000	0.0000087	76.54	0.17
Vinyl chloride	2/3/2004	<1.0	<0.5	NC	0	434.00	1640.52	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	2/3/2004	28	<0.5	100	28	434.00	1640.52	45934.56	8000	0.0002028	1785.96	3.94
TCE	3/1/2004	100	<0.5	100	100	444.00	1678.32	167832	8000	0.0007409	8458.85	18.65
PCE	3/1/2004	<1.0	<0.5	NC	0	444.00	1678.32	0	8000	0.0000000	0.00	0.00
TCA111	3/1/2004	<1.0	<0.5	NC	0	444.00	1678.32	0	8000	0.0000000	0.00	0.00
1,1-DCE	3/1/2004	<1.0	<0.5	100	0	444.00	1678.32	0	8000	0.0000000	0.00	0.00
Vinyl chloride	3/1/2004	<1.0	<0.5	NC	0	444.00	1678.32	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	3/1/2004	21	<0.5	100	21	444.00	1678.32	35244.72	8000	0.0001556	1776.36	3.92
TCE	4/5/2004	100	<0.5	100	100	445.00	1682.1	168210	8000	0.0007425	7024.54	15.49
PCE	4/5/2004	<1	<0.5	NC	0	445.00	1682.1	0	8000	0.0000000	0.00	0.00
TCA111	4/5/2004	<1	<0.5	NC	0	445.00	1682.1	0	8000	0.0000000	0.00	0.00
1,1-DCE	4/5/2004	1.4	<0.5	100	1.4	445.00	1682.1	2354.94	8000	0.0000104	98.34	0.22
Vinyl chloride	4/5/2004	<1	<0.5	NC	0	445.00	1682.1	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	4/5/2004	28	<0.5	100	28	445.00	1682.1	47098.8	8000	0.0002079	1966.87	4.34
TCE	5/4/2004	96	<0.5	100	96	429.00	1621.62	155675.52	8000	0.0006872	7621.98	16.81
PCE	5/4/2004	<1	<0.5	NC	0	429.00	1621.62	0	8000	0.0000000	0.00	0.00
TCA111	5/4/2004	<1	<0.5	NC	0	429.00	1621.62	0	8000	0.0000000	0.00	0.00
1,1-DCE	5/4/2004	<1	<0.5	NC	0	429.00	1621.62	0	8000	0.0000000	0.00	0.00
Vinyl chloride	5/4/2004	<1	<0.5	NC	0	429.00	1621.62	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	5/4/2004	21	<0.5	100	21	429.00	1621.62	34054.02	8000	0.0001503	1667.31	3.68

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	Monthly Air Emissions (g)	Monthly Air Emissions (lbs)
TCE	6/7/2004	130	<0.5	100	130	284.00	1073.52	139557.6	8000	0.0006161	4823.18	10.64
PCE	6/7/2004	<1	<0.5	NC	0	284.00	1073.52	0	8000	0.0000000	0.00	0.00
TCA111	6/7/2004	<1	<0.5	NC	0	284.00	1073.52	0	8000	0.0000000	0.00	0.00
1,1-DCE	6/7/2004	1.4	<0.5	100	1.4	284.00	1073.52	1502.928	8000	0.0000066	51.94	0.11
Vinyl chloride	6/7/2004	1.2	<0.5	100	1.2	284.00	1073.52	1288.224	8000	0.0000057	44.52	0.10
cis-1,2-DCE	6/7/2004	26	<0.5	100	26	284.00	1073.52	27911.52	8000	0.0001232	964.64	2.13
TCE	7/1/2004	91	<0.5	100	91	102.00	385.56	35085.96	8000	0.0001549	1667.31	3.68
PCE	7/1/2004	<1.0	<0.5	NC	0	102.00	385.56	0	8000	0.0000000	0.00	0.00
TCA111	7/1/2004	<1.0	<0.5	NC	0	102.00	385.56	0	8000	0.0000000	0.00	0.00
1,1-DCE	7/1/2004	0.8	<0.5	100	0.8	102.00	385.56	308.448	8000	0.0000014	14.66	0.03
Vinyl chloride	7/1/2004	<1.0	<0.5	NC	0	102.00	385.56	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	7/1/2004	19	<0.5	100	19	102.00	385.56	7325.64	8000	0.0000323	348.12	0.77
TCE	8/3/2004	110	<0.5	100	110	100.00	378	41580	8000	0.0001835	1736.40	3.83
PCE	8/3/2004	<1.0	<0.5	NC	0	100.00	378	0	8000	0.0000000	0.00	0.00
TCA111	8/3/2004	<1.0	<0.5	NC	0	100.00	378	0	8000	0.0000000	0.00	0.00
1,1-DCE	8/3/2004	1.1	<0.5	100	1.1	100.00	378	415.8	8000	0.0000018	17.36	0.04
Vinyl chloride	8/3/2004	0.81	<0.5	100	0.81	100.00	378	306.18	8000	0.0000014	12.79	0.03
cis-1,2-DCE	8/3/2004	21	<0.5	100	21	100.00	378	7938	8000	0.0000350	331.50	0.73
TCE	9/1/2004	100	<0.5	100	100	100.00	378	37800	8000	0.0001669	1796.28	3.96
PCE	9/1/2004	<1.0	<0.5	NC	0	100.00	378	0	8000	0.0000000	0.00	0.00
TCA111	9/1/2004	<1.0	<0.5	NC	0	100.00	378	0	8000	0.0000000	0.00	0.00
1,1-DCE	9/1/2004	<1.0	<0.5	NC	0	100.00	378	0	8000	0.0000000	0.00	0.00
Vinyl chloride	9/1/2004	<1.0	<0.5	NC	0	100.00	378	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	9/1/2004	23	<0.5	100	23	100.00	378	8694	8000	0.0000384	413.14	0.91
TCE	10/4/2004	120	<1.0	100	120	104.00	393.12	47174.4	8000	0.0002082	1902.10	4.19
PCE	10/4/2004	<5.0	<1.0	NC	0	104.00	393.12	0	8000	0.0000000	0.00	0.00
TCA111	10/4/2004	<5.0	<1.0	NC	0	104.00	393.12	0	8000	0.0000000	0.00	0.00
1,1-DCE	10/4/2004	23	<1.0	100	23	104.00	393.12	9041.76	8000	0.0000399	364.57	0.80
Vinyl chloride	10/4/2004	<5.0	<1.0	NC	0	104.00	393.12	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	10/4/2004	<5.0	<1.0	NC	0	104.00	393.12	0	8000	0.0000000	0.00	0.00
TCE	11/1/2004	120	<1.0	100	120	102.00	385.56	46267.2	8000	0.0002042	1998.77	4.41
PCE	11/1/2004	<4.0	<1.0	NC	0	102.00	385.56	0	8000	0.0000000	0.00	0.00
TCA111	11/1/2004	<4.0	<1.0	NC	0	102.00	385.56	0	8000	0.0000000	0.00	0.00
1,1-DCE	11/1/2004	1.2	<1.0	100	1.2	102.00	385.56	462.672	8000	0.0000020	19.99	0.04
Vinyl chloride	11/1/2004	<4.0	<1.0	NC	0	102.00	385.56	0	8000	0.0000000	0.00	0.00
cis-1,2-DCE	11/1/2004	26	<1.0	100	26	102.00	385.56	10024.56	8000	0.0000443	433.07	0.95

Table 2b
System Evaluation for South Treatment System

Coleman Operable Unit
Wichita, Kansas

GROUNDWATER RECOVERY SYSTEM EFFICIENCY					MASS REMOVED				AIR EMISSIONS			
CONSTITUENT	DATE	AS-2-INF (ug/l)	AS-2-EFF (ug/l)	% EFF	Concentration (ug/l)	Flow Rate gal/min	Flow Rate l/min	Mass Removal Rate (µg/min)	Air Flow Rate (cfm)	Air Emissions Rate (g/m3)	**Monthly Air Emissions** (g)	**Monthly Air Emissions** (lbs)
TCE	12/1/2004	120	<1.0	100	120	104.00	393.12	47174.4	8000	0.0002082	NC	NC
PCE	12/1/2004	<3.3	<1.0	NC	0	104.00	393.12	0	8000	0.0000000	NC	NC
TCA111	12/1/2004	<3.3	<1.0	NC	0	104.00	393.12	0	8000	0.0000000	NC	NC
1,1-DCE	12/1/2004	<3.3	<1.0	NC	0	104.00	393.12	0	8000	0.0000000	NC	NC
Vinyl chloride	12/1/2004	<3.3	<1.0	NC	0	104.00	393.12	0	8000	0.0000000	NC	NC
cis-1,2-DCE	12/1/2004	24	<1.0	100	24	104.00	393.12	9434.88	8000	0.0000416	NC	NC

Notes: NC = Not Calculable NA = Not Available
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Total Mass Removed: 1302964.42 2873.04

Table 3

Comparison of Detections of Trichloroethylene in Ground Water Samples
Point of Compliance Wells

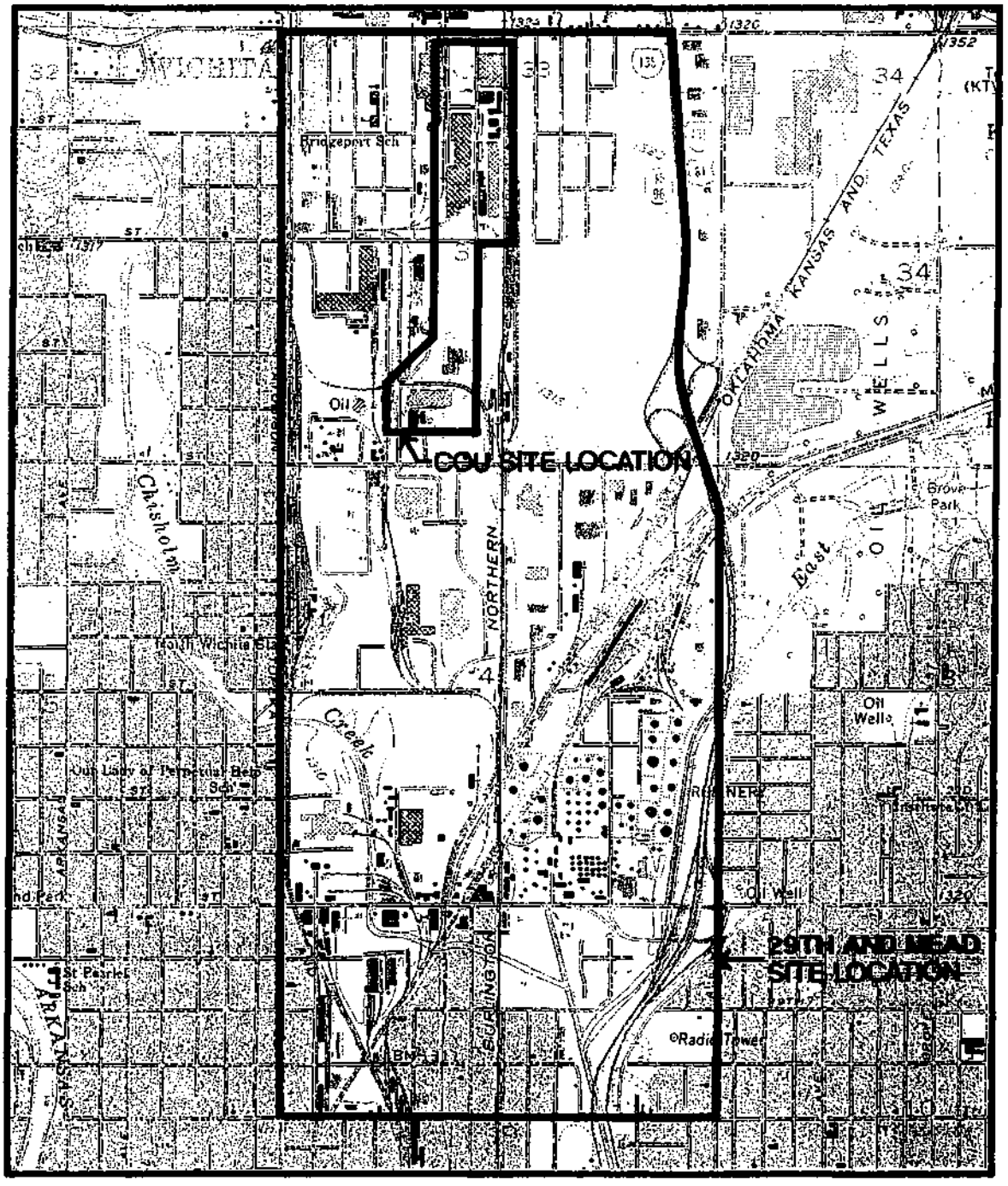
Point of Compliance Well Number	May 1990 TCE (ug/L)	May 1996 TCE (ug/L)	November 2000 TCE (ug/L)	May 2002 TCE (ug/L)	November 2004 TCE (ug/L)
MW-71D (MW-1)*	630	130	2.6	3.9	46
MW-71S (MW-48)**	1800	300	15	34	8.9
MW-3	9.2	0.6	0.5U	0.5U	1.0U
MW-47	7.0	0.4	0.5U	0.5U	1.0U
MW-67	960	120	86	62	1.8
MW-68	850	150	29	46	14
MW-51	17	12	14	NA	3.4
MW-52	20	62	10	10	2.4
MW-59	0.3	NA	0.5U	0.5U	1.0U
MW-60	0.3	NA	0.5U	0.5U	1.0U
MW-15	3500	120	34	15	3.3
MW-45	2200	380	44	91	46
MW-61	310	NA	1.7	10	2.1
MW-62	2300	350	31	150	54

TCE - Trichloroethylene
NA- Not Analyzed
U - Compound not detected
* - MW-71D formerly MW-1
** - MW-71S formerly MW-48

Table 4
Recommendations and Follow-up Actions

Item	Recommendations/ Follow-up Action	Responsible Party	Oversight Agency	Milestone Date	Follow-up Actions: Affects Protectiveness (Yes/No)
Monitoring Program	Continue semiannual monitoring program to verify hydraulic containment and VOC removal. This will continue after the determination of any changes to the existing ground water pump and treat system	New Coleman Holdings, Evcon, Recreational Vehicles	EPA	May and November of each year	Yes
Monitoring Program	Continue semiannual air stripper monitoring program to verify treatment efficiency	New Coleman Holdings, Evcon, Recreational Vehicles	EPA	May and November of each year	Yes
Monitoring Program	Monitor SVE system performance to evaluate system operation	New Coleman Holdings, Evcon, Recreational Vehicles	EPA	Quarterly	Yes
SVE operation	Evaluate continued operation of SVE system	New Coleman Holdings, Evcon, Recreational Vehicles	EPA	As appropriate	Yes

Figures



SCALE 1:24,000

0 2,000 4,000

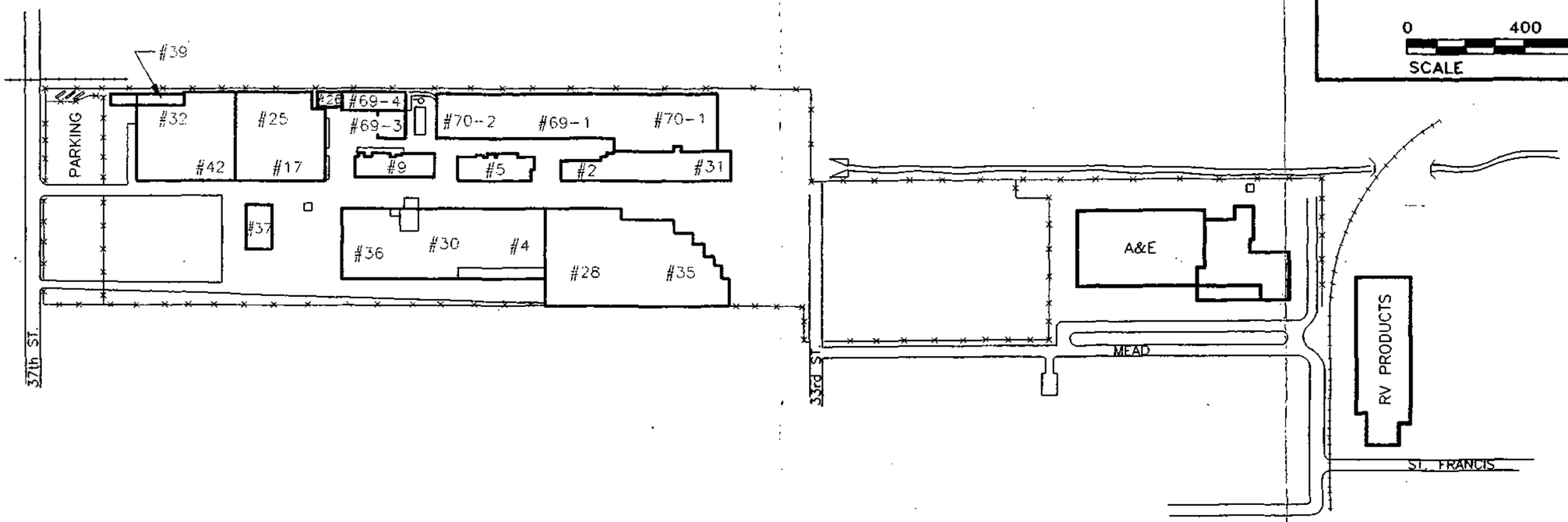
SCALE FEET

QUAD LOCATION

SOURCE:
U.S.G.S. TOPOGRAPHIC QUADRANGLE
WICHITA EAST, KANS.
7.5 MINUTE SERIES
1961/1962

IT CORPORATION *A Member of The IT Group* 1950 S. FLORENCE WICHITA, KANSAS 67209 (316) 943-3444	DESIGNED: MCH DETAILED: MCH CHECKED:	**SITE LOCATION MAP**	
		CLIENT: NEW COLEMAN HOLDINGS	DRAWING DATE: 11/01/93
		LOCATION: WICHITA, KANSAS	FIGURE: 1

ACAD FILE: D:\DWG\NEW-CSLM



LEGEND

#4 EVCON BUILDING NUMBER

N

0 400 800

SCALE FEET

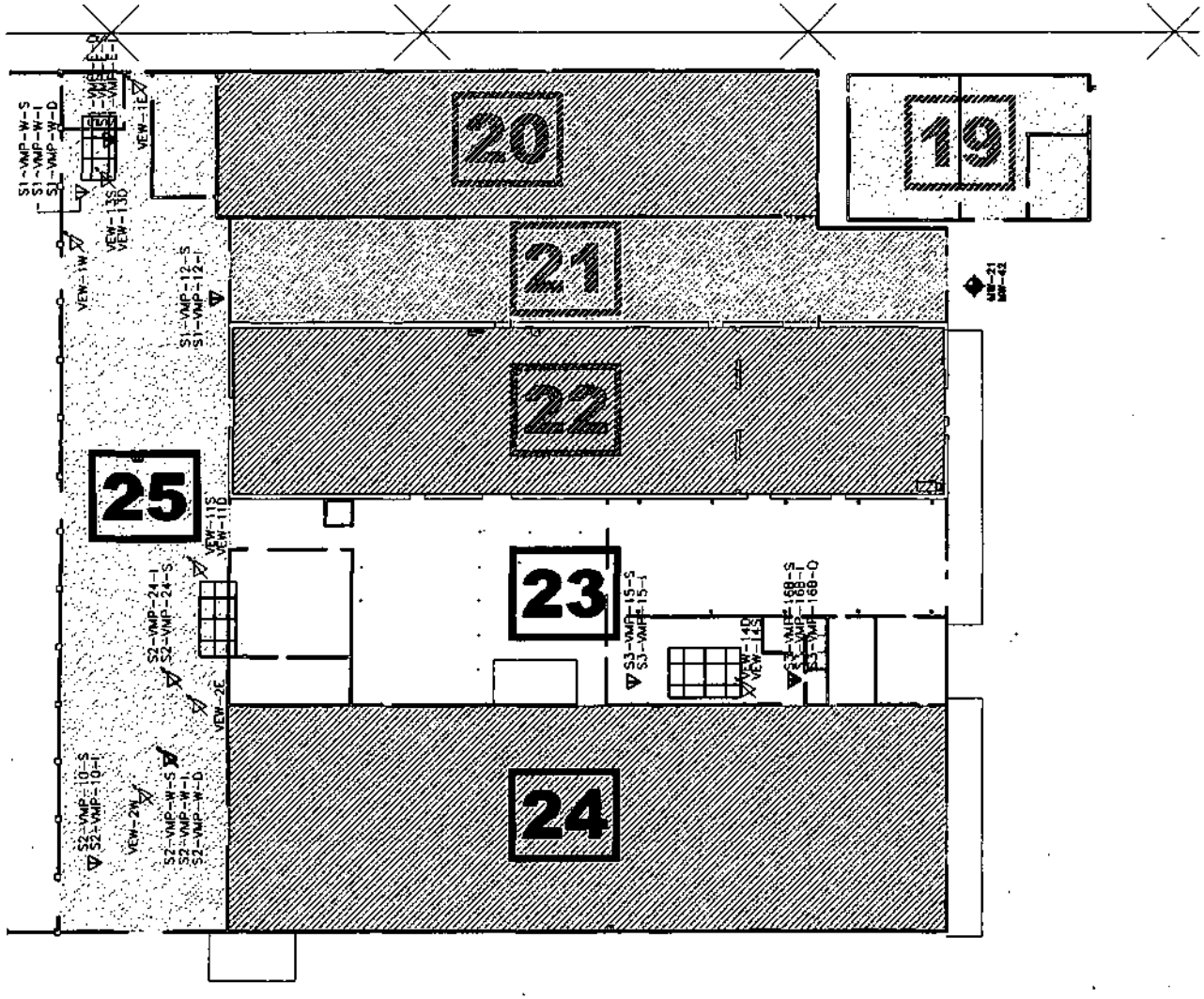
IT CORPORATION
A Member of The IT Group
1950 S. FLORENCE
WICHITA, KANSAS 67209
(316) 943-3444

REV. NO.:	DRAWING DATE:	ACAD FILE:
1	8/2/97	0802-SM

COU SITE MAP

CLIENT:	PM:
NEW COLEMAN HOLDINGS	DVL
LOCATION: OPERABLE UNIT	PE/RG:

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
	RHW	043010154	2



LEGEND

- MONITORING WELL
- RECOVERY WELL
- VAPOR MONITORING POINT
- VAPOR EXTRACTION WELL
- SUMP LOCATION

NOTES:

SCALE:

0 20 40
FEET

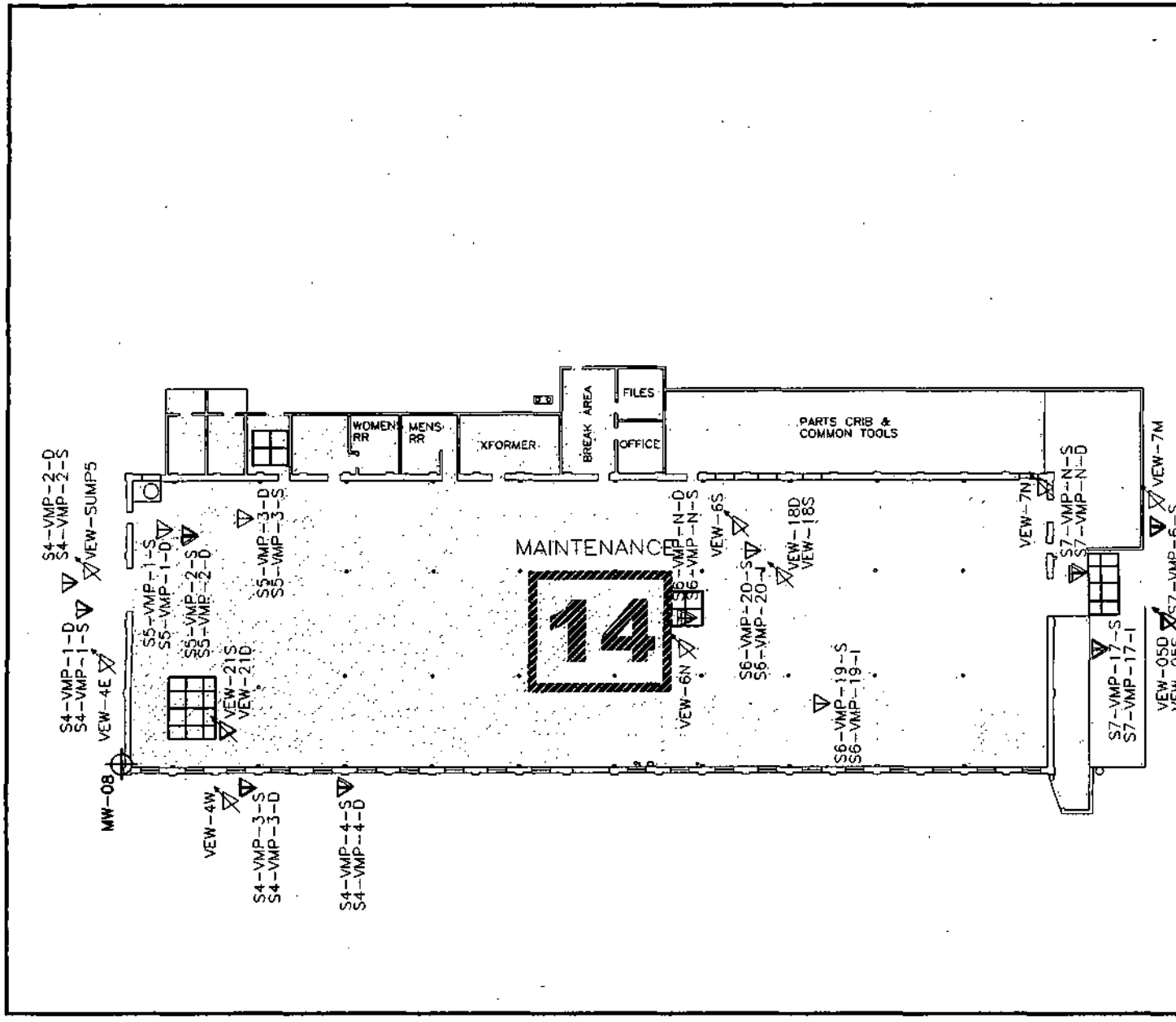
Shaw
1950 S. FLORENCE
WICHITA, KANSAS 67209
(316) 943-3444
Shaw Environmental, Infrastructure, Inc.

REV. NO.:	DRAWING DATE:	ACAD FILE:
1	10/04/02	SUMP123

SUMPS 1,2,and 3
VEWs and VMPs

CLIENT:	PM:
NEW COLEMAN HOLDINGS	KH
LOCATION: COLEMAN OPERABLE UNIT WICHITA, KANSAS	PE/RG: PE/RG

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE
DW	SH	108972	3



LEGEND

- MONITORING WELL
- RECOVERY WELL
- VAPOR MONITORING POINT
- VAPOR EXTRACTION WELL
- SUMP LOCATION

NOTES:

SCALE:

0 15 30

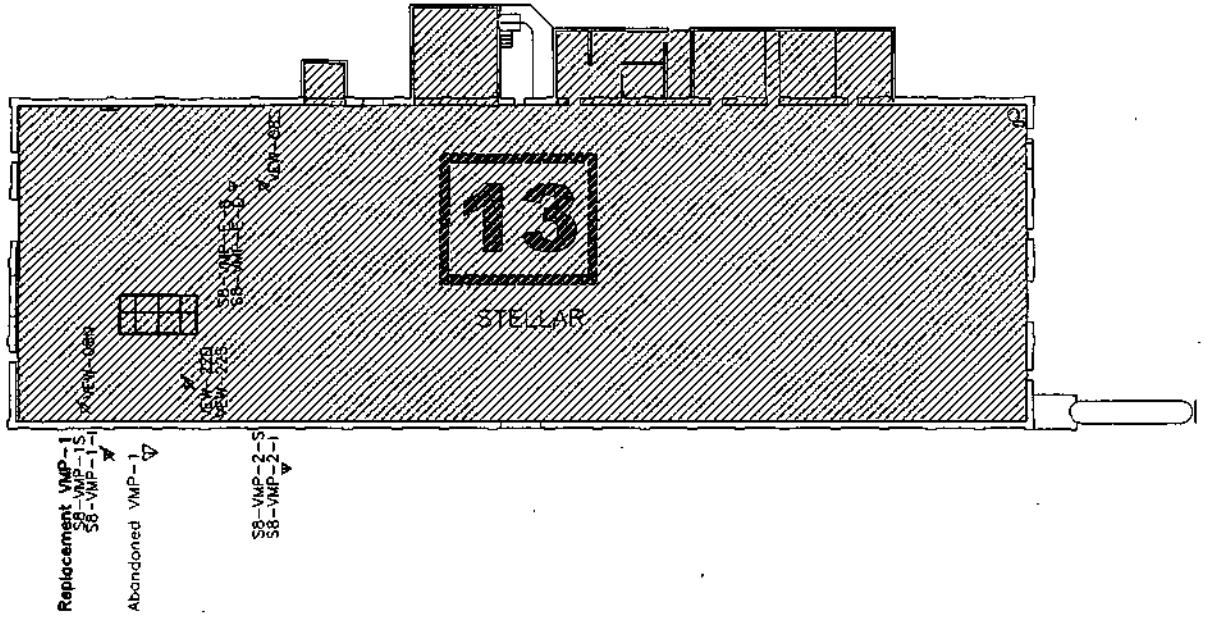
FEET

Shaw
Shaw Environmental, Inc.
1950 S. FLORENCE
WICHITA, KANSAS 67209
(316) 943-3444

REV. NO.:	DRAWING DATE:	ACAD FILE:
1	10/04/02	SUMP4567

SUMP 4,5,6 and 7
VEWs and VMPs

CLIENT: NEW COLEMAN HOLDINGS			PM: KH
LOCATION: COLEMAN OPERABLE UNIT WICHITA, KANSAS			PE/RG:
DESIGNED: DW	DETAILED: SH	PROJECT NO.: 108972	FIGURE: 4



LEGEND

- MONITORING WELL
- RECOVERY WELL
- VAPOR MONITORING POINT
- VAPOR EXTRACTION WELL
- SUMP LOCATION

NOTES:

SCALE:

0 15 30
FEET

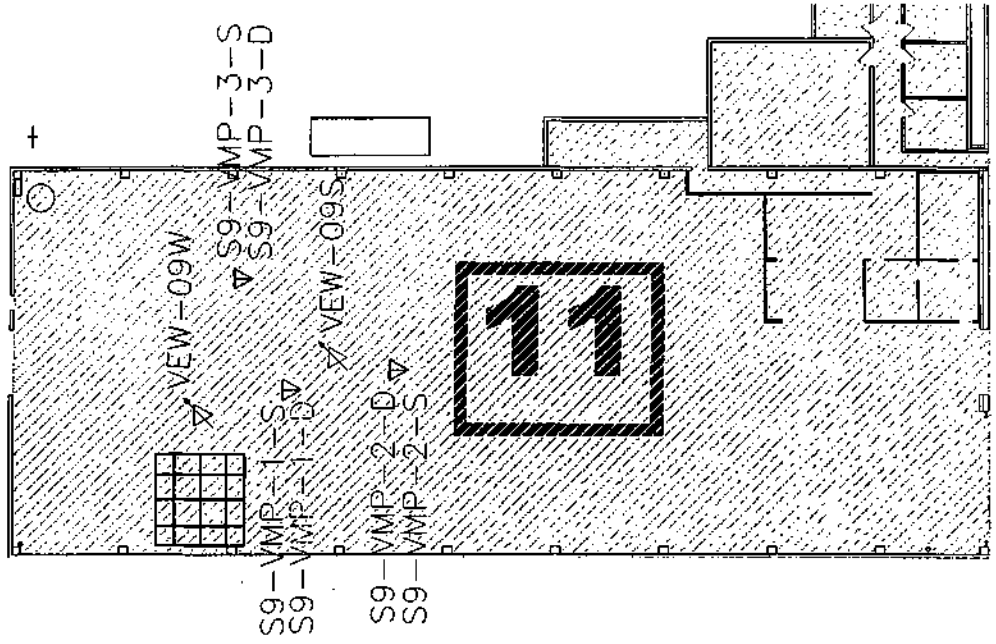
Shaw
Shaw Environmental, Inc.
1950 S. FLORENCE
(316) 943-3444
WICHITA, KANSAS 67209

REV. NO.:	DRAWING DATE:	ACAD FILE:
1	10/04/02	SUMP8

SUMP 8 – VEWs and VMPs

CLIENT:	PM:
NEW COLEMAN HOLDINGS	KH
LOCATION: COLEMAN OPERABLE UNIT WICHITA, KANSAS	PE/RG:

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
DW	SH	108972	5



LEGEND

- MONITORING WELL
- RECOVERY WELL
- VAPOR MONITORING POINT
- VAPOR EXTRACTION WELL
- SUMP LOCATION

NOTES:

SCALE:

0 12.5 25
FEET

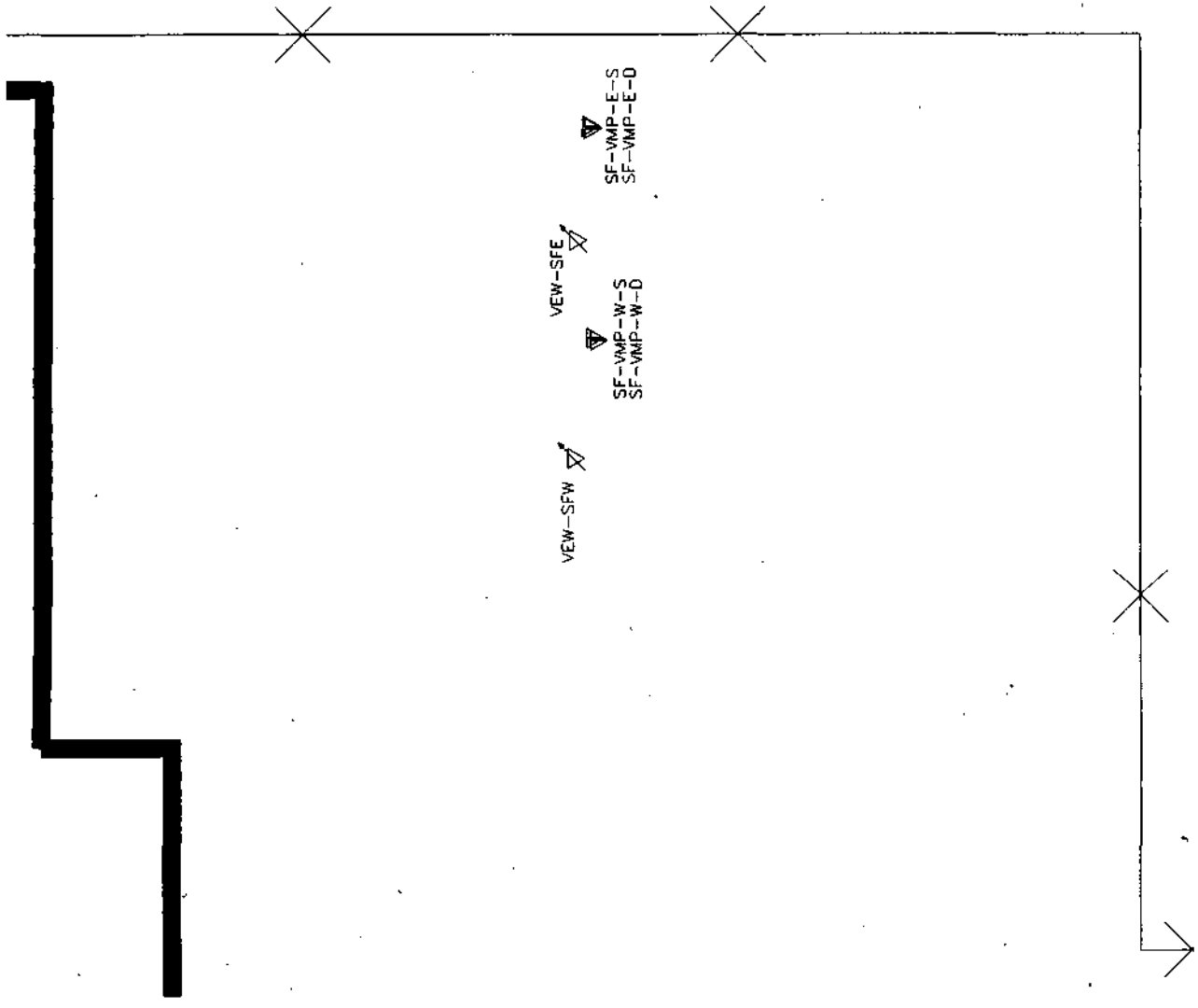
Shaw
Shaw Environmental, Inc.
1950 S. FLORENCE
(316) 943-3444
WICHITA, KANSAS 67209

REV. NO.:	DRAWING DATE:	ACAD FILE:
1	10/04/02	SUMP9

SUMP 9 – VEWs and VMPs

CLIENT:	PM:
NEW COLEMAN HOLDINGS	KH
LOCATION: COLEMAN OPERABLE UNT WICHITA, KANSAS	PE/RG:

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
DW	SH	108972	6



LEGEND

- MONITORING WELL
- RECOVERY WELL
- VAPOR MONITORING POINT
- VAPOR EXTRACTION WELL

NOTES:

SCALE:

0 20 40
FEET

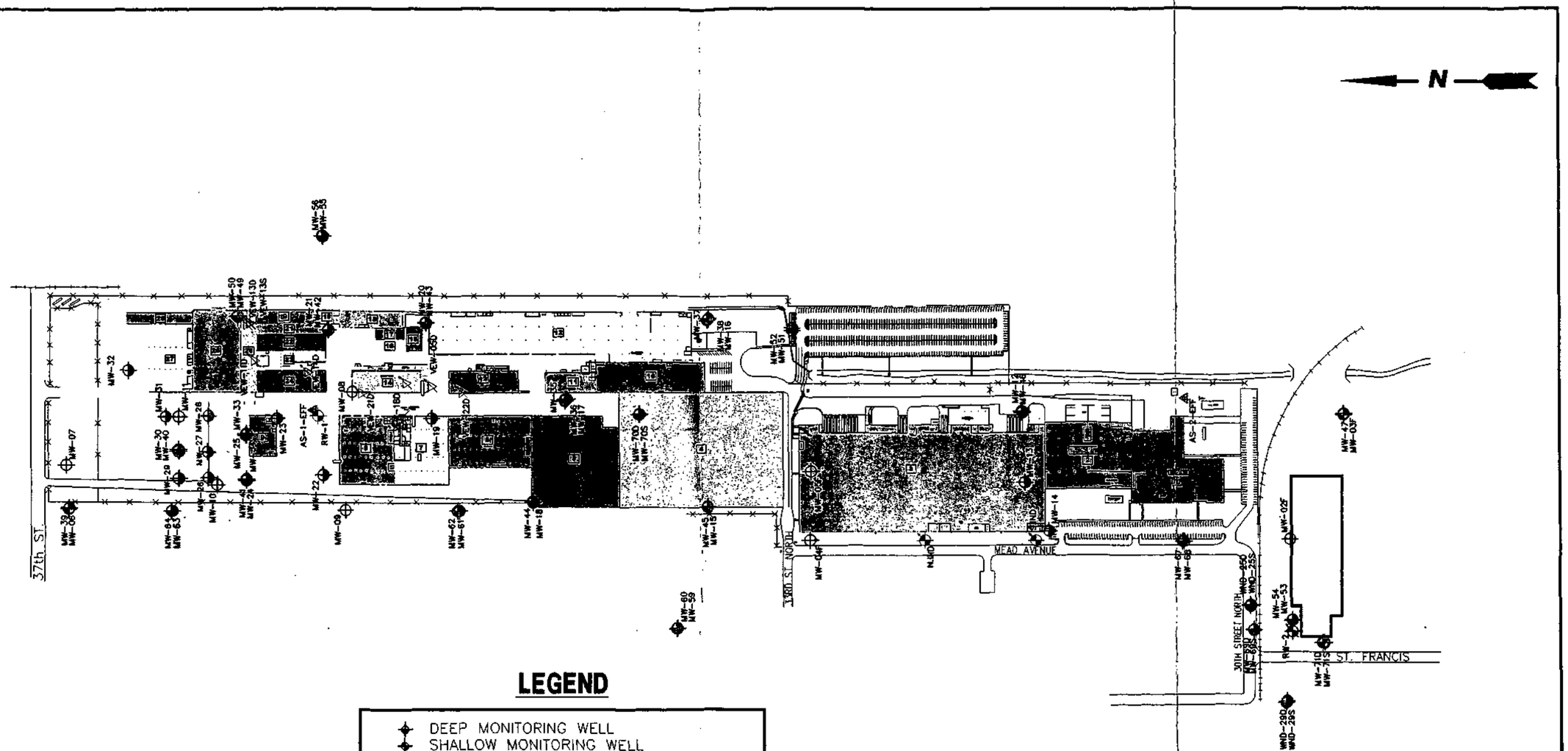
Shaw
Shaw Environmental, Inc.
1950 S. FLORENCE
(316) 943-3444
WICHITA, KANSAS 67209

REV. NO.:	DRAWING DATE:	ACAD FILE:
1	05/15/00	SOUTHFIELD

SOUTH FIELD
VEWs and VMPs

CLIENT:	PM:
NEW COLEMAN HOLDINGS	KH
LOCATION: COLEMAN OPERABLE UNIT WICHITA, KANSAS	PE/RG:

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
DW	SH	108972	7



LEGEND

- DEEP MONITORING WELL
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL FOR GW MONITORING PROGRAM
- SHALLOW MONITORING WELL FOR GW MONITORING PROGRAM
- RECOVERY WELL
- RECOVERY WELL FOR GW MONITORING PROGRAM
- FULLY PENETRATING MONITORING WELL
- AIR STRIPPER (AS-2)
- VAPOR EXTRACTION WELL
- VAPOR EXTRACTION WELL FOR GW MONITORING PROGRAM

400 0 400 800

SCALE FEET

BENCHMARK = TOP OF PIPE IN CENTER OF NORTHWEST DRIVE ENTRANCE, ELEVATION = 1322.12.

Shaw
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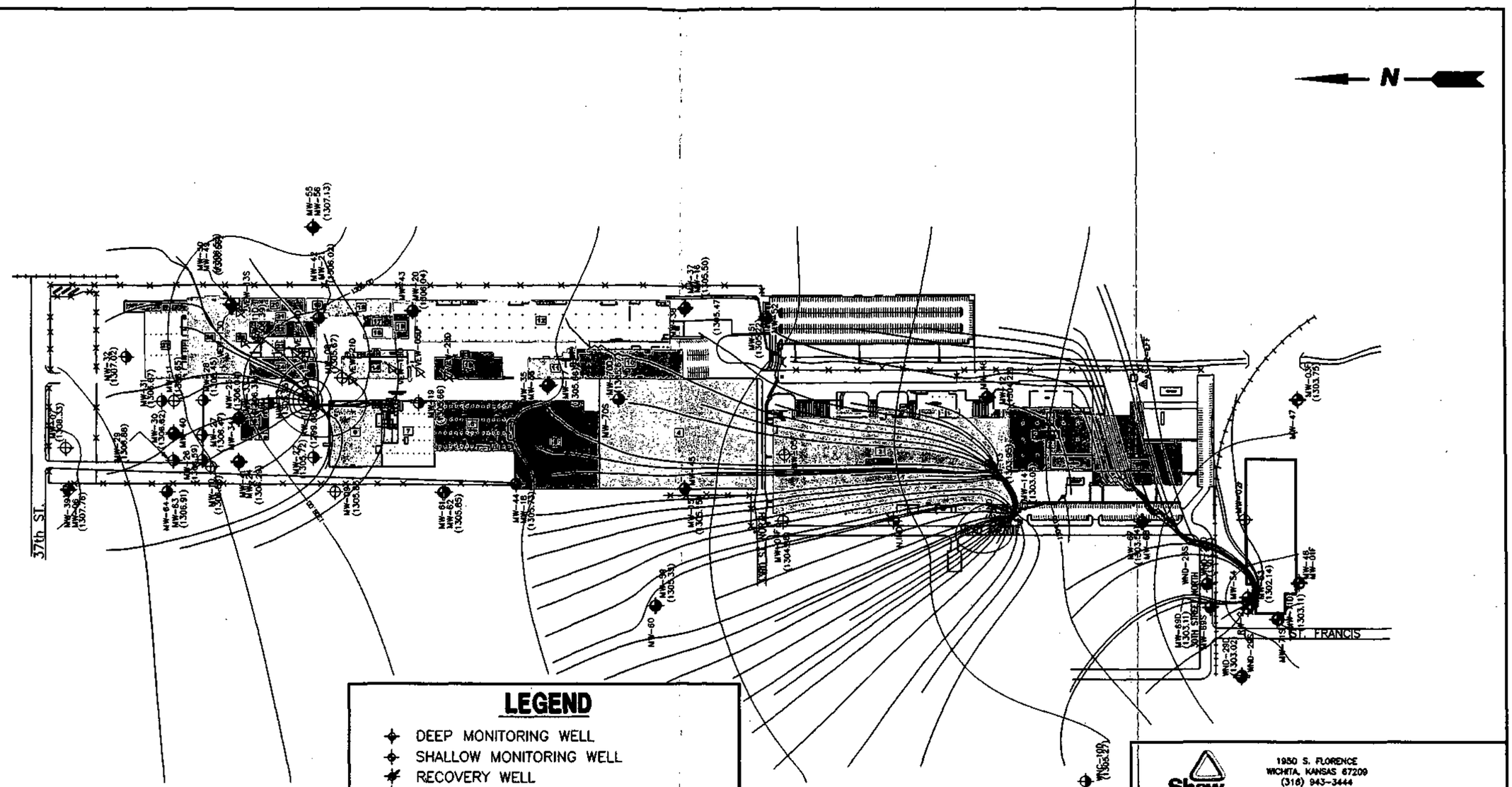
WICHITA, KANSAS 67209
(316) 943-3444

REV. NO.:	DRAWING DATE:	ACAD FILE:
1	11/19/02	GWSamplingMap1102

LOCATIONS OF MONITORING WELLS FOR GROUNDWATER MONITORING & POINT OF COMPLIANCE PROGRAMS

CLIENT:	PM:
NEW COLEMAN HOLDINGS	KH
LOCATION: COLEMAN OPERABLE UNIT	PE/RG:

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
	JD	108972	8


N
37th ST.
ST. FRANCIS
NORTH STREET
SOUTH STREET
MW-39
MW-64
MW-63
MW-28
MW-30
MW-31
MW-32
MW-33
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MW-69
MW-70S
MW-70D
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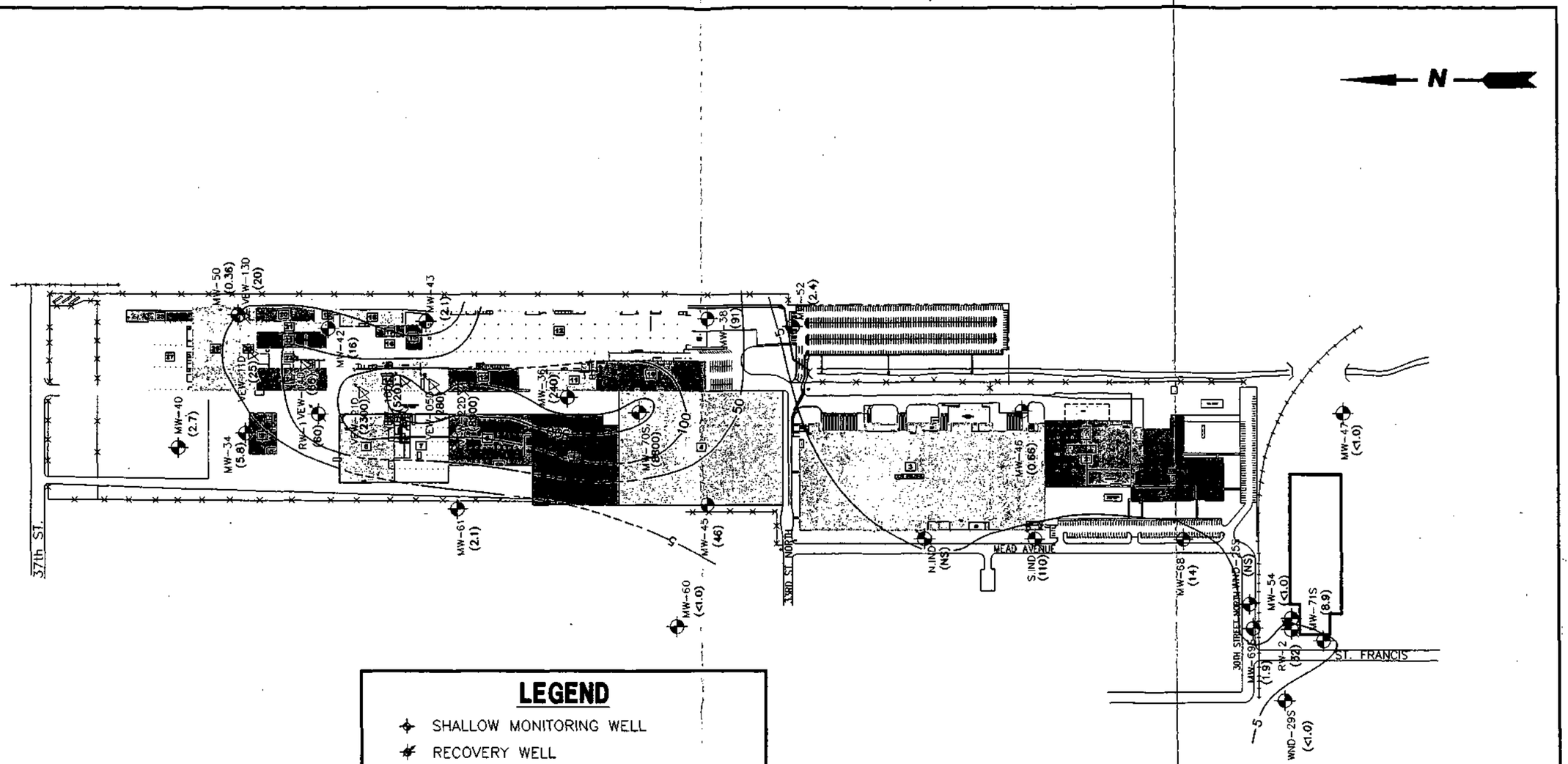
MW-109
MW-110



LEGEND

- SHALLOW MONITORING WELL
- RECOVERY WELL
- FULLY PENETRATING MONITORING WELL
- VAPOR EXTRACTION WELL

(44) TCE CONCENTRATION (ug/L)
NS = Not Sampled
MAXIMUM CONTAMINANT LEVEL FOR TCE 5 ug/L.

400 0 400 800
SCALE FEET

NOTE: RECOVERY WELLS NOT USED FOR CONTOURING; POSTED ONLY

BENCHMARK = TOP OF PIPE IN CENTER OF NORTHWEST DRIVE ENTRANCE, ELEVATION = 1322.12.

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WICHITA, KANSAS 67209
(316) 943-3444

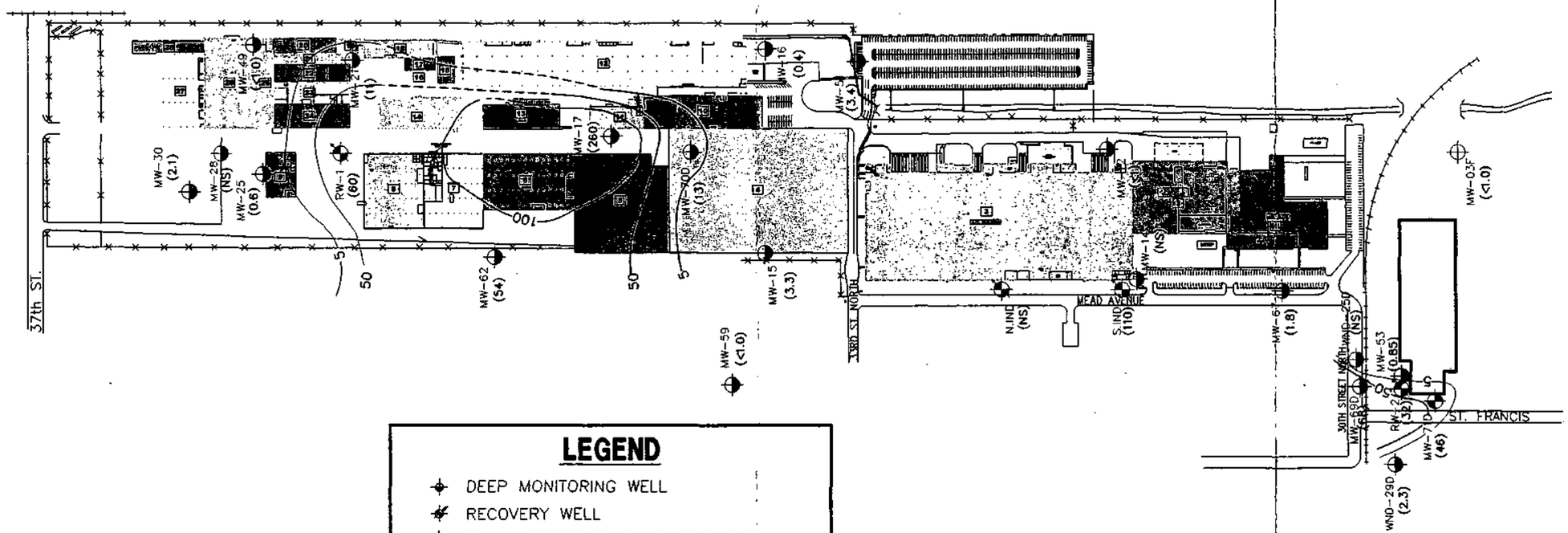
REV. NO.:	DRAWING DATE:	ACAD FILE:
1	12/29/04	tces1104

SHALLOW TCE ISOCONCENTRATION MAP

DATA COLLECTED NOVEMBER 2004

CLIENT:	PM:
NEW COLEMAN HOLDINGS	KH
LOCATION: COLEMAN OPERABLE UNIT	PE/RG:

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
SH	JD	108972	10



LEGEND

- DEEP MONITORING WELL
- RECOVERY WELL
- FULLY PENETRATING MONITORING WELL

(170) TCE CONCENTRATION (ug/L)
NS = Not Sampled
MAXIMUM CONTAMINANT LEVEL FOR TCE 5 ug/L.

400 0 400 800
SCALE FEET

NOTE: RECOVERY WELLS NOT USED FOR CONTOURING; POSTED ONLY

BENCHMARK = TOP OF PIPE IN CENTER OF NORTHWEST DRIVE ENTRANCE, ELEVATION = 1322.12.

Shaw
Shaw Environmental, Inc.
1950 S. FLORENCE
WICHITA, KANSAS 67209
(316) 943-3444

REV. NO.:	DRAWING DATE:	ACAD FILE:
1	12/29/04	tced1104

DEEP TCE ISOCONCENTRATION MAP
DATA COLLECTED NOVEMBER 2004

CLIENT:	PM:
NEW COLEMAN HOLDINGS	KH
LOCATION: COLEMAN OPERABLE UNIT	PE/RG:

DESIGNED:	DETAILED:	PROJECT NO.:	FIGURE:
SH	JD	108972	11

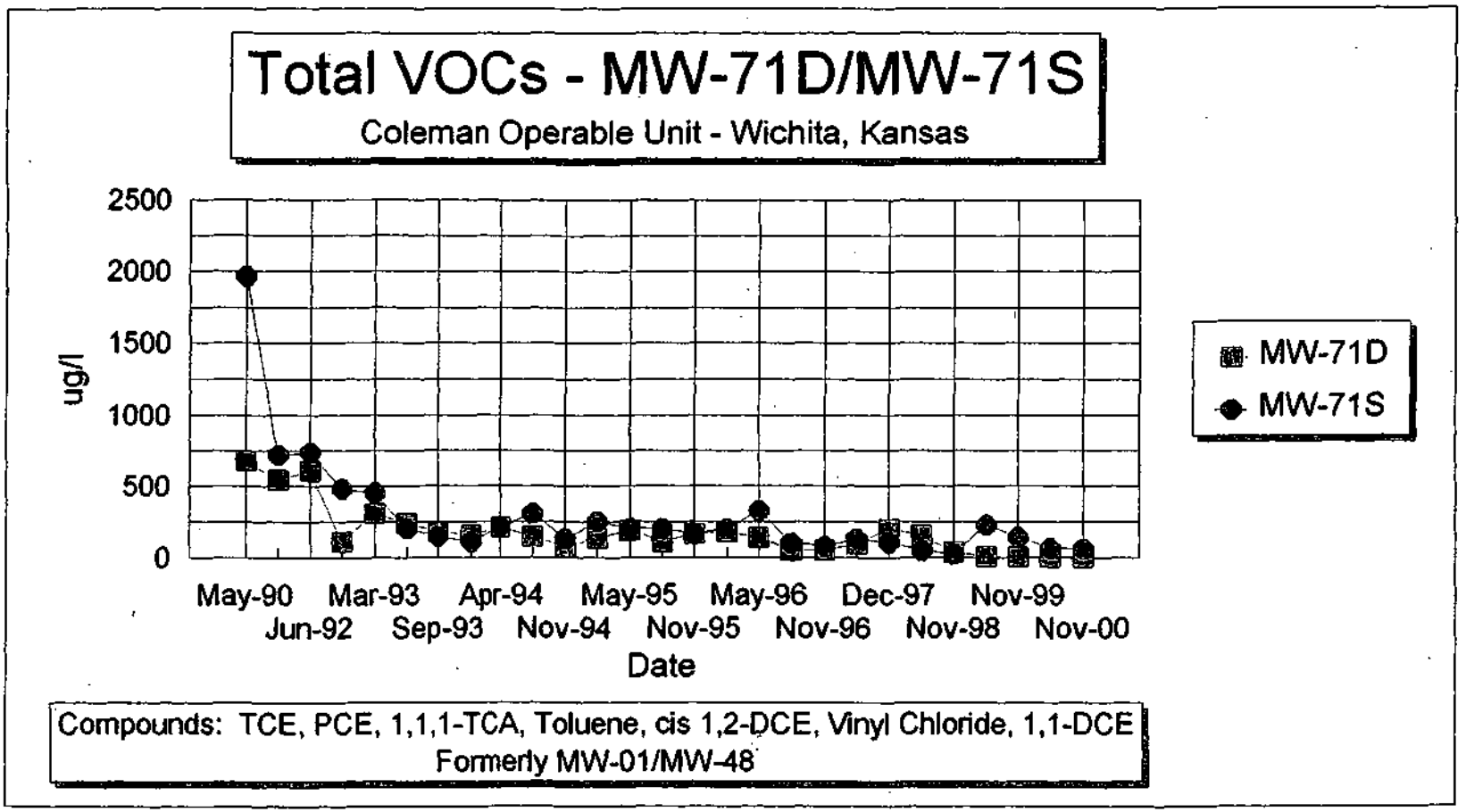

Total VOCs - MW-71D/MW-71S
Coleman Operable Unit - Wichita, Kansas
2500
2000
1500
1000
500
0
ug/l
May-90
Jun-92
Mar-93
Sep-93
Apr-94
Nov-94
May-95
Nov-95
May-96
Nov-96
Dec-97
Nov-98
Nov-99
Nov-00
Date
MW-71D
MW-71S
Compounds: TCE, PCE, 1,1,1-TCA, Toluene, cis 1,2-DCE, Vinyl Chloride, 1,1-DCE
Formerly MW-01/MW-48

Figure 12

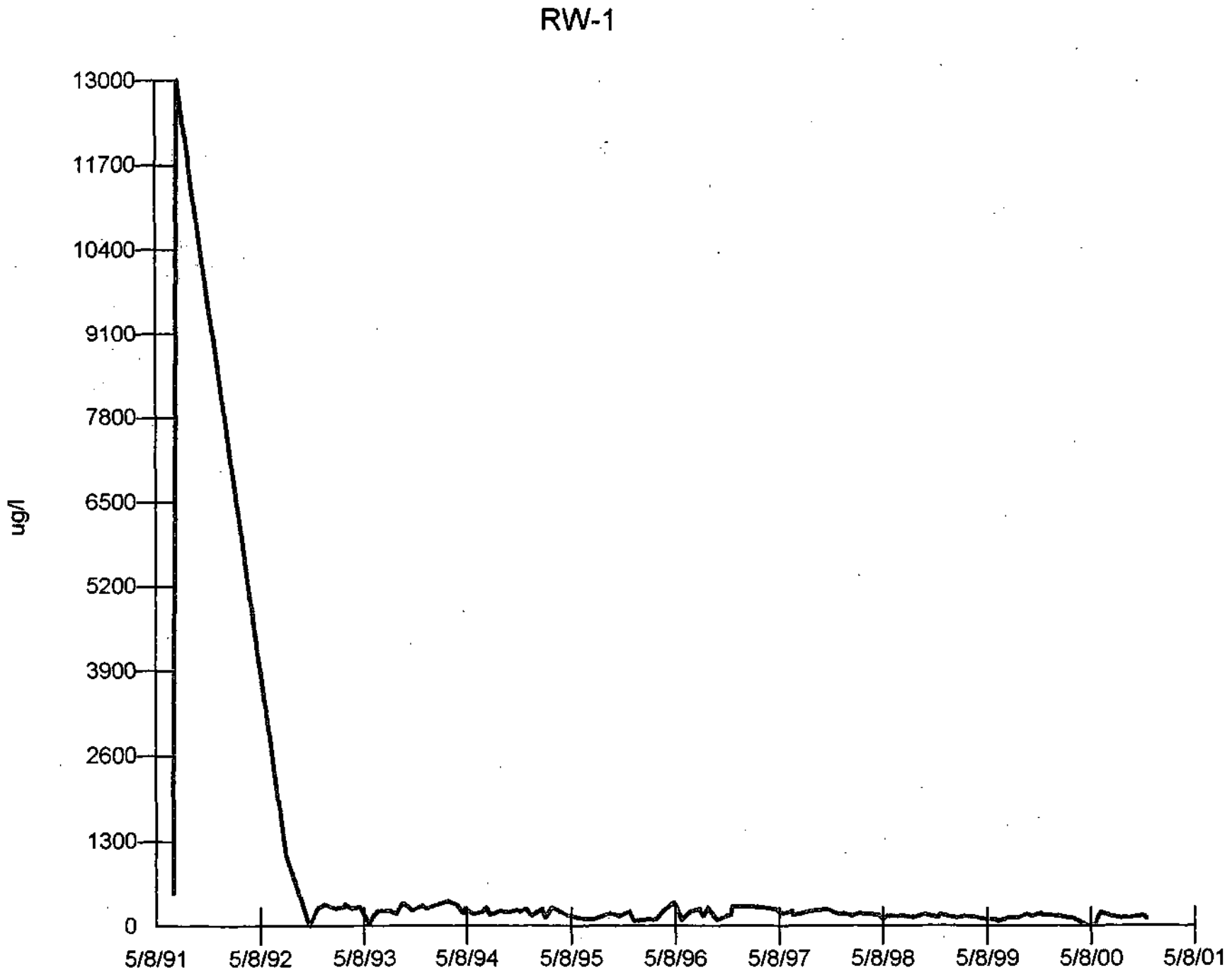


Figure 13

+ Trichloroethylene

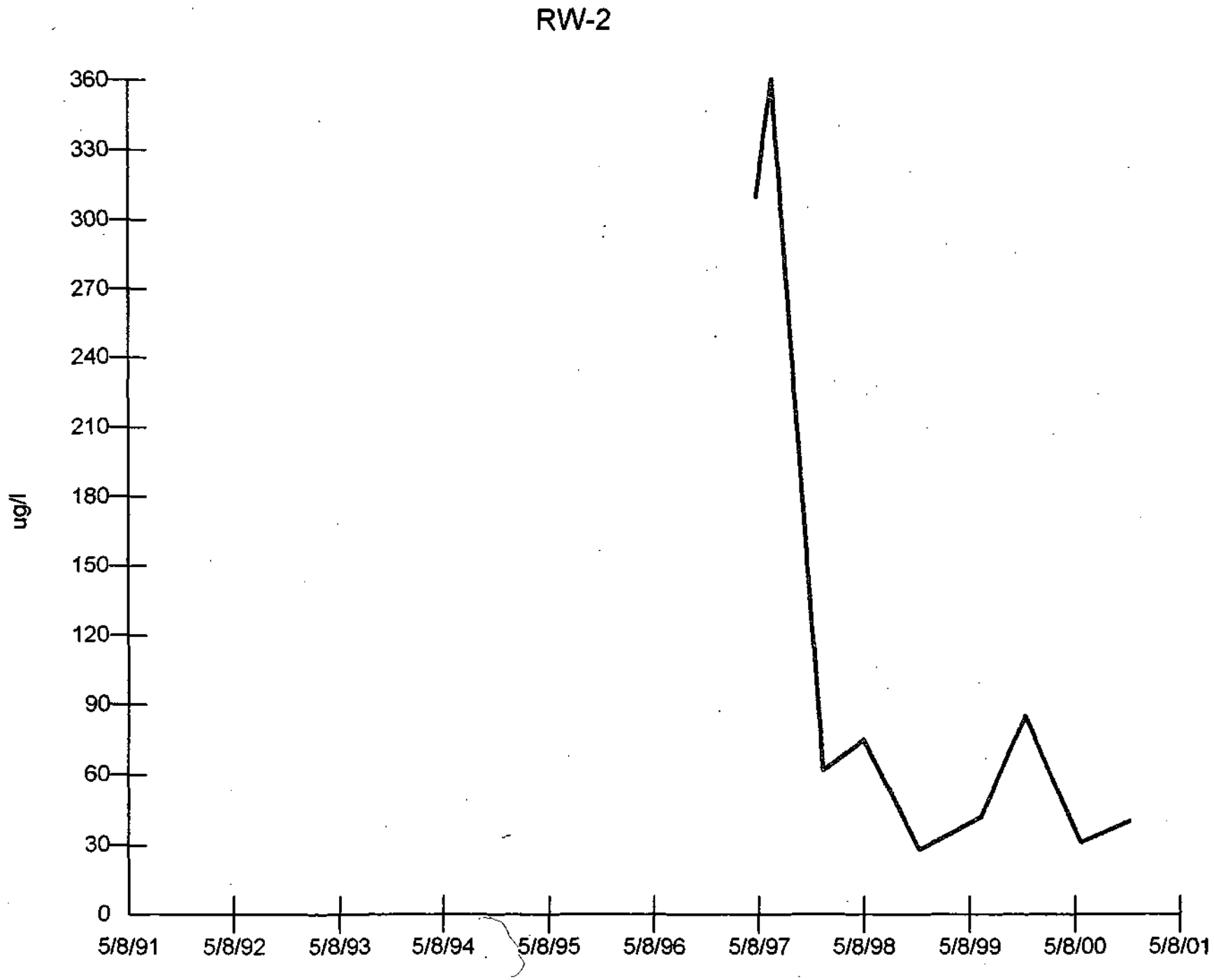


Figure 14

+ Trichloroethylene

Attachments

Attachment 1
Documents Reviewed

Ground Water Technology, Report of Remedial Investigation Activities, Coleman Operable Unit, Wichita, Kansas, September 3, 1991, Revision IV August 27, 1992.

Ground Water Technology, Feasibility Study Report, Coleman Operable Unit, Wichita, Kansas, September 25, 1991, Final July 2, 1992.

PRC Environmental, Risk Assessment for Coleman Operable Unit, Final Report, November 27, 1991

Fluor Daniel GTI, Final Remedial Design and Remedial Action Work Plan, Interim Ground Water Remedy, Coleman Operable Unit, Wichita, Kansas, May 3, 1996, Revised August 20, 1996

Fluor Daniel GTI, Remedial Design and Remedial Action Ground Compliance Monitoring Plan, Coleman Operable Unit, Wichita, Kansas, May 3, 1996

IT Group, Pre-Final Remedial Design and Remedial Action Work Plan, Final Soil Remedy, Coleman Operable Unit, Wichita, Kansas, August 5, 1999

Fluor Daniel GTI, Monthly Data Summary Report of RD/RA Activities, July 2, 1996

IT Group, Coleman Operable Unit, Quarterly Update of RD/RA Activities, January 10, 2001

Shaw Group, Coleman Operable Unit, Quarterly Update of RD/RA Activities, January 10, 2002

Shaw Group, Coleman Operable Unit, Quarterly Update of RD/RA Activities, January 17, 2005

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986, 42 U. S. C. § 9601 et seq.

Kansas Department of Health and Environment, 1990, Consent Agreement between the Kansas Department of Health and Environment and the Obee Road PRP Group, March 27, 1990.

United States of America, Plantiffs v. Evcon Industries, Inc, New Coleman Holdings, Inc., and Recreational Vehicle Products, Inc., Consent Decree, Filed February 18, 1994

National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR Part 300.

United States Environmental Protection Agency Region VII, Record of Decision, Coleman Operable Unit, 29th and Mead Superfund Site, Wichita, Kansas, September 1992

United States Environmental Protection Agency Region VII, 1994, Interim Remedial Action Report, 29th and Mead Ground Water Contamination Site, Coleman Operable Unit, Wichita, Kansas, September 2000

Attachment 2

EPA Office of Research and Development

Ground Water Report

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL RISK MANAGEMENT RESEARCH LABORATORY
GROUND WATER AND ECOSYSTEMS RESTORATION DIVISION
P.O. Box 1198 Ada,OK 74820

OFFICE OF
RESEARCH AND DEVELOPMENT

May 18, 2005

MEMORANDUM

SUBJECT: Five Year Review of the Pump and Treat System for the 29th & Mead Superfund Site – Coleman Operable Unit, Wichita, KS (05-R07-001)

FROM: David S. Burden, Ph.D., Director
Ground Water Technical Support Center

TO: Ken Rapplean, RPM
U.S. EPA Region 7

Introduction

Technical review comments are provided below on documents and quarterly reports associated with the 29th and Mead Superfund Site – Coleman Operable Unit (COU), Wichita, KS. Specifically, the review focused on the data at the compliance points, in addition to all other data, to determine if the pump and treat system is containing the plume. The review was conducted by EPA's contractor to the Ground Water Technical Support Center. Dr. Lifeng Guo, of the Dynamac Corporation reviewed the data and provided technical comments. I have reviewed his comments and concur with them. If after reviewing the comments below you have any questions, please contact me.

The COU is located within an area used since the late 1800s for heavy industrial manufacturing of railroad cars, automobiles, drilling and farm equipment, aircraft, metal fabrication, and recently of household furnace/air conditioning units, and air conditioners for recreational vehicles. The COU consists of the Evcon facilities located at the northern end of the COU, including a manufacturing plant (at 801 East 37th St. North) (approximately 60 percent of the COU), and two areas located at the southern end of the COU: an Administrative and Engineering (A&E) Building (located at 3110 North Mead) (approximately 30 percent of the COU) and the RV Products (located at 3050 North St. Francis). The southern boundary is about 300 feet south of 30th Street North. The remedial investigation indicated that the soil and ground water at the COU were impacted with elevated concentrations of volatile organic chemicals (VOCs). The primary chemicals of concern (COCs) identified include tetrachloroethene (PCE), trichloroethene (TCE), 1,1,1-trichloroethane (TCA), and degradation daughter compounds, namely cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). As described in the

Record of Decision for the COU, soil vapor extraction (SVE) and ground water extraction were selected to address the contaminated soil in the unsaturated zone and aquifer, respectively.

Summary

Based on the observed ground water contaminant concentrations and water level data at the 29th and Mead Superfund Site – Coleman Operable Unit (COU), Wichita, KS, it appears that the pump and treat system has successfully been working to contain the contaminant plume in the ground water at the southern boundary and off-site to the west of the Evcon facilities on East 37th St. North, and at the southern boundary of the A&E Building on North Mead. However, the pump and treat system has failed to prevent the contaminant plume from migrating off the western boundary of the Evcon facilities on East 37th Street North, and the western boundaries of the A&E Building on North Mead and the RV Products on North St. Francis. Two recommendations are suggested to correct the out of compliance situations at certain monitoring wells and speed-up the remediation processes: 1) consider adding or converting monitoring well MW-70 into an extraction well to address the contaminated water located between VEW-21D and MW-70S in the central portion of the Evcon facilities on East 37th St. North; and 2) modify the pumping operation, such as employing a pulsed pumping schedule and/or with a higher pumping rate to mobilize the contaminated waters located in and around the stagnation zones (especially at RW-2).

General Comments

The installed ground water pump and treatment system at the COU consists of three extraction wells (two recovery wells and one industrial well), with RW-1 located near the contaminant source area, the industrial well downgradient at the western boundary of the A&E Building, and RW-2 further downgradient. This combined source control, mid-plume, and downgradient pumping arrangement represents one of the most efficient designs of a pump-out system, as it reduces the flowpath and travel time of contaminants to extraction wells and prevents further spreading of contaminants in the aquifer (Cohen and others, 1997).

A total of seven couplets of monitoring wells were selected as the point-of-compliances (POC) and monitored to verify the effectiveness of hydraulic control and reduction of ground water contaminant concentrations at the site boundaries of the COU, including one couplet off-site to the west. Monitoring data of water quality and water levels, currently collected semi-annually from these POCs, are intended for evaluating if the on-site pump and treat system is containing the plume at the site. Their locations are described below:

MW-61/MW-62 and MW-45/MW-15	Western boundary of the Evcon facilities on East 37th St. North
MW-59/MW-60	Off-site to west of the Evcon facilities on East 37th St. North

MW-51/MW-52	Southern boundary of the Evcon facilities on East 37th St. North
MW-67/MW-68	Western boundary of the A&E Building on North Mead
MW-3/MW-47	Southern boundary of the A&E Building on North Mead
MW-71(D)/MW-71(S)	Western boundary of the RV Products on North St. Francis

Western boundary and off-site to the west of the Evcon facilities on East 37th Street North

Contamination was detected at both compliance points MW-45 and MW-62 along the western boundary of the Evcon facilities on East 37th Street, with a TCE concentration above the MCL at 46 μg/L and 54 μg/L, respectively, in November 2004. The concentration of TCE in MW-45 decreased from 110 μg/L in November 2001 to 91 μg/L in May 2002 and 31 μg/L in May 2003, and had been varying between 44 μg/L and 64 μg/L since November 2003. At MW-62, the TCE concentration increased from 63 μg/L in November 2001 to 170 μg/L in November 2004, and was down to 71 μg/L in May 2004 and then 54 μg/L in November 2004. The levels of TCE and cis-1,2-DCE in the shallow part of the aquifer shown in MW-61 had been sporadic. TCE was detected at 220 μg/L in May 2003, and had been below 10 μg/L since late 2003, while cis-1,2-DCE decreased from 530 μg/L in May 2002 to 100 μg/L May 2003 and 2.1 μg/L in November 2003, and was back up to 100 μg/L in May 2004. The concentration of cis-1,2-DCE in MW-61 was below the reporting limit in the most recent monitoring.

No chemicals of concern were ever detected at the compliance point MW-59/MW-60 off-site to the west of the Evcon facilities on East 37th St. North.

Southern boundary of the Evcon facilities on East 37th St. North

Monitoring wells MW-51/MW-52 at the southern boundary of the Evcon facilities on East 37th St. North were in compliance. Although low levels of TCE were found in both MW-51 and MW-52, they had been below the MCL of 7 μg/L since May 2003.

Western boundary of the A&E Building on North Mead

The monitoring data collected from the deeper part of the aquifer in MW-68 showed that the concentration of TCE was at 14 μg/L in November 2004. MW-68 was still out of compliance, although a general decreasing trend of TCE had been continuing in both MW-67 and MW-68 since 2002. Monitoring well MW-67 located in the shallow aquifer had been in compliance since late 2003.

Western boundary of the RV Products on North St. Francis

Monitoring well MW-71(D)/MW-71(S) along the western boundary of the RV Products on North St. Francis continued to be out of compliance. The deeper portion of the aquifer was found to have higher contamination levels than the shallow part of the aquifer. For example, TCE in MW-71(D) reached a high of 160 μg/L in November 2003, was down to 52 μg/L in May 2004, and to 46 μg/L in November 2004. In MW-71(S), TCE varied from 28 μg/L in late 2001 to 34 μg/L in May 2002, and stayed between 8.9 μg/L and 16 μg/L in 2003 and 2004. Another chemical of concern, cis-1,2-DCE, was also detected in MW-71(D)/MW-71(S). The level of cis-1,2-DCE dropped to 57 μg/L in late 2004 from 180 μg/L in November 2003 in MW-71(D), and was 8.9 μg/L at MW-71(S) in November 2004.

Southern boundary of the A&E Building on North Mead

No chemicals of concern were ever found above the respective detection limits at MW-47.

By examining flow net maps prepared based on the water level measurements obtained from the seven cluster wells and other on-site monitoring wells, it appears that the out-of-compliance condition at wells MW-71(D)/MW-71(S) and MW-68 may have resulted from some contaminated water not being captured, and/or being located at or near the stagnation zone typically developed downgradient of an extraction well (Keely, 1989). It seems that the relatively small capture zone created by RW-2 may not be effective in preventing the deeper part of contaminated ground water from moving through. Also, monitoring wells MW-71(D)/MW-71(S) are located downgradient of an extraction well (RW-2). The stagnation zones are hydrodynamically isolated from the portion of aquifer with active flow. Once a contaminant migrates into the stagnation zone, transport out of this isolated water primarily occurs by diffusion. A similar situation may occur at MW-68 as it is located downgradient of and near the south industrial well.

Hot Spot and Recovery Well Monitoring

An elongated TCE plume, approximately 1000 feet long, in the shallow aquifer was located immediately downgradient of RW-1. It extended south from VEW-21D to MW-70S in the central portion of the property, with TCE concentrations of 8,800 μg/L in MW-70S and 8,900 μg/L in VEW-22D in November 2004. High TCE concentrations were consistently observed at MW-70S, varying from 11,000 μg/L in May 2003, 5,700 μg/L in November 2003, to 7,100 μg/L in May 2004. Dissolved TCE was also found in the deeper part of the aquifer, with TCE of 260 μg/L at MW-17 and 54 μg/L at MW-62 (located at the western property boundary). In addition to being at or near the stagnation zone formed by RW-1, this TCE plume is also relatively far (approximately 1200 feet) from the downgradient extraction well, the south industrial well. The cleanup of this contaminant plume, therefore, appears to be limited by the relatively slow movement of ground water. Furthermore, it seems that only about half of the capture zone of the south industrial well was in the contaminated area based on recent flow nets.

Further evaluation of capture zones may require that the hydraulic gradient be measured accurately in three dimensions, as the hydraulic influence of an extraction well extends to only a limited depth. In order to shorten the cleanup time, it may be necessary to take a targeted remedial measure to address this plume, such as converting MW-70S to an extraction well.

The relatively small variation of TCE concentrations observed in the extraction well RW-1 (60 to 90 μg/L), RW-2 (22 to 39 μg/L), and to a lesser extent, in the south industrial well (76 to 150 μg/L) for at least the last two years, indicates that the TCE concentration may be approaching a tailing pattern (apparent residual contamination level). Tailing patterns are associated with different physical and chemical processes (i.e., dissolution, diffusion, and desorption) that are active at the site. Diagnosis of the cause of tailing requires careful consideration of site conditions and usually cannot be made by examining concentration-versus-time data alone (Cohen and others, 1997).

The current extraction system, designed based on the initial site conceptual model developed during the remedial investigation phase, has been working successfully to contain the contaminant plume in the ground water at the southern boundary and off-site to the west of the Evcon facilities on East 37th St. North, and at the southern boundary of the A&E Building on North Mead. However, the pump and treat system has not been able to prevent the contaminant plume from migrating off the western boundary of the Evcon facilities on East 37th Street North, and the western boundaries of the A&E Building on North Mead and the RV Products on North St. Francis.

Based on the review presented above, the following recommendations are suggested: 1) consider adding or converting monitoring well MW-70 into an extraction well to address the contaminated water located between VEW-21D to MW-70S in the central portion of the Evcon facilities on East 37th St. North; and 2) modify the pumping operation, such as employing a pulsed pumping and/or with a higher pumping rate to mobilize the contaminated waters located in the stagnation zones.

References

Cohen, R.M., J.W. Mercer, R.M. Greenwald, and M.S. Beljin, 1997. Design guidelines for conventional pump-and-treat systems. Ground Water Issue, EPA/540/S-97/504, U.S. EPA, ORD, R.S. Kerr Environmental Research Laboratory, Ada, OK.

Keely, J.F., 1989. Performance evaluations of pump-and-treat remediation. Ground Water Issue, EPA/540/4-89/005, U.S. EPA, ORD, R.S. Kerr Environmental Research Laboratory, Ada, OK.

cc: Rich Steimle (5102G)
Jeff Johnson, Region 7
Steve Kovac, Region 7

Attachment 3

Site Inspection Checklist

Five-Year Review Site Inspection Checklist

I. SITE INFORMATION	
Site name: 29th and Mead, Coleman Operable Unit (OU02)	**Date of inspection: 9/23/04**
Location and Region: Wichita, Kansas, Region 7	**EPA ID: KSD007241656**
Agency, office, or company leading the five-year review: EPA, Region 7, Superfund Division	**Weather/temperature: Fair weather, 75° F, 10 mph winds**

Remedy Includes: (Check all that apply)

- ☐ Landfill cover/containment
- ☐ Access controls
- ☐ Institutional controls
- ✖ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ✖ Other Soil vapor extraction
- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ✖ Inspection team roster attached ✖ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Mike Wilson (Name) Shaw Environmental (Company) 9/23/04 (Date)
   Interviewed ✖ at site ☐ at office ☐ by phone Phone no. 316-943-3444
   Problems, suggestions; ☐ Report attached

2. **O&M staff** Amber LeMaster (Name) Shaw Environmental (Company) 9/23/04 (Date)
   Interviewed ✖ at site ☐ at office ☐ by phone Phone no. 316-943-3444
   Problems, suggestions; ☐ Report attached

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency Kansas Department of Health and Environment
Contact Randy Carlson — Unit Chief/SUPR Unit — 9/23/04 — 785-296-1682
Name — Title — Date — Phone no.
Problems; suggestions; ☐ Report attached

Agency Kansas Department of Health and Environment
Contact Chris Jump — Unit Chief/Use Control — 9/23/04 — 785-296-1935
Name — Title — Date — Phone no.
Problems; suggestions; ☐ Report attached

Agency
Contact
Name — Title — Date — Phone no.
Problems; suggestions; ☐ Report attached

Agency
Contact
Name — Title — Date — Phone no.
Problems; suggestions; ☐ Report attached

4. **Other interviews** (optional) ☐ Report attached.

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**

✖ O&M manual	✖ Readily available	✖ Up to date	☐ N/A
✖ As-built drawings	✖ Readily available	✖ Up to date	☐ N/A
☐ Maintenance logs	☐ Readily available	☐ Up to date	☐ N/A

Remarks - Documents are located at the Shaw offices and were provided during the inspection.

2. **Site-Specific Health and Safety Plan** ✖ Readily available ✖ Up to date ☐ N/A
   ☐ Contingency plan/emergency response plan ☐ Readily available ☐ Up to date ☐ N/A
   Remarks

3. **O&M and OSHA Training Records** ✖ Readily available ✖ Up to date ☐ N/A
   Remarks - O & M manual provided during the inspection.

4. **Permits and Service Agreements**

☐ Air discharge permit	☐ Readily available	☐ Up to date	X N/A
✖ Effluent discharge	✖ Readily available	✖ Up to date	☐ N/A
☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	X N/A
☐ Other permits	☐ Readily available	☐ Up to date	X N/A

Remarks – NPDES permit and documentation of NPDES compliance provided during review. NPDES permit issued by KDHE and valid from 9/1/01 through 12/31/04. Effluent limitations are the MCLs for VOCs.

5. **Gas Generation Records** ☐ Readily available ☐ Up to date ✖ N/A
   Remarks

6. **Settlement Monument Records** ☐ Readily available ☐ Up to date ✖ N/A
   Remarks

7. **Groundwater Monitoring Records** ✖ Readily available ☐ Up to date ☐ N/A
   Remarks

8. **Leachate Extraction Records** ☐ Readily available ☐ Up to date ✖ N/A
   Remarks

9. **Discharge Compliance Records**

☐ Air	☐ Readily available	☐ Up to date	☐ N/A
✖ Water (effluent)	✖ Readily available	✖ Up to date	☐ N/A

Remarks - NPDES compliance records presented during inspection.

10. **Daily Access/Security Logs** ☐ Readily available ☐ Up to date ☐ N/A
    Remarks

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☐ Contractor for State
☐ PRP in-house ✖ Contractor for PRP
☐ Federal Facility in-house ☐ Contractor for Federal Facility
☐ Other_____

2. **O&M Cost Records**

✖ Readily available (at Shaw offices) ☐ Up to date
☐ Funding mechanism/agreement in place
Original O&M cost estimate_____ ☐ Breakdown attached

Total annual cost by year for review period if available

From_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost
From_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost
From_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost
From_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost
From_____ To_____ _____ ☐ Breakdown attached
Date Date Total cost

3. **Unanticipated or Unusually High O&M Costs During Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS ✖ Applicable ☐ N/A

A. Fencing

1. **Fencing damaged** ☐ Location shown on site map ✖ Gates secured ☐ N/A

Remarks_____

B. Other Access Restrictions

1. **Signs and other security measures** ☐ Location shown on site map ☐ N/A

Remarks - Guards on duty to provide security for facility.

C. Institutional Controls (ICs)

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☐ No ✖ N/A
Site conditions imply ICs not being fully enforced ☐ Yes ☐ No ✖ N/A

Type of monitoring (*e.g.*, self-reporting, drive by) _____
Frequency _____
Responsible party/agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.

Reporting is up-to-date ☐ Yes ☐ No ✖ N/A
Reports are verified by the lead agency ☐ Yes ☐ No ✖ N/A

Specific requirements in deed or decision documents have been met ☐ Yes ☐ No ✖ N/A
Violations have been reported ☐ Yes ☐ No ✖ N/A
Other problems or suggestions: ☐ Report attached

_____
_____
_____
_____

2. **Adequacy** ☐ ICs are adequate ☐ ICs are inadequate ✖ N/A

Remarks _____
_____
_____

D. General

1. **Vandalism/trespassing** ☐ Location shown on site map ✖ No vandalism evident

Remarks _____
_____

2. **Land use changes on site** ☐ N/A

Remarks – General land use has not changed. New manufacturing facilities have been constructed in the past 5 years.

_____

3. **Land use changes off site** ☐ N/A

Remarks – General off-site land use has not changed. _____
_____
_____

VI. GENERAL SITE CONDITIONS

A. Roads ✖ Applicable ☐ N/A

1. **Roads damaged** ☐ Location shown on site map ✖ Roads adequate ☐ N/A

Remarks _____
_____

B. Other Site Conditions

Remarks

VII. LANDFILL COVERS ☐ Applicable ✖ N/A

A. Landfill Surface

1. **Settlement** (Low spots) ☐ Location shown on site map ☐ Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Cracks** ☐ Location shown on site map ☐ Cracking not evident
   Lengths_____ Widths_____ Depths_____
   Remarks_____

3. **Erosion** ☐ Location shown on site map ☐ Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Holes** ☐ Location shown on site map ☐ Holes not evident
   Areal extent_____ Depth_____
   Remarks_____

5. **Vegetative Cover** ☐ Grass ☐ Cover properly established ☐ No signs of stress
   ☐ Trees/Shrubs (indicate size and locations on a diagram)
   Remarks_____

6. **Alternative Cover (armored rock, concrete, etc.)** ☐ N/A
   Remarks_____

7. **Bulges** ☐ Location shown on site map ☐ Bulges not evident
   Areal extent_____ Height_____
   Remarks_____

8. **Wet Areas/Water Damage** ☐ Wet areas/water damage not evident
☐ Wet areas ☐ Location shown on site map Areal extent_____
☐ Ponding ☐ Location shown on site map Areal extent_____
☐ Seeps ☐ Location shown on site map Areal extent_____
☐ Soft subgrade ☐ Location shown on site map Areal extent_____
Remarks_____

9. **Slope Instability** ☐ Slides ☐ Location shown on site map ☐ No evidence of slope instability
Areal extent_____
Remarks_____

B. Benches ☐ Applicable ☐ N/A
(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** ☐ Location shown on site map ☐ N/A or okay
Remarks_____

2. **Bench Breached** ☐ Location shown on site map ☐ N/A or okay
Remarks_____

3. **Bench Overtopped** ☐ Location shown on site map ☐ N/A or okay
Remarks_____

C. Letdown Channels ☐ Applicable ☐ N/A
(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** ☐ Location shown on site map ☐ No evidence of settlement
Areal extent_____ Depth_____
Remarks_____

2. **Material Degradation** ☐ Location shown on site map ☐ No evidence of degradation
Material type_____ Areal extent_____
Remarks_____

3. **Erosion** ☐ Location shown on site map ☐ No evidence of erosion
Areal extent_____ Depth_____
Remarks_____

4. **Undercutting** ☐ Location shown on site map ☐ No evidence of undercutting
Areal extent_____ Depth_____
Remarks_____

5. **Obstructions** Type_____ ☐ No obstructions
☐ Location shown on site map Areal extent_____
Size_____
Remarks_____

6. **Excessive Vegetative Growth** Type_____
☐ No evidence of excessive growth
☐ Vegetation in channels does not obstruct flow
☐ Location shown on site map Areal extent_____
Remarks_____

D. Cover Penetrations ☐ Applicable ☐ N/A

1. **Gas Vents** ☐ Active ☐ Passive
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance
☐ N/A
Remarks_____

2. **Gas Monitoring Probes**
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks_____

3. **Monitoring Wells** (within surface area of landfill)
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks_____

4. **Leachate Extraction Wells**
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs Maintenance ☐ N/A
Remarks_____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ☐ N/A
Remarks_____

E. Gas Collection and Treatment ☐ Applicable ☐ N/A

1. **Gas Treatment Facilities**
   ☐ Flaring ☐ Thermal destruction ☐ Collection for reuse
   ☐ Good condition ☐ Needs Maintenance
   Remarks_____

2. **Gas Collection Wells, Manifolds and Piping**
   ☐ Good condition ☐ Needs Maintenance
   Remarks_____

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
   ☐ Good condition ☐ Needs Maintenance ☐ N/A
   Remarks_____

F. Cover Drainage Layer ☐ Applicable ☐ N/A

1. **Outlet Pipes Inspected** ☐ Functioning ☐ N/A
   Remarks_____

2. **Outlet Rock Inspected** ☐ Functioning ☐ N/A
   Remarks_____

G. Detention/Sedimentation Ponds ☐ Applicable ☐ N/A

1. **Siltation** Areal extent_____ Depth_____ ☐ N/A
   ☐ Siltation not evident
   Remarks_____

2. **Erosion** Areal extent_____ Depth_____
   ☐ Erosion not evident
   Remarks_____

3. **Outlet Works** ☐ Functioning ☐ N/A
   Remarks_____

4. **Dam** ☐ Functioning ☐ N/A
   Remarks_____

H. Retaining Walls ☐ Applicable ☐ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident
   Horizontal displacement_____ Vertical displacement_____
   Rotational displacement_____
   Remarks_____

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident
   Remarks_____

I. Perimeter Ditches/Off-Site Discharge ☐ Applicable ☐ N/A

1. **Siltation** ☐ Location shown on site map ☐ Siltation not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A
   ☐ Vegetation does not impede flow
   Areal extent_____ Type_____
   Remarks_____

3. **Erosion** ☐ Location shown on site map ☐ Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Discharge Structure** ☐ Functioning ☐ N/A
   Remarks_____

VIII. VERTICAL BARRIER WALLS ☐ Applicable ✖ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Performance Monitoring** Type of monitoring_____
   ☐ Performance not monitored
   Frequency_____ ☐ Evidence of breaching
   Head differential_____
   Remarks_____

IX. GROUNDWATER/SURFACE WATER REMEDIES ✖ Applicable ☐ N/A	
A. Groundwater Extraction Wells, Pumps, and Pipelines ✖ Applicable ☐ N/A	
1.	**Pumps, Wellhead Plumbing, and Electrical** ✖ Good condition ✖ All required wells properly operating ☐ Needs Maintenance ☐ N/A Remarks
2.	**Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances** ✖ Good condition ☐ Needs Maintenance Remarks
3.	**Spare Parts and Equipment** ☐ Readily available ✖ Good condition ☐ Requires upgrade ☐ Needs to be provided Remarks
B. Surface Water Collection Structures, Pumps, and Pipelines ✖ Applicable ☐ N/A	
1.	**Collection Structures, Pumps, and Electrical** ✖ Good condition ☐ Needs Maintenance Remarks
2.	**Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances** ✖ Good condition ☐ Needs Maintenance Remarks
3.	**Spare Parts and Equipment** ☐ Readily available ✖ Good condition ☐ Requires upgrade ☐ Needs to be provided Remarks

C. Treatment System ✖ Applicable ☐ N/A

1. **Treatment Train** (Check components that apply)
   ☐ Metals removal ☐ Oil/water separation ☐ Bioremediation
   ✖ Air stripping ☐ Carbon adsorbers
   ☐ Filters_____
   ☐ Additive (*e.g.*, chelation agent, flocculent)_____
   ☐ Others_____
   ✖Good condition ☐ Needs Maintenance
   ✖ Sampling ports properly marked and functional
   ☐ Sampling/maintenance log displayed and up to date
   ✖ Equipment properly identified
   ☐ Quantity of groundwater treated annually_____
   ☐ Quantity of surface water treated annually_____
   Remarks_____

2. **Electrical Enclosures and Panels** (properly rated and functional)
   ☐ N/A ✖ Good condition ☐ Needs Maintenance
   Remarks_____

3. **Tanks, Vaults, Storage Vessels**
   ✖ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs Maintenance
   Remarks_____

4. **Discharge Structure and Appurtenances**
   ☐ N/A ✖ Good condition ☐ Needs Maintenance
   Remarks_____

5. **Treatment Building(s)**
   ✖ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair
   ☐ Chemicals and equipment properly stored
   Remarks_____

6. **Monitoring Wells** (pump and treatment remedy)
   ✖ Properly secured/locked ✖ Functioning ✖ Routinely sampled ✖ Good condition
   ✖All required wells located ☐ Needs Maintenance ☐ N/A
   Remarks_____

D. Monitoring Data

1. Monitoring Data
   ✖ Is routinely submitted on time ☐ Is of acceptable quality

2. Monitoring data suggests:
   ✖ Groundwater plume is effectively contained ☐ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)
   ☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
   ☐ All required wells located ☐ Needs Maintenance ☐ N/A
   Remarks_____

X. SOIL VAPOR EXTRACTION

A. Groundwater Extraction Wells, Pumps, and Pipelines ✖ Applicable ☐ N/A

1. **Blowers, Wellhead Plumbing, and Electrical**
   ✖ Good condition ☐ All required wells properly operating ☐ Needs Maintenance ☐ N/A
   Remarks – Some of the SVE were shut down to test for rebound.

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   ✖ Good condition ☐ Needs Maintenance
   Remarks_____

3. **Collection Structures, Pumps, and Electrical**
   ✖ Good condition ☐ Needs Maintenance
   Remarks_____

B. Treatment System ☐ Applicable ✖N/A

C. Monitoring Data

3. Monitoring Data
   ✖ Is routinely submitted on time ✖ Is of acceptable quality

4. Monitoring data suggests:
   ✖ SVE systems removing soil contamination ✖ Contaminant concentrations are declining