QUARTERLY PROGRESS REPORT NO. 5
(July 1 through September 30, 2004)

FULL SCALE IN-SITU SOIL VAPOR EXTRACTION SYSTEM VESTAL AREA 4, VESTAL, NEW YORK

Prepared by:

SEVENSON PRAC TEAM MEMBER
Envirogen/Shaw, Inc.
103 College Ave SE
Grand Rapids, MI 49503

Submitted by:
SEVENSON ENVIRONMENTAL SERVICES, INC.
2749 Lockport Road
Niagara Falls, NY 14305

December 8, 2004

Sevenson
Environmental
Services, Inc.

December 8, 2004

Stephen J. DeNardis, P.E.
Resident Engineer
West Point Area Office
New York District
U.S. Army Corps of Engineers
Building 667A 3rd Floor
West Point, New York 10996

Attention: Mr. Nicholas Patsis, P.E.

RE: Quarterly Progress Report No. 5
Contract # DACW41-01-D-001-0006
Vestal Wellfield 1-1, Area 4, Vestal, New York

Sirs:

Enclosed is Quarterly Progress Report No. 5 for the referenced contract. This report covers system operations during July, August, and September 2004. O&M activities for the period as well as sampling activities are summarized in this report. Copies of the analytical data are included.

Please email me at cmarshall@sevensonphilly.com or call at 610-388-0721 if you've any questions.

Sincerely,
Sevenson Environmental Services, Inc.

Cassandra T. Marshall
Project Manager

CTM/1

cc: A. LaGreca (Sevenson)
J. Singer (Sevenson)
D. Callahan (Envirogen)
B. Buckrucker (USACE)
F. Bales (USACE)
S. Trocher (USEPA)
M. Dunham (NYSDEC)

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE (Read Instructions on the reverse side prior to initiating this form)	DATE 12/8/04	X New Submittal ☐ Resubmittal

Section 1 REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This section will be initiated by the contractor)

TO:	FROM:	CONTRACT NO. DACW-41-01-D-0001 T.O.# 0006	TRANSMITTAL NO. 30
USACE West Point Area Office New York District Building 667A 3rd Floor West Point, New York 10996	Sevenson Environmental Services Inc. 2749 Lockport Rd. Niagara Falls, N.Y. 14302		PREVIOUS TRANS. NO. (If Any)

SPECIFICATION SEC. NO. (Cover only one section with each transmittal)	PROJECT TITLE AND LOCATION: Vestal Well 1-1 Superfund Site, Area 2 Soil Vapor Extraction System, Broome County, New York

ITEM NO.	DESCRIPTION OF ITEMS SUBMITTED (Type, size, model number, etc.)	MFG. OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. (See instruction No. 8)	NO. OF COPIES	CONTRACT REFERENCE DOCUMENT		VARIATIONS (See instruction No. 6)	FOR C E USE CODE
				SPEC. PARA. NO.	DRAWING SHEET NO.		
a.	*b.*	*c.*	*d.*	*e.*	*f.*	*g.*	*h.*
1.	Quarterly Report No. 5		1				

REMARKS:
Sent via Federal Express:
2 copies to CENWK
1 copy to USEPA Region II
1 copy to N.Patsis
1 copy to NYSDEC

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

Amanda J. Marshall
NAME AND SIGNATURE OF CONTRACTOR

Sevenson Environmental Services

Section II APPROVAL ACTION

INCLOSURES RETURNED (List by Item No.)	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

ENG FORM 4025, Oct 84 (ER 415-1-10) EDITION OF JUL 81 IS OBSOLETE
(Proponent: CEEC-CE)

SHEET ____ OF ____

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(July 1 through September 30, 2004)

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December 8, 2004

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1.0 INTRODUCTION

Sevenson Environmental Services, Inc. and their subcontractor (Shaw Environmental and Infrastructure (SHAW), formerly Envirogen, Inc. of Lansing, Michigan), has prepared this Quarterly Report No. 5 for the Full Scale Soil Vapor Extraction System (SVE System or System) at the Vestal Area 4 Site in Vestal, NY (Site). This report was prepared on behalf of the United States Environmental Protection Agency (USEPA) and the United States Army Corp of Engineers (USACE) who are conducting the Remedial Action for the Vestal Area 4 Site. This report was prepared under contract DACW41-01-D-0001-0006. Sevenson's remedial action work is under supervision of the USEPA and USACE. The fifth Quarterly Progress Report is provided and prepared in accordance with the approved Workplan. This report discusses the System operation based on data collected during July, August, and September 2004, and also discusses System operation and maintenance during these months.

Figure 1 (shown at the end of this report) is a Site plan showing the SVE System treatment area, cell distribution buildings, and the main SVE treatment building. Construction of the SVE System began in mid-April 2003 and was completed on June 23, 2003. The remedial action began on June 27, 2003, after completion of a successful start-up sequence. The SVE System is operated in accordance with the approved Workplan, O&M Manual and the Final Design documents.

Figure 1 depicts System and SVE well polarity (withdrawal, active injection or temporarily off-line) following the System installation.

Section 2.0 of this report summarizes general activities conducted during the reporting period. Section 3.0 summarizes System monitoring and adjustments. Section 4.0 discusses volatile organic compound (VOC) contaminant yields based on process air analytical data. Section 5.0 discusses analysis of data specific to the Quarterly Report period between July and September 2004. Section 6.0 discusses problems encountered during the reporting period and their respective corrective measures. Section 7.0 lists anticipated future activities.

2.0 SUMMARY OF ACTIVITIES CONDUCTED DURING THE REPORTING PERIOD

The O&M inspections/site visits were performed on July 13, 22, 26, and 29; August 2, 6, and 16, and September 9, 20, and 28, 2004. Air flow and Photo Ionic Detector (PID) readings were measured throughout the System on July 22; August 16; and September 20 and 28, 2004. A full round of process air samples was collected from withdrawal wells on September 20 and 28, 2004.

Samples of process air through the carbon treatment system were collected on July 13 and 22; August 16; and September 28, 2004.

The system was down for approximately 4 days due to thunderstorms and extreme heat between July 19 and 31.

On July 22, the carbon beds were rotated.

The system was down for approximately 2 days due to thunderstorms between August 2 and 16.

On August 6, approximately 2,000 pounds of carbon were containerized and replaced.

The SVE System at the Vestal Area 4 Site ran approximately 80 days during the quarterly period from July 2004 to September 2004. The Quarterly Sampling occurred on September 20 and 21. Selected wells were re-sampled on September 28 to confirm previous results. Substantial rains from the hurricane remnants caused localized flooding on the Site.

Physical monitoring of the System parameters, such as PID readings, temperature, and air flow measurements, along with routine maintenance of the System, was conducted during the July through September reporting period in accordance with the O&M Manual. These O&M measurements and activities were recorded on daily O&M logs, which are provided in Appendix A.

The System operated for 26 days in July, 26 days in August and 28 days during September 2004 bringing the total operational time to approximately 358 days since the June 23, 2003, start-up.

Health and Safety (H&S) monitoring was conducted as outlined in the Health and Safety Plan (HASP). No significant events were observed during this monitoring period.

3.0 SVE SYSTEM MONITORING AND ADJUSTMENTS

This section summarizes monitoring of and adjustments made to the SVE System during the reporting period. Monitoring of the System included pressure/vacuum readings, PID and temperature measurements, air flow measurements, and process air sampling and associated VOC analysis. The locations of the SVE wells are illustrated in Figure 1. System parameters were recorded on O&M daily log sheets, which are provided in Appendix A. The chain-of-custody forms and laboratory data summary sheets are provided in Appendix B. Monitoring and adjustments were performed in accordance with the O&M Manual.

3.1 Pressure/Vacuum Readings

Pressure/vacuum measurements were taken across the air blowers and carbon units, and recorded on the daily log sheets (Appendix A). These measurements were collected on July 13 and 22; August 2, 6, and 16; and September 9, 20, and 28, 2004.

3.1.1 Vacuum Blowers

Pressure drops were measured across the vacuum blowers and filter during System operation. The pressure across the vacuum blower and filter ranged between 5 and 10 inches of water (H_2O).

3.1.2 Carbon Units

The total pressure drop across the two carbon units averaged 6 inches of H_2O during the reporting period. This pressure drop includes the carbon units and the connecting piping and fittings.

3.1.3 Well Field

Vacuum flow rate and PID reading for the individual SVE wells on July 22, August 16, and September 20 and 28, 2004, are listed in Table 1. On July 22 vacuum flow rates at the cell distribution buildings ranged from less than 5 to 22 standard cubic feet per minute (scfm) for Cell 1 and less than 5 to 20 scfm for Cell 2. Injection flow rates ranged from 15 to 21 scfm for Cell 1 from less than 5 to 6 in Cell 2.

On August 16, 2004 vacuum flow rates at the cell distribution buildings ranged from less than 5 to 20 scfm for Cell 1 and less than 5 to 23 scfm for Cell 2. Injection flow rates ranged from 11 to 25 scfm for Cell 1 and from less than 5 to 6 scfm in Cell 2.

On September 20 and 28, 2004 (the quarterly monitoring event) vacuum pressures at the cell distribution buildings manifolds ranged from 68 inches of H_2O for Cell 1 to 76 inches of H_2O for Cell 2. Injection pressure ranged from 68 to 74 inches of H_2O for Cell 1 and 72 to 74 inches of H_2O for Cell 2.

3.2 Temperatures

Process air stream temperatures, measured at the discharge of the air blowers and across the carbon treatment system, were recorded on the O&M daily log sheets (Appendix A).

Temperature measurements at the vacuum air blowers did not exceed 210°F, which was below the design settings of 220°F. The temperature at the discharge of the vacuum blower was measured at an average of 192°F, and the temperature at the discharge of the injection blower was measured at an average of 156°F. Temperature at the vacuum header within the Cell distribution buildings ranged from 60°F to 72°F, and ranged between 62°F and 70°F at the injection header. The carbon treatment system influent air stream temperatures ranged from 75°F to 100°F.

3.3 Process Air Flows

This section discusses process air flow measurements and balancing throughout the entire System and for the individual SVE wells. Individual SVE withdrawal and injection well process airflow measurements are provided in Table 1 for July 22, August 16 and September 20 and 28, 2004.

3.3.1 Total System Process Air Flow

During the reporting period, air flow throughout the entire System was measured as outlined in the O&M Manual. The air flow through the System was calculated by measuring the pressure drop across the blowers, and using this value to obtain the air flow from the blower curve computer model supplied by the manufacturer. Calculated air flow rates are contained in Table 2. Based on this data, the calculated airflow through the entire System between July and September 2004 averaged 512 scfm. The bypass airflow for July 22, August 16 and September 20 and 28 was 210 scfm (Table 1). The entire system flow is a culmination of the bypass flow and the individual flow rates. Estimated wellfield airflow was 306.

3.3.2 SVE Well Process Air Flow

Individual SVE withdrawal and injection well process airflow measurements were recorded on July 22, August 16 and September 20 and 28, 2004. This data is contained in Table 1.

Total SVE well air flow on the withdrawal side of the System was 512 scfm July 22, August 16 and September 20 and 28, 2004.

3.4 Process Air VOC Concentrations

Process air samples were collected during the reporting period on July 13 and 22; August 16; and September 28, 2004. Samples were collected and analyzed in accordance with the O&M Manual. The withdrawal well process air analytical results and the carbon treatment system

process air analytical results are contained in Table 2. Quality Assurance/Quality Control (QA/QC) analytical results are also presented in Table 3. The laboratory data summary sheets, chain-of-custody forms, and field sample log book notes are provided in Appendix B.

3.4.1 SVE Withdrawal Wells

Quarterly sampling of the SVE withdrawal wells occurred on September 20 and 28, 2004. Concentrations of total targeted VOCs at individual wells ranged from non-measurable in several wells, to 5.17 ppm_v in well D4 (Table 3). Heavy rains from hurricane remnants in September temporarily decreased the amount of contaminant concentrations throughout the system by reducing soil gas exchange rates. Trichloroethene (TCE) and 1,1,1-trichloroethane (1,1,1-TCA) show the highest concentrations.

The total targeted VOC concentration contours using the September analytical data are illustrated in Figure 2. Figures 3 and 4 show individual contaminant concentrations of 1,1,1-TCA and TCE, respectively. The highest VOC concentrations were located in the areas of cell 1 between wells B2 and B3; C2 and C3; D1 and D4; and E2, E4, and E5.

3.4.2 Carbon Process Air Control Samples

Carbon treatment system process air control samples were collected from three (3) sample ports identified and illustrated on Figure 5.

Total System VOC samples are collected prior to the combined process air stream entering the carbon treatment system. System samples were labeled "INFLUENT", "MID", and "EFFLUENT".

Total System samples were collected July 13 and 22; August 16; and September 28, 2004. The total targeted influent VOC concentration averaged 16.85 ppm_v over the reporting period (Table 2). TCE and 1,1,1-TCA constitute the majority of the VOC mass in the process air stream. Concentrations of target VOCs in the total System samples collected since the initial startup of the System in June 2003 are shown in Figure 6.

Between carbon bed ("MID") and after carbon bed ("EFFLUENT") samples were also collected on the same days as the total System sample to evaluate VOC breakthrough and to determine when carbon change-outs should be performed.

3.4.3 QA/QC Process Air Samples

QA/QC process air samples, including duplicates, sample pump blanks, trip blanks, and instrument blanks, were collected during the sampling events. Duplicates of withdrawal well samples E4 and K3 were collected and analyzed for the targeted VOCs. The results of the analysis are show on Table 3. The sample pump blank concentrations of total targeted compounds were below the detection limit (0.05 ppm_v). The trip and instrument blanks concentrations were also below the detection limit for total targeted compounds.

4.0 VOC YIELD

This section details the System VOC yield distribution based on the individual SVE withdrawal well samples collected during the September 20 and 28, 2004 sampling event. Also discussed in this section is the total System VOC yield based on the air flow through the blowers and the composite/total System VOC analytical results.

4.1 SVE Withdrawal Well VOC Yields

The VOC yield rate for each SVE withdrawal well was calculated using the Ideal Gas Law, the average molecular weight of the targeted compounds, the flow rate for each individual withdrawal well, and the total targeted VOC concentration for each well. Table 3 summarizes the yield rate in pounds per day (lbs/day) for each SVE withdrawal well as measured during the September sampling event.

The VOC yield rates varied from non-measurable to 0.06 lbs/day (well D4). No wells had a non-measurable yield because of only low VOC concentration (PID reading less than 10 ppm), and no wells had a non-measurable yield due to only very low air flow (5 scfm or lower) only. Heavy rains from hurricane remnants and flooding of local rivers temporarily decreased the amount of contaminant concentrations throughout the system by reducing soil gas exchange rates. Wells E4, F2, F3, and G2 had a non-measurable yield due to a low VOC concentration and heavy rainfall. Wells A3, B1, B2, and B3; D1 and D2; E5, F4 and F5; I2; J2, J3, J4, J5, and J6; K2, K3, and K5; L2, and M3 had non-measurable yield rates due to low VOC concentration, very low air flow, and heavy rainfall. The table below (see below) summarizes the wells with non-measurable VOC yield rates.

At this time, some wells located in areas with high contaminant concentrations (as shown in the Pre-Remediation Geoprobe Sampling Summary Report, Vestal Well 1-1, Operable Unit 2, Area 4, March 21, 2002), currently show low VOC yield rates. Air flow rates and VOC contaminant levels with this off-gas data may be limited by subsurface geologic conditions (silt lenses), preferential air flow patterns, and soil moisture content. These conditions are unpredictable and change with varying Site conditions.

Figure 7 illustrates SVE withdrawal well total targeted VOC yield rate contours for the September sampling event. Figures 8 and 9 show individual contaminant yield rates of 1,1,1-TCA and TCE, respectively. Most of the withdrawal wells in the treatment area indicate a yield of less than 0.05 lbs/day total targeted VOC. A higher yield rate was observed in the vicinity of well D4.

SUMMARY OF WELLS WITH LOW YIELD RATES

SVE WELL #	FLOW RATE	PID READINGS	Heavy Rainfall	LOW FLOW	LOW PID (<10ppm)	Soil Concentrations	Proposed Actions to improve	Notes/Action List
A3	5	1.7	X	X	X	Low	None	See paragraph below.
B1	5	2.3	X	X	X	Low	None	See paragraph below.
B2	5	4.9	X	X	X	Low	None	See paragraph below.
B3	5	6.2	X	X	X	Low	None	See paragraph below.
D1	5	3.2	X	X	X	Medium	None	See paragraph below.
D3	5	3.4	X	X	X	Medium	None	See paragraph below.
E4	25	2.3	X		X	Medium	None	See paragraph below.
E5	5	2.6	X	X	X	High	None	See paragraph below.
F2	8	3.3	X		X	Low	None	See paragraph below.
F3	12	0.7	X		X	Low	None	See paragraph below.
F4	5	1.8	X	X	X	Low	None	See paragraph below.
F5	5	0.5	X	X	X	Low	None	See paragraph below.
G2	25	2.8	X		X	Low	None	See paragraph below.
I1	5	1.2	X	X	X	Low	None	See paragraph below.
J2	5	1.7	X	X	X	Medium	None	See paragraph below.
J3	5	1.3	X	X	X	High	None	See paragraph below.
J4	5	1.7	X	X	X	High	None	See paragraph below.
J5	5	1.3	X	X	X	High	None	See paragraph below.
J6	5	1.3	X	X	X	High	None	See paragraph below.
K2	5	1.6	X	X	X	Medium	None	See paragraph below.
K3	5	2.0	X	X	X	High	None	See paragraph below.
K5	5	1.6	X	X	X	High	None	See paragraph below.
L2	5	1.5	X	X	X	High	None	See paragraph below.
M3	5	1.2	X	X	X	Low	None	See paragraph below.

There are no proposed actions to improve the System (Table 6). The new configuration (as of February 9, 2004) of the System focuses on Cell 1. There have been elevated sustained contaminant concentrations and yields for the majority of 'hot spots' in Cell 1. We will monitor the individual wells and recommend action if the concentrations and yields drop substantially for an extended period of time.

4.2 Total System VOC Yield

The total System VOC yield (Table 4) was calculated using the total System air flow rate (Section 3.3.1) and the influent System sample ("INFLUENT") analytical results. Based on these calculations, the System has yielded approximately 1,780 pounds of VOCs through the September 28, 2004 sampling event (Table 5). Therefore, the average yield rate of the System between June 23, 2003 and September 28, 2004, is 5.03 lbs/day. TCE constitutes approximately 46 percent and 1,1,1-TCA approximately 54 percent of the total VOC yield since the beginning of the SVE System operation. The increasing mass of total targeted VOCs removed from the treatment area is illustrated in Figure 10.

5.0 QUARTERLY REPORT No. 5 ANALYSIS OF MONITORING DATA

This section provides additional analysis of operational data collected between July and September 2004. Total System data was evaluated for this time period. The following evaluations were performed: analyses of total targeted VOC concentrations and yield rates vs. time and Total Targeted Contaminate Yield start-up to September 28, 2004.

5.1 Total System

Table 2 summarizes the total System VOC concentrations and Table 4 summarizes the total contaminant yield per day of each VOC within the process air stream. Figure 6 illustrates concentration and daily yield rates of targeted contaminant vs. time, and Figure 10 illustrates total targeted contaminant yield from start-up to June 22, 2004. As expected, the yield rate and concentration trends closely match.

1,1,1-TCA is the dominant compound detected (Table 4), ranging from 42 to 58 percent of the VOC component of the total System process air stream. TCA ranged from approximately 42 to 58 percent of the total (Table 4).

There is an increase of the average contaminant yield rate from quarter 4 through quarter 5 (4.05 lbs/day and 4.45 lbs/day, respectively).

After reconfiguration of the SVE well polarity and subsequent reduction of flow rates/vacuum pressure to treatment area number 2 the yield ratio of TCE to 1,1,1-TCA from individual wells has significantly increased (Figure s 8 and 9). This is due to the ability of 1,1,1-TCA to be released from inter-soil pore spaces at a faster rate than TCE.

The total System air flow continues at a stable rate (512 scfm), which was within 2 to 3 percent of the target air flow rate of 500 scfm.

6.0 PROBLEMS ENCOUNTERED DURING THE REPORTING PERIOD AND RESPECTIVE CORRECTIVE MEASURES

With the exceptions of problems discussed in Section 2.0 and in this section the System operated well throughout the fifth quarter.

During this reporting period, some wells were recorded with limited flow. These problems are related to the presence of condensate water in the process piping. Maintenance activities have been performed to remove (increased vacuum to selected wells) and control the amount of water being drawn into the treatment System (closing of selected wells). Should the site soils begin producing substantial quantities of condensate, the pump-out time will be increased in wells constructed with condensate drop legs.

7.0 ANTICIPATED ACTIVITIES

We will be closely evaluating the system for additional reconfiguration opportunities to maximize contaminant removal as well as planning for and implementing an interim sampling event. We understand that we will need to provide an assessment of the removal productivity in order to make a recommendation to the EPA on whether or not to extend the system operation beyond June 2005. To that end, the following activities are anticipated for the next reporting period:

- Review of all system specific data regarding flow rates, contaminate concentrations and weather conditions at the site, make adjustments as deemed necessary;
- Recommendation of and implementation of reconfiguration of individual SVE airflow polarities (if warranted based on site specific data), early February 2005;
- Interim soil sampling event (based air sample results or need of additional soil contaminate information), early March 2005;

- Development of additional system operation time, and/or further reconfiguration to USACE and EPA, based upon soil sampling data;
- Continue operations and maintenance of the SVE system;
- The next quarterly sampling event is scheduled for December 2004; and
- A carbon change out is anticipated during the next quarter.

Typically, we would expect to evaluate system removal trends for two months or so after a reconfiguration to assess the need for the interim sampling event. Since we will need to make recommendations for system operations beyond the second 150 day period by late March or early April, we are accelerating this soil sampling event.

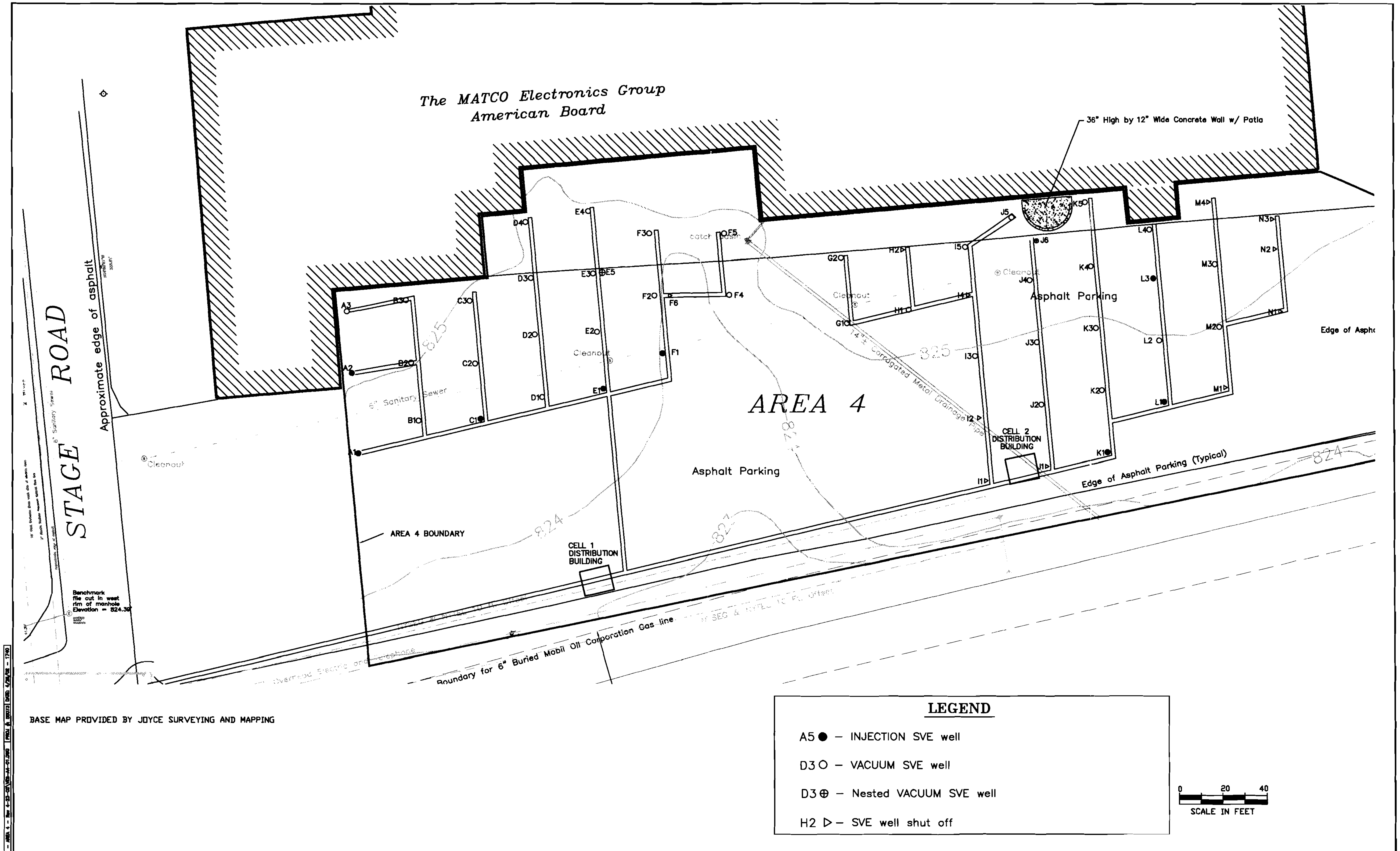
8.0 AUTHOR IDENTIFICATION

This report was prepared and checked by:

Douglas C. Callahan
Project Manager
Shaw E&I (Envirogen)

Cassandra T. Marshall
Project Manager
Sevenson Environmental Services, Inc.

FIGURES



NO.	DATE	ISSUED FOR	BY
▲	4-26-02	ISSUED FOR CLIENT REVIEW	DC

Sevenson Environmental Services Inc.
2749 LOCKPORT ROAD
NIAGARA FALLS, NEW YORK

ENVIROGEN
Shaw E&I Engineering of New York, P.C.
103 COLLEGE AVE SE
GRAND RAPIDS, MICHIGAN 49503

US Army Corps of Engineers
Kansas City District
CONTRACT No. DACW41-01-D-0001

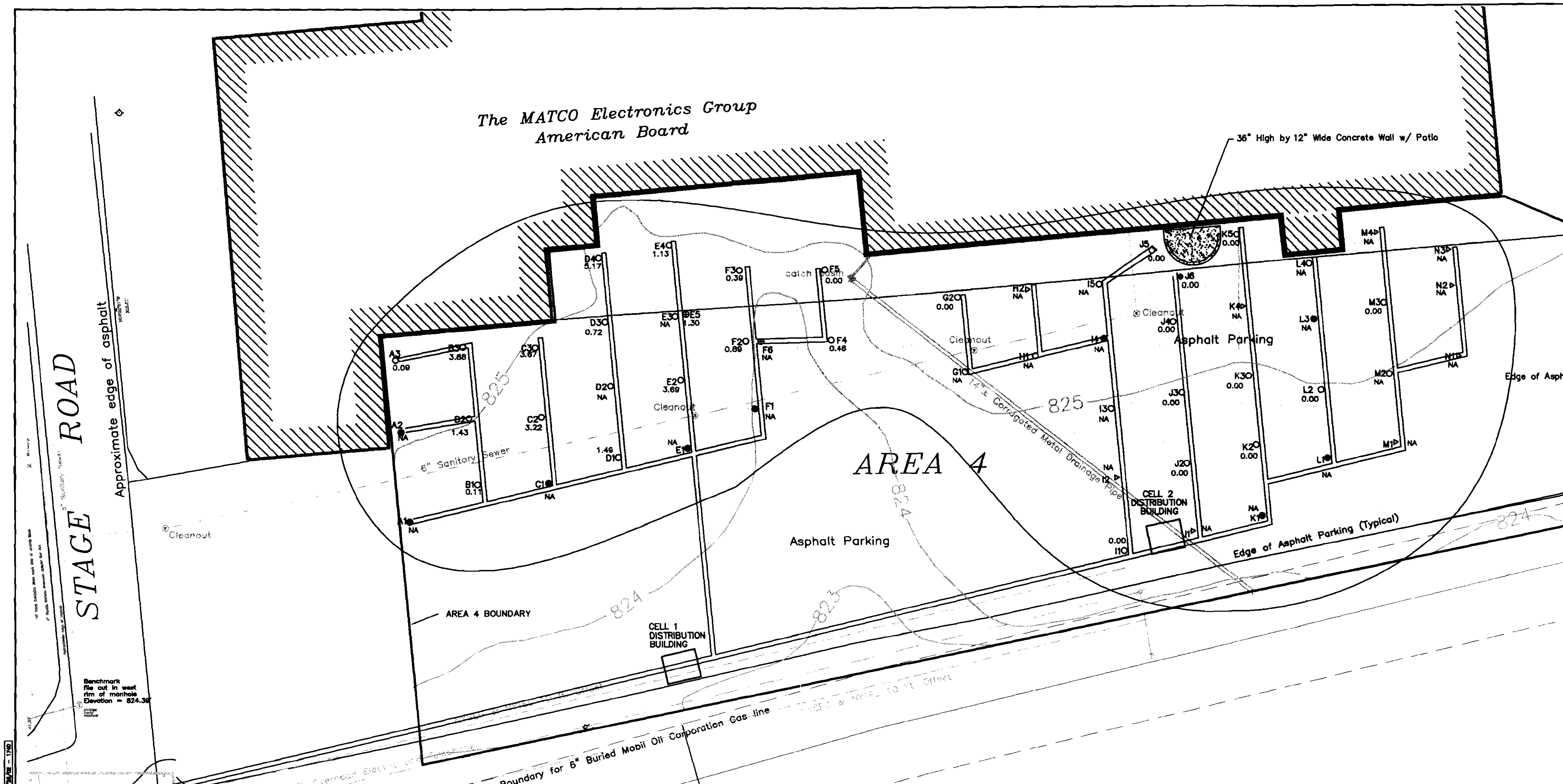
STEWART HARRIS ABRAMS
NEW YORK PROFESSIONAL ENGINEER LICENSE NUMBER 079833

DRAWN	BL
CHECKED BY:	DC
DESIGN ENGR:	DC
APPROVED BY:	SA
DATED	9-28-04

SITE: VESTAL AREA 4
TOWN OF VESTAL, BROOME COUNTY, NEW YORK

TITLE: FIGURE 1
Site Plan with SVE System

SCALE	AS SHOWN
REVISION	
PROJECT NUMBER	681066
DRAWING NUMBER	VES A4 – 1
SHEET	1 OF 10



BASE MAP PROVIDED BY JOYCE SURVEYING AND MAPPING

LEGEND

A5 ● – INJECTION SVE well	1.27 – TTC Concentration (ppmv)
D3 ○ – VACUUM SVE well	NA – Not Available
D3 ● – Nested VACUUM SVE well	– 0–50 (ppmv) TTC Concentration
D3 ▷ – SVE well shut off	– 50–100 (ppmv) TTC Concentration
– Utility pole and overhead line	– 100–1,000 (ppmv) TTC Concentration
– Water main	– >1,000 (ppmv) TTC Concentration
– Sanitary sewer line/manhole	
– Natural gas or petroleum line	
– Elevation Contour Line	

0 20 40
SCALE IN FEET

NO.	DATE	ISSUED FOR	BY
▲	4-26-02	ISSUED FOR CLIENT REVIEW	DC

Sevenson Environmental Services Inc.
2749 LOCKPORT ROAD
NIAGARA FALLS, NEW YORK

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US Army Corps of Engineers
Kansas City District
CONTRACT No. DACW41-01-D-0001

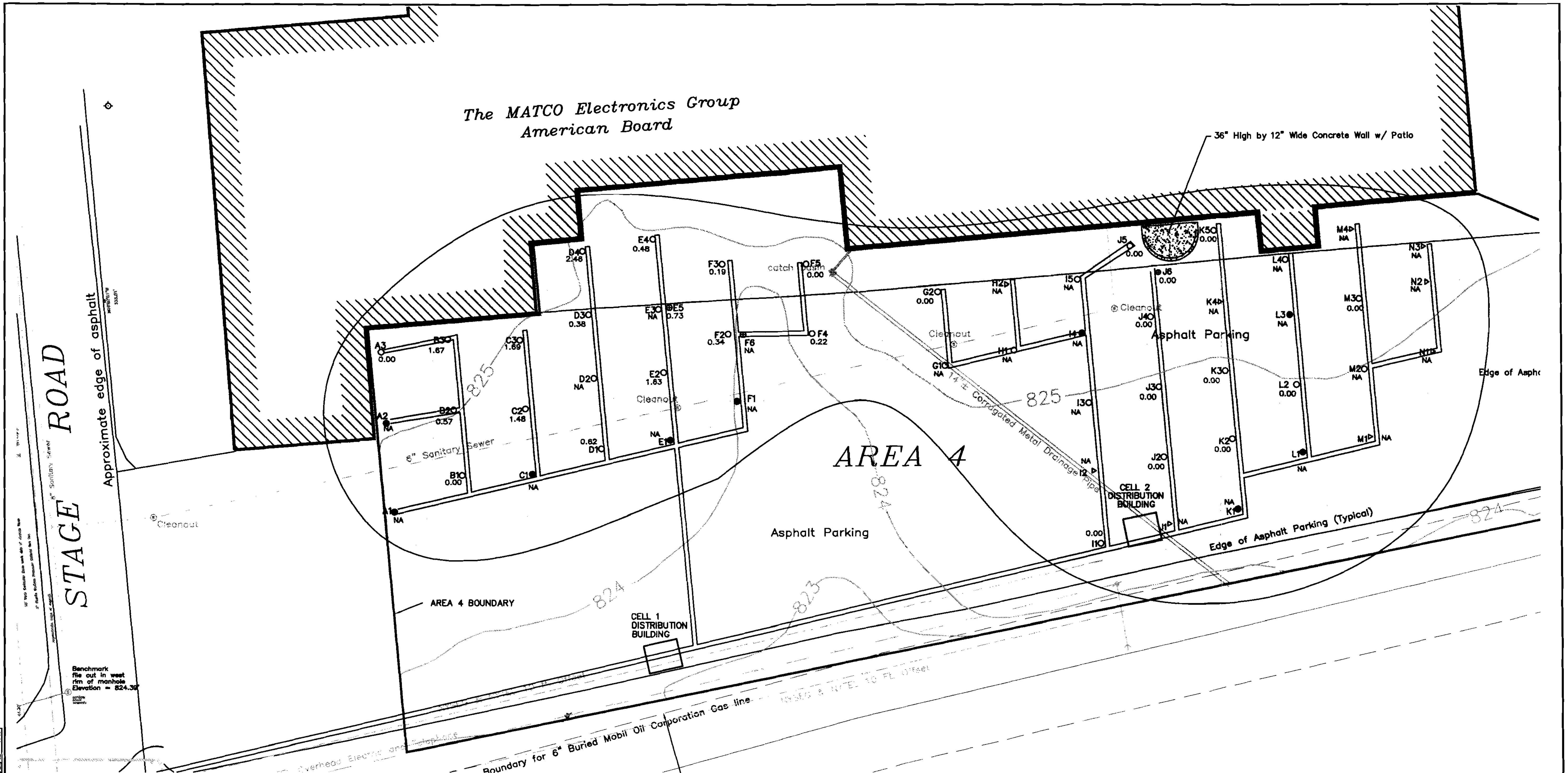
STEWART HARRIS ABRAMS
NEW YORK PROFESSIONAL ENGINEER LICENSE NUMBER 078833

DRAWN:	BL
CHECKED BY:	DC
DESIGN ENGR:	DC
APPROVED BY:	SA
DATE:	9-28-04

SITE: VESTAL AREA 4
TOWN OF VESTAL, BROOME COUNTY, NEW YORK

TITLE: TOTAL TARGET VOC CONCENTRATION
SEPTEMBER 20 & 28, 2004

SCALE: AS SHOWN
REVISION:
PROJECT NUMBER: 681086
DRAWING NUMBER: VES A4- 2
SHEET 2 OF 10



BASE MAP PROVIDED BY JOYCE SURVEYING AND MAPPING

LEGEND

A5 ● – INJECTION SVE well	1.27 – 1,1,1 TCA Concentration (ppmv)
D3 ○ – VACUUM SVE well	NA – Not Available
D3 ● – Nested VACUUM SVE well	☐ – 0–50 (ppmv) 1,1,1 TCA Concentration
D3 ▷ – SVE well shut off	☐ – 50–100 (ppmv) 1,1,1 TCA Concentration
Utility pole and overhead line	100–1,000 (ppmv) 1,1,1 TCA Concentration
Water main	>1,000 (ppmv) 1,1,1 TCA Concentration
Sanitary sewer line/manhole	
Natural gas or petroleum line	
Elevation Contour Line	

0 20 40
SCALE IN FEET

NO.	DATE	ISSUED FOR	BY
▲	4-26-02	ISSUED FOR CLIENT REVIEW	DC

Sevenson Environmental Services Inc.
2749 LOCKPORT ROAD
NIAGARA FALLS, NEW YORK

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US Army Corps of Engineers
Kansas City District
CONTRACT No. DACW41-01-D-0001

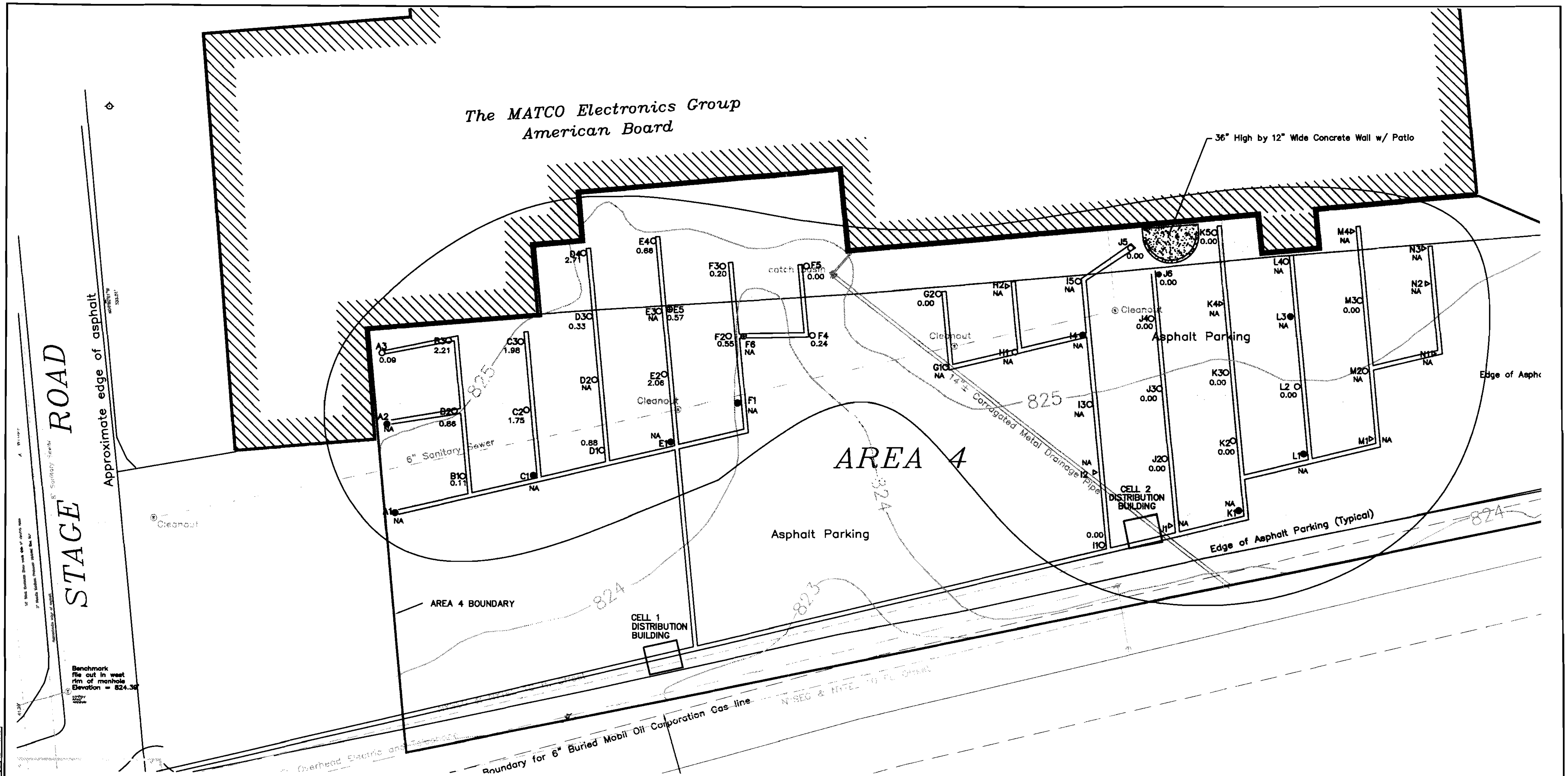
STEWART HARRIS ABRAMS
NEW YORK PROFESSIONAL ENGINEER LICENSE NUMBER 076933

DRAWN:	BL
CHECKED BY:	DC
DESIGN ENGR:	DC
APPROVED BY:	SA
DATE:	9-28-04

SITE: VESTAL AREA 4
TOWN OF VESTAL, BROOME COUNTY, NEW YORK

TITLE: 1,1,1 TCA CONCENTRATION (ppmv)
SEPTEMBER 20 & 28, 2004

SCALE: AS SHOWN
REVISION:
PROJECT NUMBER: 681086
DRAWING NUMBER: VES A4- 3
SHEET 3 OF 10



BASE MAP PROVIDED BY JOYCE SURVEYING AND MAPPING

LEGEND

A5 ● – INJECTION SVE well	1.27 – TCE Concentration (ppmv)
D3 ○ – VACUUM SVE well	NA – Not Available
D3 ● – Nested VACUUM SVE well	– 0–50 (ppmv) TCE Concentration
D3 ▷ – SVE well shut off	– 50–100 (ppmv) TCE Concentration
– Utility pole and overhead line	– 100–1,000 (ppmv) TCE Concentration
– Water main	– >1,000 (ppmv) TCE Concentration
– Sanitary sewer line/manhole	
– Natural gas or petroleum line	
– Elevation Contour Line	

0 20 40
SCALE IN FEET

NO.	DATE	ISSUED FOR	BY
▲	4-26-02	ISSUED FOR CLIENT REVIEW	DC

Sevenson Environmental Services Inc.
2749 LOCKPORT ROAD
NIAGARA FALLS, NEW YORK

ENVIROGEN
Shaw E&I Engineering of New York, P.C.
103 COLLEGE AVE SE
GRAND RAPIDS, MICHIGAN 49503

US Army Corps of Engineers
Kansas City District

CONTRACT No. DACW41-01-D-0001

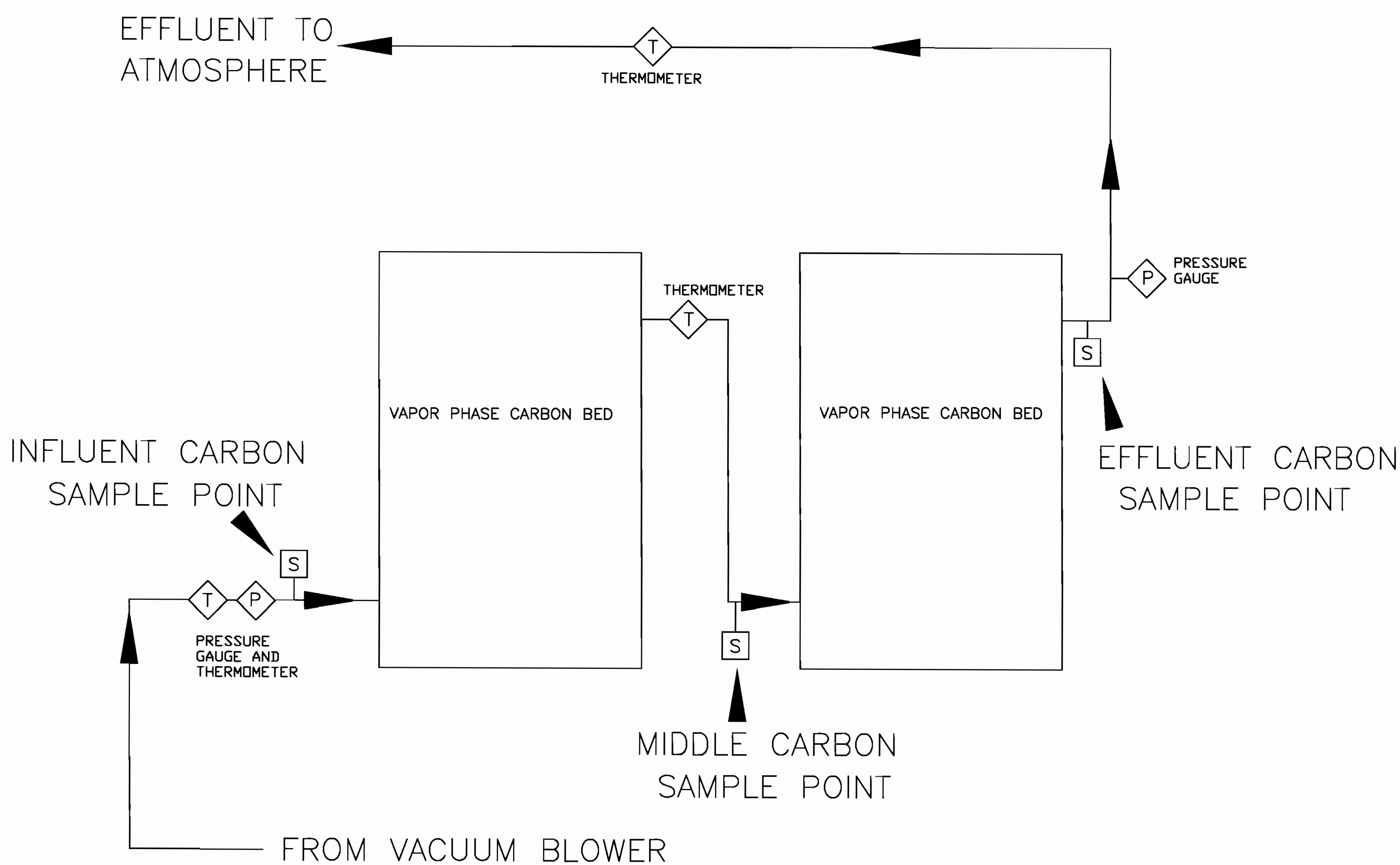
STEWART HARRIS ABRAMS
NEW YORK PROFESSIONAL ENGINEER LICENSE NUMBER 079933

DRAWN:	BL
CHECKED BY:	DC
DESIGN ENGR:	DC
APPROVED BY:	SA
DATE:	9-28-04

SITE: VESTAL AREA 4
TOWN OF VESTAL, BROOME COUNTY, NEW YORK

TITLE: TCE CONCENTRATION (ppmv)
SEPTEMBER 20 & 28, 2004

SCALE: AS SHOWN
REVISION:
PROJECT NUMBER: 681086
DRAWING NUMBER: VES A4– 4
SHEET 4 OF 10



NO.	DATE	ISSUED FOR	BY
1	4-28-02	ISSUED FOR CLIENT REVIEW	DC

Sevenson Environmental Services Inc.
2749 LOCKPORT ROAD
NIAGARA FALLS, NEW YORK

ENVIROGEN
Shaw E&I Engineering of New York, P.C.
103 COLLEGE AVE SE
WYOMING, MI 49503

US Army Corps of Engineers
Kansas City District
CONTRACT No. DACW41-01-D-0001

STEWART HARRIS ABRAMS
NEW YORK PROFESSIONAL ENGINEER LICENSE NUMBER 078833

DRAWN	BL
CHECKED BY:	DC
DESIGN ENGR:	DC
APPROVED BY:	SA
DATE:	9-28-04

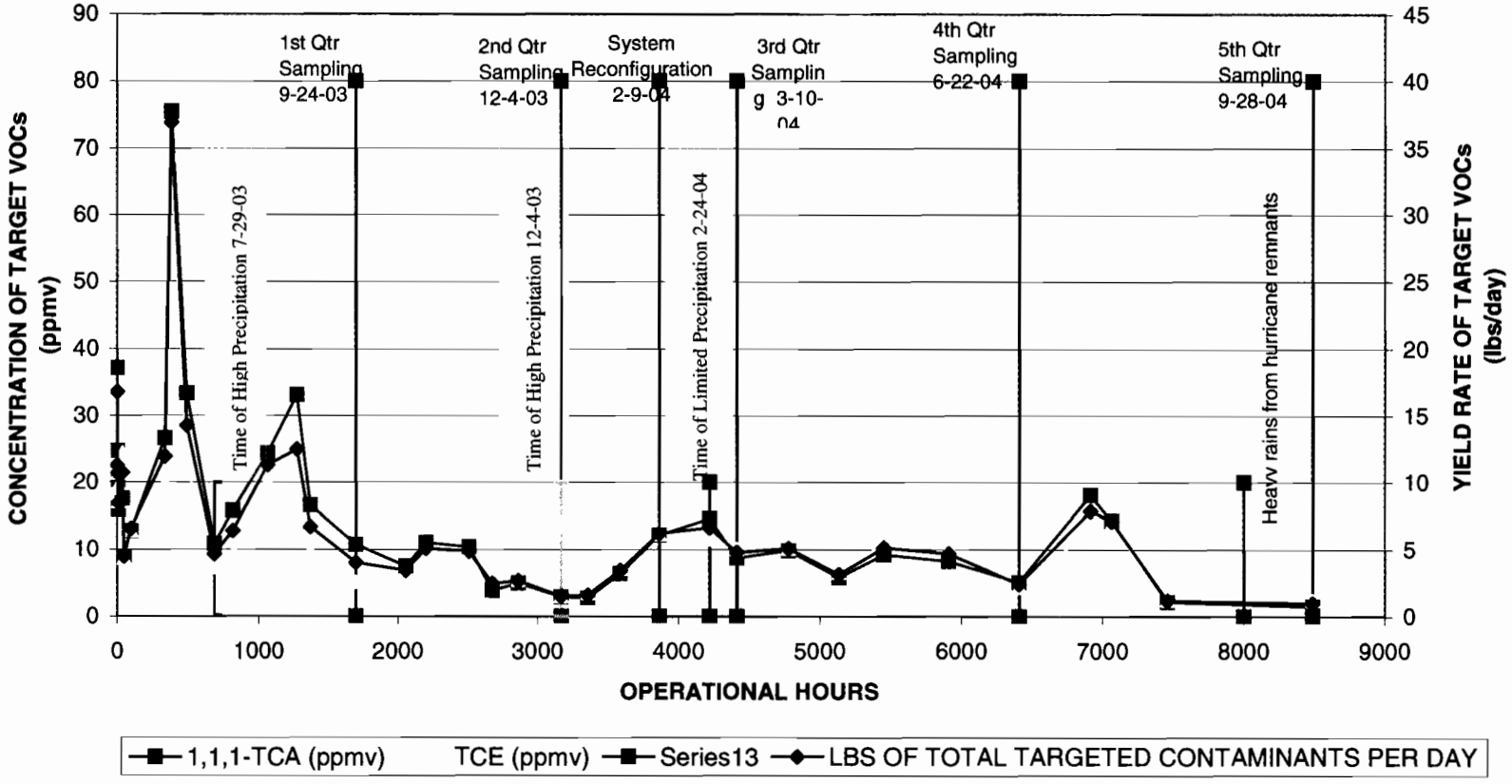
SITE: VESTAL AREA 4
TOWN OF VESTAL, BROOME COUNTY, NEW YORK

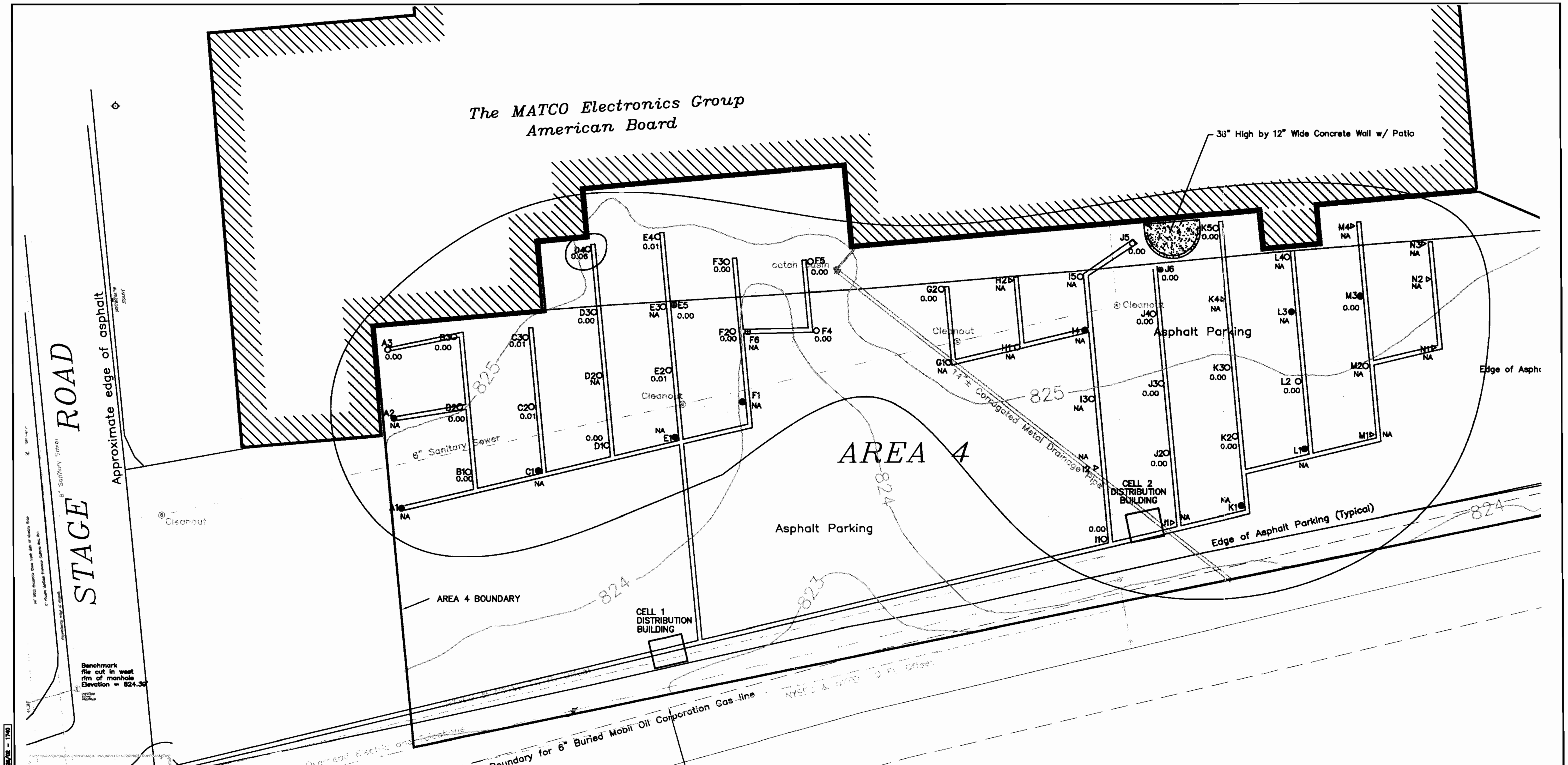
TITLE: CARBON SYSTEM SAMPLING DIAGRAM

SCALE	AS SHOWN
REVISION	AS BUILT
PROJECT NUMBER	681086
DRAWING NUMBER	VES A4- 5
SHEET	5 OF 10

P:\VESTAL\Autocad Drawings\PH 2 - AREA 4 - Rev 4-23-02\SVE-A4-10.DWG | PROJ #: 88073 | DATE: 4/26/02 - 1540

FIGURE 6
CONCENTRATION (ppmv) AND YIELD RATE (lbs/day)
OF TOTAL TARGET VOCs Vs. TIME
TOTAL SYSTEM SAMPLE
VESTAL AREA 4





BASE MAP PROVIDED BY JOYCE SURVEYING AND MAPPING

LEGEND

- A5 ● – INJECTION SVE well
- D3 ○ – VACUUM SVE well
- D3 ● – Nested VACUUM SVE well
- D3 ▷ – SVE well shut off
- Utility pole and overhead line
- Water main
- Sanitary sewer line/manhole
- Natural gas or petroleum line
- Elevation Contour Line
- 1.27 – 1,1,1 TCA Yield (lbs/day)
- NA – Not Available
- 0–0.05 (lbs/day) 1,1,1 TCA Yield
- 0.05–0.10 (lbs/day) 1,1,1 TCA Yield
- 0.10–1.0 (lbs/day) 1,1,1 TCA Yield
- >1.0 (lbs/day) 1,1,1 TCA Yield

0 20 40
SCALE IN FEET

NO.	DATE	ISSUED FOR	BY
▲	4-26-02	ISSUED FOR CLIENT REVIEW	DC

Sevenson Environmental Services Inc.
2749 LOCKPORT ROAD
NIAGARA FALLS, NEW YORK

ENVIROGEN
Shaw E&I Engineering of New York, P.C.
103 COLLEGE AVE SE
GRAND RAPIDS, MICHIGAN 49503

US Army Corps of Engineers
Kansas City District
CONTRACT No. DACW41-01-D-0001

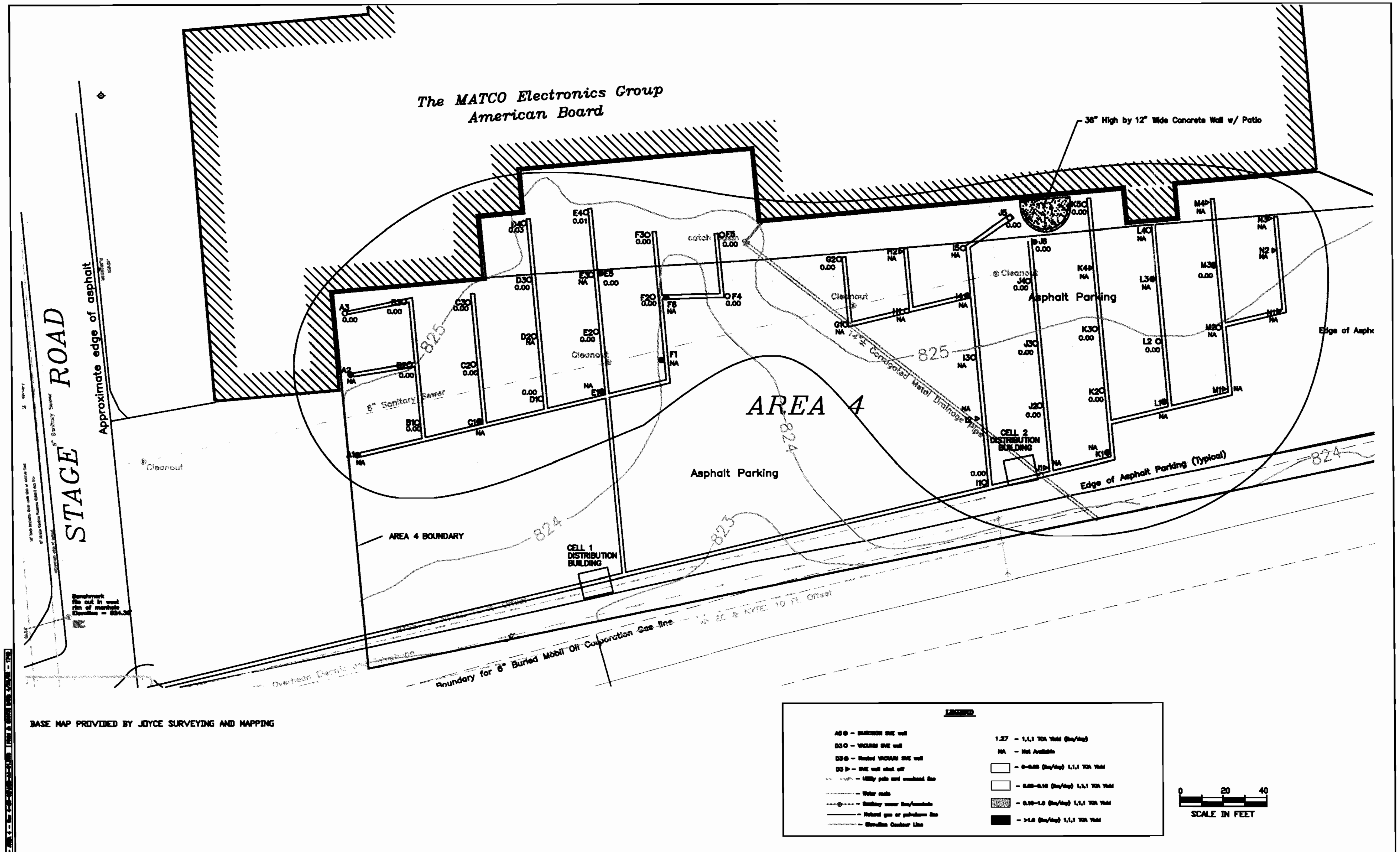
STEWART HARRIS ABRAMS
NEW YORK PROFESSIONAL ENGINEER LICENSE NUMBER: 078833

DRAWN: BL
CHECKED BY: DC
DESIGN ENGR: DC
APPROVED BY: SA
DATE: 9-28-04

SITE: VESTAL AREA 4
TOWN OF VESTAL, BROOME COUNTY, NEW YORK

TITLE: TOTAL TARGET VOC YIELD (lbs/day)
SEPTEMBER 20 & 28, 2004

SCALE: AS SHOWN
REVISION:
PROJECT NUMBER: 681086
DRAWING NUMBER: VES A4- 7
SHEET 7 OF 11



Sevenson Environmental Services Inc.	
ENVIROGEN Shaw E&I Engineering of New York, P.C.	
US Army Corps of Engineers	CONTRACT No. DACW41-01-D-0001
DRAWN	EL
CHECKED BY	DC
DESIGN CHKD	DC
APPROVED BY	SA
DATE	9-28-04
SITE	VESTAL AREA 4, TOWN OF VESTAL, BROOME COUNTY, NEW YORK
TITLE	1,1,1 TCA YIELD (lbs/day) SEPTEMBER 20 & 28, 2004
SCALE	AS SHOWN
DRAWING NUMBER	VES A4- 8
SHEET	8 of 11

The MATCO Electronics Group
American Board

STAGE ROAD

Approximate edge of asphalt

36" High by 12" Wide Concrete Wall w/ Patio

AREA 4

Asphalt Parking

Asphalt Parking

Edge of Asphalt Parking (Typical)

Edge of Asphc

6" Sanitary Sewer

14" Corrugated Metal Drainage Pipe

Cleanout

Cleanout

Cleanout

CELL 1 DISTRIBUTION BUILDING

CELL 2 DISTRIBUTION BUILDING

AREA 4 BOUNDARY

Benchmark
file cut in west
rim of manhole
Elevation = 824.36'

Boundary for 6" Buried Mobil Oil Corporation Gas line

Overhead Electric and Telcos

825

824

823

A3 0.00 | B3O 0.00 | C3O 0.00 | D3O 0.00 | E4O 0.01 | D4O 0.03 | F3O 0.00 | F5 0.00 | E3O NA | E5 0.00 | F2O 0.00 | F6 NA | F4 0.00 | D2O NA | E2O 0.01 | F1 NA | A2 NA | B2O 0.00 | C2O 0.00 | D1O 0.00 | E1 NA | A1 NA | B1O 0.00 | C1 NA

G2O 0.00 | H2 NA | I5O NA | J5 0.00 | K5O 0.00 | M4 NA | N3 NA | J6 0.00 | L4O NA | K4 NA | M3 0.00 | N2 NA | G1O NA | H1O NA | H1 NA | J4O 0.00 | L3 NA | N1 NA | I3O NA | J3O 0.00 | K3O 0.00 | L2 0.00 | M2O NA | I2 NA | J2O 0.00 | K2O 0.00 | M1 NA | L1 NA | I1O 0.00 | J1 NA | K1 NA

LEGEND

- A5 ⊕ – INJECTION SVE well
- D3 O – VACUUM SVE well
- D3 ⊕ – Nested VACUUM SVE well
- D3 ▷ – SVE well shut off
- – Utility pole and overhead line
- – Water main
- – Sanitary sewer line/manhole
- – Natural gas or petroleum line
- – Elevation Contour Line
- 1.27 – 1,1,1 TCA Yield (lbs/day)
- NA – Not Available
- – 0–0.05 (lbs/day) 1,1,1 TCA Yield
- – 0.05–0.10 (lbs/day) 1,1,1 TCA Yield
- – 0.10–1.0 (lbs/day) 1,1,1 TCA Yield
- – >1.0 (lbs/day) 1,1,1 TCA Yield

0 20 40
SCALE IN FEET

BASE MAP PROVIDED BY JOYCE SURVEYING AND MAPPING

P:\VES\Vestal Drawings\PH 2 - AREA 4 - Rev 4-23-04\VES-A4-01.DWG | PROJ # 88073 | DWG 4/28/04 - 1740

NO.	DATE	ISSUED FOR	BY
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US Army Corps of Engineers
Kansas City District

CONTRACT No. DACW41-01-D-0001

STEWART HARRIS ABRAMS
NEW YORK PROFESSIONAL ENGINEER
LICENSE NUMBER 078833

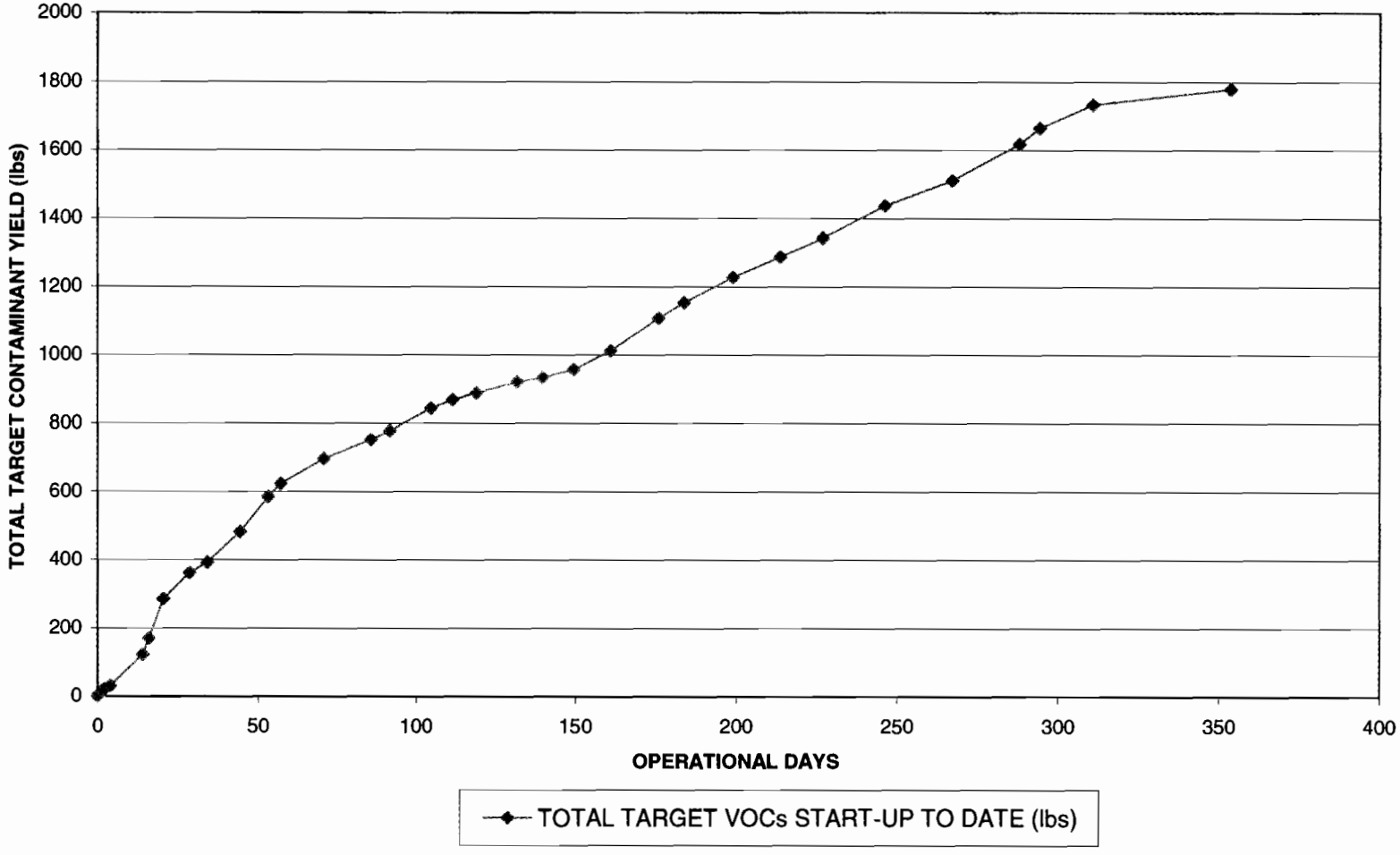
DRAWN BL
CHECKED BY DC
DESIGN ENGR DC
APPROVED BY SA
DATED 9-28-04

SITE: VESTAL AREA 4
TOWN OF VESTAL, BROOME COUNTY, NEW YORK

TITLE: TCE YIELD (lbs/day)
SEPTEMBER 20 & 28, 2004

SCALE: AS SHOWN
REVISION:
PROJECT NUMBER: 681086
DRAWING NUMBER: VES A4- 9
SHEET 9 OF 11

FIGURE 10
TOTAL TARGET CONTAMINANT YIELD START-UP TO DATE (lbs) Vs. TIME
TOTAL SYSTEM SAMPLE
VESTAL, AREA 4



TABLES

TABLE 1
SVE WELL STATUS
VESTAL AREA 4
July 22, 2004

SVE WELL #	VAC WELL	INJ WELL	FLOW RATE	STATUS	PID READINGS	SOIL CONCENTRATION
Bypass Flow Rate			210			
INFLUENT			512		16.1	
MIDDLE			512		19.4	
EFFLUENT			512		0.4	
A1		X	15	OPEN	5.1	LOW
A2		X	15	OPEN	2.8	LOW
A3	X		6	OPEN	3.0	LOW
B1	X		5	OPEN	1.2	LOW
B2	X		<5	OPEN	42.9	LOW
B3	X		<5	OPEN	10.0	LOW
C1		X	20	OPEN	5.4	LOW
C2	X		<5	OPEN	56.9	MEDIUM
C3	X		5	OPEN	2.1	MEDIUM
D1	X		8	OPEN	17.3	LOW
D2	X		NA	WATER	NA	MEDIUM
D3	X		10	OPEN	14.8	HIGH
D4	X		22	OPEN	25.6	HIGH
E1		X	15	OPEN	7.4	LOW
E2	X		10	LF	1.3	MEDIUM
E3	X		NA	WATER	NA	HIGH
E4	X		18	OPEN	93.7	HIGH
E5	X		10	OPEN	104.2	HIGH
F1		X	21	OPEN	11.5	LOW
F2	X		<5	WATER	9.5	MEDIUM
F3	X		NA	WATER	NA	MEDIUM
F4	X		NA	WATER	NA	LOW
F5	X		NA	WATER	NA	LOW
F6	X		5	WATER	6.4	LOW
G1	X		20	OPEN	8.4	LOW
G2	X		18	OPEN	10.7	LOW
H1	X		<5	LF	8.1	LOW
H2			NA	OFF	NA	LOW
I1	X		<5	LF	5.6	LOW
I2			NA	OFF	NA	LOW
I3	X		7	OPEN	11.4	MEDIUM
I4		X	<5	OPEN	4.0	MEDIUM
I5	X		5	OPEN	12.2	HIGH
J1			NA	OFF	NA	LOW
J2	X		5	OPEN	1.1	MEDIUM
J3	X		<5	OPEN	12.4	HIGH
J4	X		5	OPEN	8.0	HIGH
J5	X		<5	OPEN	6.1	HIGH

TABLE 1
SVE WELL STATUS
VESTAL AREA 4
July 22, 2004

SVE WELL #	VAC WELL	INJ WELL	FLOW RATE	STATUS	PID READINGS	SOIL CONCENTRATION
J6	X		5	OPEN	3.1	HIGH
K1		X	<5	LF	0.8	LOW
K2	X		5	OPEN	7.7	LOW
K3	X		<5	OPEN	8.4	MEDIUM
K4			NA	OFF	NA	MEDIUM
K5	X		5	OPEN	6.8	HIGH
L1		X	<5	OPEN	5.2	LOW
L2	X		<5	OPEN	9.4	HIGH
L3		X	6	OPEN	5.0	LOW
L4	X		5	OPEN	1.9	LOW
M1			NA	OFF	NA	LOW
M2	X		5	OPEN	12.2	LOW
M3	X		5	OPEN	4.9	LOW
M4			NA	OFF	NA	LOW
N1			NA	OFF	NA	LOW
N2			NA	OFF	NA	LOW
N3			NA	OFF	NA	LOW

NOTE: Total System Flow calculated by Roots Blower program with climate variables of the day of sampling.

LF= limited airflow

TABLE 1
SVE WELL STATUS
VESTAL AREA 4
August 16, 2004

SVE WELL #	VAC WELL	INJ WELL	FLOW RATE	STATUS	PID READINGS	SOIL CONCENTRATION
Bypass Flow Rate			210			
INFLUENT			512		5.4	
MIDDLE			512		0.5	
EFFLUENT			512		0.5	
A1		X	11	OPEN	4.0	LOW
A2		X	14	OPEN	3.1	LOW
A3	X		8	OPEN	2.8	LOW
B1	X		6	OPEN	0.9	LOW
B2	X		5	OPEN	40.8	LOW
B3	X		<5	LF	11.3	LOW
C1		X	19	OPEN	5.5	LOW
C2	X		<5	LF	60.2	MEDIUM
C3	X		<5	LF	1.9	MEDIUM
D1	X		8	OPEN	15.4	LOW
D2	X		NA	WATER	NA	MEDIUM
D3	X		15	OPEN	10.3	HIGH
D4	X		20	OPEN	22.6	HIGH
E1		X	13	OPEN	7.4	LOW
E2	X		6	OPEN	2.8	MEDIUM
E3	X		NA	WATER	NA	HIGH
E4	X		20	OPEN	95.8	HIGH
E5	X		13	OPEN	90.2	HIGH
F1		X	25	OPEN	10.9	LOW
F2	X		NA	WATER	NA	MEDIUM
F3	X		6	OPEN	3.9	MEDIUM
F4	X		NA	WATER	NA	LOW
F5	X		NA	WATER	NA	LOW
F6	X		<5	LF	5.8	LOW
G1	X		23	OPEN	9.5	LOW
G2	X		20	OPEN	8.2	LOW
H1	X		<5	LF	10.4	LOW
H2			NA	OFF	NA	LOW
I1	X		<5	LF	4.3	LOW
I2			NA	OFF	NA	LOW
I3	X		9	OPEN	12.1	MEDIUM
I4		X	<5	LF	4.3	MEDIUM
I5	X		<5	LF	12.2	HIGH
J1			NA	OFF	NA	LOW
J2	X		5	OPEN	2.6	MEDIUM
J3	X		<5	LF	15.4	HIGH
J4	X		5	OPEN	8.0	HIGH
J5	X		5	OPEN	7.2	HIGH

TABLE 1
SVE WELL STATUS
VESTAL AREA 4
August 16, 2004

SVE WELL #	VAC WELL	INJ WELL	FLOW RATE	STATUS	PID READINGS	SOIL CONCENTRATION
J6	X		5	OPEN	3.1	HIGH
K1		X	<5	LF	1.1	LOW
K2	X		6	OPEN	8.3	LOW
K3	X		<5	LF	8.4	MEDIUM
K4			NA	OFF	NA	MEDIUM
K5	X		5	OPEN	5.7	HIGH
L1		X	<5	LF	5.2	LOW
L2	X		5	OPEN	10.4	HIGH
L3		X	6	OPEN	5.0	LOW
L4	X		<5	LF	2.2	LOW
M1			NA	OFF	NA	LOW
M2	X		5	OPEN	15.4	LOW
M3	X		5	OPEN	6.8	LOW
M4			NA	OFF	NA	LOW
N1			NA	OFF	NA	LOW
N2			NA	OFF	NA	LOW
N3			NA	OFF	NA	LOW

NOTE: Total System Flow calculated by Roots Blower program with climate variables of the day of sampling.

LF= limited airflow

TABLE 1
SVE WELL STATUS
VESTAL AREA 4
September 20 & 28, 2004

SVE WELL #	VAC WELL	INJ WELL	FLOW RATE	STATUS	PID READINGS	SOIL CONCENTRATION
Bypass Flow Rate			210			
INFLUENT			512		17.4	
MIDDLE			512		2.3	
EFFLUENT			512		1.7	
A1		X	11	OPEN	4.0	LOW
A2		X	14	OPEN	3.1	LOW
A3	X		5	OPEN	1.7	LOW
B1	X		5	OPEN	2.3	LOW
B2	X		5	OPEN	4.9	LOW
B3	X		5	OPEN	6.2	LOW
C1		X	19	OPEN	5.5	LOW
C2	X		5	OPEN	5.0	MEDIUM
C3	X		5	OPEN	3.8	MEDIUM
D1	X		5	OPEN	3.2	LOW
D2	X		NA	WATER	NA	MEDIUM
D3	X		5	OPEN	3.4	HIGH
D4	X		25	OPEN	14.3	HIGH
E1		X	13	OPEN	7.4	LOW
E2	X		5	OPEN	8.1	MEDIUM
E3	X		NA	WATER	NA	HIGH
E4	X		25	OPEN	2.3	HIGH
E5	X		5	OPEN	2.6	HIGH
F1		X	25	OPEN	10.9	LOW
F2	X		8	OPEN	3.3	MEDIUM
F3	X		12	OPEN	0.7	MEDIUM
F4	X		5	OPEN	1.8	LOW
F5	X		NA	OPEN	0.5	LOW
F6	X		NA	WATER	NA	LOW
G1	X		NA	WATER	NA	LOW
G2	X		25	OPEN	2.8	LOW
H1	X		NA	WATER	NA	LOW
H2			NA	OFF	NA	LOW
I1	X		5	OPEN	1.2	LOW
I2			NA	OFF	NA	LOW
I3	X		NA	WATER	NA	MEDIUM
I4		X	<5	LF	4.3	MEDIUM
I5	X		NA	WATER	NA	HIGH
J1			NA	OFF	NA	LOW
J2	X		5	OPEN	1.7	MEDIUM
J3	X		5	OPEN	1.3	HIGH
J4	X		5	OPEN	1.7	HIGH
J5	X		5	OPEN	1.3	HIGH

TABLE 1
SVE WELL STATUS
VESTAL AREA 4
September 20 & 28, 2004

SVE WELL #	VAC WELL	INJ WELL	FLOW RATE	STATUS	PID READINGS	SOIL CONCENTRATION
J6	X		5	OPEN	1.3	HIGH
K1		X	<5	LF	1.1	LOW
K2	X		5	OPEN	1.6	LOW
K3	X		5	OPEN	2.0	MEDIUM
K4			NA	OFF	NA	MEDIUM
K5	X		5	OPEN	1.6	HIGH
L1		X	<5	LF	5.2	LOW
L2	X		5	OPEN	1.5	HIGH
L3		X	6	OPEN	5.0	LOW
L4	X		<5	LF	2.2	LOW
M1			NA	OFF	NA	LOW
M2	X		5	OPEN	5.2	LOW
M3	X		5	OPEN	1.2	LOW
M4			NA	OFF	NA	LOW
N1			NA	OFF	NA	LOW
N2			NA	OFF	NA	LOW
N3			NA	OFF	NA	LOW

NOTE: Total System Flow calculated by Roots Blower program with climate variables of the day of sampling.

LF= limited airflow

TABLE 2
ANALYTICAL RESULTS OF CONCENTRATIONS OF TARGET COMPOUNDS
VESTAL AREA 4

SAMPLE DATE	SAMPLE NUMBER	WELL NUMBER	FLOW RATE (SCFM)	PID READINGS (ppm)	1,1,1 TCA (ppmv)	TCE (ppmv)	TOTAL TARGET VOCs (ppmv)
7/13/2004	VS-SVE-INF-071304-0337	INF	512	15.4	18.05	12.86	30.91
7/13/2004	VS-SVE-MID-071304-0338	MID	512	2.2	12.40	0.57	12.98
7/13/2004	VS-SVE-EFF-071304-0339	EFF	512	0.6	0.00	0.00	0.00
7/13/2004	VS-SVE-TB-071304-0341	TB	NA	0.3	0.00	0.00	0.00
7/22/2004	VS-SVE-INF-072204-0342	INF	512	16.1	14.22	13.76	27.98
7/22/2004	VS-SVE-MID-072204-0343	MID	512	19.4	33.26	13.71	46.98
7/22/2004	VS-SVE-EFF-072204-0344	EFF	512	0.4	0.07	0.14	0.20
7/22/2004	VS-SVE-TB-072204-0346	TB	NA	0.3	0.00	0.00	0.00
8/16/2004	VS-SVE-INF-081604-0347	INF	512	5.4	2.13	2.49	4.63
8/16/2004	VS-SVE-MID-081604-0348	MID	512	0.5	0.00	0.00	0.00
8/16/2004	VS-SVE-EFF-081604-0349	EFF	512	0.5	0.00	0.00	0.00
8/16/2004	VS-SVE-TB-081604-0351	TB	NA	0.4	0.00	0.00	0.00
9/28/2004	VS-SVE-INF-092804-0423	INF	512	17.4	1.45	2.45	3.89
9/28/2004	VS-SVE-MID-092804-0424	MID	512	2.3	2.87	0.00	2.87
9/28/2004	VS-SVE-EFF-092804-0425	EFF	512	1.7	0.00	0.00	0.00
9/28/2004	VS-SVE-TB-6-092804-0427	TB	NA	0.3	0.00	0.00	0.00

NOTE 1: 1,1,1 TCA= 1,1,1-Trichloroethane
TCE= Trichloroethene
NA = Not Applicable

NOTE 2: INF= Influent
MID= Middle Carbon
EFF= Effluent
TB= Trip Blank

TABLE 3
CONTAMINANT CONCENTRATIONS AND YIELDS
SEPTEMBER 20 & 28, 2004
VESTAL, AREA 4

SAMPLE DATE	SAMPLE ID	FLOW (CFM)	PID READING	1,1,1-TCA (ppmv)	TCE (ppmv)	TOTAL TARGETED CONTAMINANTS (ppmv)	LBS OF 1,1,1-TCA	LBS OF TCE	LBS OF TOTAL TARGETED CONTAMINANTS PER DAY
9/20/04	C2	5	5.0	1.48	1.75	3.22	0.00	0.00	0.01
9/20/04	E2	5	8.1	1.63	2.06	3.69	0.00	0.01	0.01
9/20/04	B2	5	4.9	0.57	0.86	1.43	0.00	0.00	0.00
9/20/04	D4	25	14.3	2.46	2.71	5.17	0.03	0.03	0.06
9/20/04	D3	5	3.4	0.38	0.33	0.72	0.00	0.00	0.00
9/20/04	TB-1	NA	0.3	0.00	0.00	0.00	0.00	0.00	0.00
9/20/04	D1	5	3.2	0.62	0.88	1.49	0.00	0.00	0.00
9/20/04	F2	8	3.3	0.34	0.55	0.89	0.00	0.00	0.00
9/20/04	E4	25	2.3	0.48	0.66	1.13	0.01	0.01	0.01
9/20/04	E4-D	25	2.3	0.36	0.55	0.91	0.00	0.00	0.00
9/20/04	F4	5	1.8	0.22	0.24	0.46	0.00	0.00	0.00
9/20/04	F5	5	0.5	0.00	0.00	0.00	0.00	0.00	0.00
9/20/04	TB-2	NA	0.3	0.00	0.00	0.00	0.00	0.00	0.00
9/20/04	C3	5	3.8	1.69	1.98	3.67	0.00	0.00	0.01
9/20/04	B3	5	6.2	1.67	2.21	3.88	0.00	0.00	0.00
9/20/04	A3	5	1.7	0.00	0.09	0.09	0.00	0.00	0.00
9/20/04	B1	5	2.3	0.00	0.11	0.11	0.00	0.00	0.00
9/20/04	E5	5	2.6	0.73	0.57	1.30	0.00	0.00	0.00
9/20/04	F3	12	0.7	0.19	0.20	0.39	0.00	0.00	0.00
9/20/04	TB-3	NA	0.4	0.00	0.00	0.00	0.00	0.00	0.00
9/20/04	PB-1	NA	0.4	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	J4	5	1.7	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	J2	5	1.7	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	L2	5	1.5	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	K5	5	1.6	0.00	0.00	0.00	0.00	0.00	0.00

TABLE 3
CONTAMINANT CONCENTRATIONS AND YIELDS
SEPTEMBER 20 & 28, 2004
VESTAL, AREA 4

SAMPLE DATE	SAMPLE ID	FLOW (CFM)	PID READING	1,1,1-TCA (ppmv)	TCE (ppmv)	TOTAL TARGETED CONTAMINANTS (ppmv)	LBS OF 1,1,1-TCA	LBS OF TCE	LBS OF TOTAL TARGETED CONTAMINANTS PER DAY
9/28/04	K2	5	1.6	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	K3	5	2.0	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	K3-D	5	2.0	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	TB-4	NA	0.3	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	J6	5	1.3	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	J3	5	1.3	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	G2	25	2.8	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	TB-5	NA	0.3	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	J5	5	1.3	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	I1	5	1.2	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	M3	5	1.2	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	INF	512	17.4	1.45	2.45	3.89	0.37	0.62	0.98
9/28/04	MID	512	2.3	2.87	0.00	2.87	0.73	0.00	0.73
9/28/04	EFF	512	1.7	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	PB-2	NA	0.3	0.00	0.00	0.00	0.00	0.00	0.00
9/28/04	TB-6	NA	0.3	0.00	0.00	0.00	0.00	0.00	0.00

Note: Flows of less than 5 CFM were recorded as 2.

TABLE 4

TARGET CONTAMINANT YIELD
VESTAL AREA 4

SAMPLE DATE	SAMPLE NUMBER	WELL NUMBER	1,1,1 TCA (lbs/day)	TCE (lbs/day)	TOTAL TARGET VOCs (lbs/day)
6/23/2003	VS-SS-INFL-062303-0	INF	9.58	7.18	16.76
6/23/2003	VS-SS-INFL-062303-1	INF	6.37	4.85	11.22
	INFLUENT AVG PER DAY FOR PERIOD		7.98	6.02	13.99
	TOTAL YIELD (lbs) FOR PERIOD (6/23-6/23)				0.56
6/23/2003	VS-SS-INFL-062303-1	INF	6.37	4.85	11.22
6/23/2003	VS-SS-INFL-062303-4	INF	5.23	5.42	10.66
	INFLUENT AVG PER DAY FOR PERIOD		5.80	5.14	10.94
	TOTAL YIELD (lbs) FOR PERIOD (6/23-6/23)				1.42
6/23/2003	VS-SS-INFL-062303-4	INF	5.23	5.42	10.66
6/23/2003	VS-SS-INFL-062303-8	INF	4.10	4.33	8.43
	INFLUENT AVG PER DAY FOR PERIOD		4.67	4.88	9.55
	TOTAL YIELD (lbs) FOR PERIOD (6/23-6/23)				1.62
6/23/2003	VS-SS-INFL-062303-8	INF	4.10	4.33	8.43
6/24/2003	VS-SS-INF-062403	INF	4.52	6.18	10.70
	INFLUENT AVG PER DAY FOR PERIOD		4.31	5.26	9.57
	TOTAL YIELD (lbs) FOR PERIOD (6/23-6/24)				11.19
6/24/2003	VS-SS-INF-062403	INF	4.52	6.18	10.70
6/25/2003	VS-SS-INF-062503	INF	2.28	2.21	4.48
	INFLUENT AVG PER DAY FOR PERIOD		3.40	4.20	7.59
	TOTAL YIELD (lbs) FOR PERIOD (6/24-6/25)				4.40
6/25/2003	VS-SS-INF-062503	INF	2.28	2.21	4.48
6/27/2003	VS-SVE-INF-062703	INF	3.28	3.26	6.53
	INFLUENT AVG PER DAY FOR PERIOD		2.78	2.74	5.51
	TOTAL YIELD (lbs) FOR PERIOD (6/25-6/27)				10.79
6/27/2003	VS-SVE-INF-062703	INF	3.28	3.26	6.53
7/7/2003	VS-SVE-INF-070703-0001	INF	6.87	5.04	11.91
	INFLUENT AVG PER DAY FOR PERIOD		5.08	4.15	9.22
	TOTAL YIELD (lbs) FOR PERIOD (7/27-7/7)				92.57
7/7/2003	VS-SVE-INF-070703-0001	INF	6.87	5.04	11.91
7/9/2003	VS-SVE-INF-070903-0006	INF	19.45	17.96	36.92
	INFLUENT AVG PER DAY FOR PERIOD		13.16	11.50	24.42
	TOTAL YIELD (lbs) FOR PERIOD (7/7-7/9)				47.85
7/9/2003	VS-SVE-INF-070903-0006	INF	19.45	17.96	36.92
7/17/2003	VS-SVE-INF-071703-0011	INF	8.60	5.65	14.25
	INFLUENT AVG PER DAY FOR PERIOD		14.03	11.81	25.59
	TOTAL YIELD (lbs) FOR PERIOD (7/9-7/17)				114.11
7/17/2003	VS-SVE-INF-071703-0011	INF	8.60	5.65	14.25
7/29/2003	VS-SVE-INF-072903-0016	INF	2.70	1.88	4.67
	INFLUENT AVG PER DAY FOR PERIOD		5.65	3.77	9.46
	TOTAL YIELD (lbs) FOR PERIOD (7/17-7/29)				76.91

TABLE 4

TARGET CONTAMINANT YIELD
VESTAL AREA 4

SAMPLE DATE	SAMPLE NUMBER	WELL NUMBER	1,1,1 TCA (lbs/day)	TCE (lbs/day)	TOTAL TARGET VOCs (lbs/day)
7/29/2003	VS-SVE-INF-072903-0016	INF	2.70	1.88	4.67
8/12/2003	VS-SVE-INF-081203-0026	INF	4.07	2.34	6.40
	INFLUENT AVG. PER DAY FOR PERIOD		3.39	2.11	5.54
	TOTAL YIELD (lbs) FOR PERIOD (7/29-8/12)				30.33
8/12/2003	VS-SVE-INF-081203-0026	INF	4.07	2.34	6.40
8/25/2003	VS-SVE-INF-082503-0031	INF	6.23	5.06	11.28
	INFLUENT AVG. PER DAY FOR PERIOD		5.15	3.70	8.84
	TOTAL YIELD (lbs) FOR PERIOD (8/12-8/25)				90.08
8/25/2003	VS-SVE-INF-082503-0031	INF	6.23	5.06	11.28
9/3/2003	VS-SVE-INF-090303-0036	INF	8.45	4.01	12.46
	INFLUENT AVG. PER DAY FOR PERIOD		7.34	4.54	11.87
	TOTAL YIELD (lbs) FOR PERIOD (8/25-9/3)				103.74
9/3/2003	VS-SVE-INF-090303-0036	INF	8.45	4.01	12.46
9/8/2003	VS-SVE-INF-090803-0041	INF	4.23	2.46	6.70
	INFLUENT AVG. PER DAY FOR PERIOD		6.34	3.24	9.58
	TOTAL YIELD (lbs) FOR PERIOD (9/3-9/8)				38.51
9/8/2003	VS-SVE-INF-090803-0041	INF	4.23	2.46	6.70
9/24/2003	VS-SVE-INF-092403-0099	INF	2.74	1.30	4.04
	INFLUENT AVG. PER DAY FOR PERIOD		3.48	1.88	5.37
	TOTAL YIELD (lbs) FOR PERIOD (9/8-9/24)				72.89
9/24/2003	VS-SVE-INF-092403-0099	INF	2.74	1.30	4.04
10/9/2003	VS-SVE-INF-100903-0109	INF	1.91	1.51	3.42
	INFLUENT AVG. PER DAY FOR PERIOD		2.32	1.40	3.73
	TOTAL YIELD (lbs) FOR PERIOD (9/24-10/9)				55.77
10/9/2003	VS-SVE-INF-100903-0109	INF	1.91	1.51	3.42
10/15/2003	VS-SVE-INF-101503-0114	INF	2.82	2.26	5.08
	INFLUENT AVG. PER DAY FOR PERIOD		2.37	1.89	4.25
	TOTAL YIELD (lbs) FOR PERIOD (10/9-10/15)				25.50
10/15/2003	VS-SVE-INF-101503-0114	INF	2.82	2.26	5.08
10/28/2003	VS-SVE-INF-102803-0119	INF	2.65	2.21	4.86
	INFLUENT AVG. PER DAY FOR PERIOD		2.74	2.24	4.97
	TOTAL YIELD (lbs) FOR PERIOD (10/15-10/28)				64.91
10/28/2003	VS-SVE-INF-102803-0119	INF	2.65	2.21	4.86
11/11/2003	VS-SVE-INF-111103-0124	INF	0.99	1.46	2.45
	INFLUENT AVG. PER DAY FOR PERIOD		1.82	1.84	3.66
	TOTAL YIELD (lbs) FOR PERIOD (10/28-11/11)				25.11
11/11/2003	VS-SVE-INF-111103-0124	INF	0.99	1.46	2.45
11/19/2003	VS-SVE-INF-111903-0129	INF	1.27	1.39	2.65
	INFLUENT AVG. PER DAY FOR PERIOD		1.13	1.43	2.55
	TOTAL YIELD (lbs) FOR PERIOD (11/11-11/19)				19.74

TABLE 4

TARGET CONTAMINANT YIELD
VESTAL AREA 4

SAMPLE DATE	SAMPLE NUMBER	WELL NUMBER	1,1,1 TCA (lbs/day)	TCE (lbs/day)	TOTAL TARGET VOCs (lbs/day)
11/19/2003	VS-SVE-INF-111103-0124	INF	1.27	1.39	2.65
12/4/2003	VS-SVE-INF-111903-0129	INF	0.74	0.76	1.50
	INFLUENT AVG. PER DAY FOR PERIOD		1.01	1.08	2.08
	TOTAL YIELD (lbs) FOR PERIOD (11/19-12/4)				32.56
12/4/2003	VS-SVE-INF-111903-0129	INF	0.74	0.76	1.50
1/14/2004	VS-SVE-INF-011404-0197	INF	0.69	0.90	1.59
	INFLUENT AVG. PER DAY FOR PERIOD		0.72	0.83	1.55
	TOTAL YIELD (lbs) FOR PERIOD (12/4-1/14)				12.13
1/14/2004	VS-SVE-INF-011404-0197	INF	0.69	0.90	1.59
1/26/2004	VS-SVE-INF-012604-0202	INF	1.63	1.79	3.42
	INFLUENT AVG. PER DAY FOR PERIOD		1.16	1.35	2.51
	TOTAL YIELD (lbs) FOR PERIOD (1/14-1/26)				24.17
1/26/2004	VS-SVE-INF-012604-0202	INF	1.63	1.79	3.42
2/9/2004	VS-SVE-INF-020904-0207	INF	3.09	3.10	6.20
	INFLUENT AVG. PER DAY FOR PERIOD		2.36	2.45	4.81
	TOTAL YIELD (lbs) FOR PERIOD (1/26-2/9)				55.27
2/9/2004	VS-SVE-INF-020904-0207	INF	3.09	3.10	6.20
2/24/2004	VS-SVE-INF-022404-0212	INF	3.72	2.91	6.63
	INFLUENT AVG. PER DAY FOR PERIOD		3.41	3.01	6.42
	TOTAL YIELD (lbs) FOR PERIOD (2/9-2/24)				95.58
2/24/2004	VS-SVE-INF-022404-0212	INF	3.72	2.91	6.63
3/10/2004	VS-SVE-INF-031004-0262	INF	2.23	2.54	4.78
	INFLUENT AVG. PER DAY FOR PERIOD		2.98	2.73	5.71
	TOTAL YIELD (lbs) FOR PERIOD (2/24-3/10)				45.58
3/10/2004	VS-SVE-INF-031004-0262	INF	2.23	2.54	4.78
4/5/2004	VS-SVE-INF-040504-0267	INF	2.51	2.56	5.07
	INFLUENT AVG. PER DAY FOR PERIOD		2.37	2.55	4.93
	TOTAL YIELD (lbs) FOR PERIOD (3/10-4/5)				75.11
4/5/2004	VS-SVE-INF-040504-0267	INF	2.51	2.56	5.07
4/27/2004	VS-SVE-INF-042704-0272	INF	1.47	1.64	3.11
	INFLUENT AVG. PER DAY FOR PERIOD		1.99	2.10	4.09
	TOTAL YIELD (lbs) FOR PERIOD (4/5-4/27)				60.45
4/27/2004	VS-SVE-INF-042704-0272	INF	1.47	1.64	3.11
5/11/2004	VS-SVE-INF-051104-0277	INF	2.35	2.77	5.12
	INFLUENT AVG. PER DAY FOR PERIOD		1.91	2.21	4.12
	TOTAL YIELD (lbs) FOR PERIOD (4/27-5/11)				54.36
5/11/2004	VS-SVE-INF-051104-0277	INF	2.35	2.77	5.12
6/1/2004	VS-SVE-INF-060104-0282	INF	2.10	2.59	4.69
	INFLUENT AVG. PER DAY FOR PERIOD		2.23	2.68	4.91
	TOTAL YIELD (lbs) FOR PERIOD (5/11-6/1)				94.18

TABLE 4

TARGET CONTAMINANT YIELD
VESTAL AREA 4

SAMPLE DATE	SAMPLE NUMBER	WELL NUMBER	1,1,1 TCA (lbs/day)	TCE (lbs/day)	TOTAL TARGET VOCs (lbs/day)
6/1/2004	VS-SVE-INF-060104-0282	INF	2.10	2.59	4.69
6/22/2004	VS-SVE-INF-062204-0332	INF	1.30	1.11	2.40
	INFLUENT AVG. PER DAY FOR PERIOD		1.70	1.85	3.55
	TOTAL YIELD (lbs) FOR PERIOD (6/1-6/22)				73.91
6/22/2004	VS-SVE-INF-062204-0332	INF	1.30	1.11	2.40
7/13/2004	VS-SVE-INF-071304-0337	INF	4.61	3.23	7.84
	INFLUENT AVG. PER DAY FOR PERIOD		2.96	2.17	5.12
	TOTAL YIELD (lbs) FOR PERIOD (6/22-7/13)				107.37
7/13/2004	VS-SVE-INF-071304-0337	INF	4.61	3.23	7.84
7/22/2004	VS-SVE-INF-072204-0342	INF	3.63	3.46	7.09
	INFLUENT AVG. PER DAY FOR PERIOD		4.12	3.35	7.47
	TOTAL YIELD (lbs) FOR PERIOD (7/13-7/22)				46.95
7/22/2004	VS-SVE-INF-072204-0342	INF	3.63	3.46	7.09
8/16/2004	VS-SVE-INF-081604-0347	INF	0.54	0.63	1.17
	INFLUENT AVG. PER DAY FOR PERIOD		2.09	2.05	4.13
	TOTAL YIELD (lbs) FOR PERIOD (7/22-8/16)				68.02
8/16/2004	VS-SVE-INF-081604-0347	INF	0.54	0.63	1.17
9/28/2004	VS-SVE-INF-092804-0423	INF	0.37	0.62	0.98
	INFLUENT AVG. PER DAY FOR PERIOD		0.46	0.63	1.08
	TOTAL YIELD (lbs) FOR PERIOD (8/16-9/28)				46.06
TOTAL YIELD TO REPORTED DATE					1779.72

Note 1: Beginning and ending period influent yields are averaged and then multiplied by the number of operational days during the reporting period.

Note 2: 1,1,1 TCA= 1,1,1-Trichloroethane
TCE= Trichloroethene

Note 3: INF= Influent

TABLE 5
TOTAL TARGET CONTAMINANT YIELD TO DATE
VESTAL AREA 4

SAMPLE DATE	1,1,1 TCA (lbs)	TCE (lbs)	TOTAL TARGET VOCs (lbs)
6/23/2003	0.00	0.00	0.00
6/23/2003	0.33	0.25	0.58
6/23/2003	1.06	0.89	1.95
6/23/2003	1.84	1.71	3.54
6/24/2003	6.87	7.83	14.70
6/25/2003	8.85	10.28	19.13
6/27/2003	14.28	15.63	29.92
7/7/2003	65.21	57.31	122.52
7/9/2003	90.98	79.35	170.33
7/17/2003	153.51	130.86	284.38
7/29/2003	199.85	161.45	361.30
8/12/2003	218.64	172.99	391.63
8/25/2003	271.09	210.67	481.76
9/3/2003	335.21	250.27	585.48
9/8/2003	360.71	263.28	623.99
9/24/2003	408.05	288.83	696.88
10/9/2003	442.85	309.83	752.68
10/15/2003	457.04	321.14	778.18
10/28/2003	492.69	350.33	843.02
11/11/2003	505.20	362.94	868.14
11/19/2003	513.95	373.96	887.91
12/4/2003	529.68	390.80	920.48
1/14/2004	535.30	397.32	932.62
1/26/2004	546.51	410.29	956.80
2/9/2004	573.66	438.42	1012.08
2/24/2004	624.45	483.19	1107.65
3/10/2004	648.24	504.97	1153.22
4/5/2004	684.38	543.87	1228.25
4/27/2004	713.77	574.92	1288.69
5/11/2004	739.02	604.07	1343.09
6/1/2004	781.81	655.48	1437.29
6/22/2004	817.27	693.97	1511.24
7/13/2004	879.24	739.47	1618.71
7/22/2004	905.17	760.52	1665.69
8/16/2004	939.55	794.17	1733.72
9/28/2004	959.14	820.79	1779.93

NOTE 1: 1,1,1 TCA= 1,1,1-Trichloroethane
TCE= Trichloroethene

TABLE 6
SVE WELL PROPOSED CHANGES
VESTAL AREA 4

CURRENT STATUS					PROPOSED CHANGES	
SVE WELL #	VAC WELL	INJ WELL	OFF	FLOW STATUS	PROPOSED FLOW CHANGES	REASON
INFLUENT						
MIDDLE						
EFFLUENT						
A1		X		OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
A2		X		OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
A3	X			LF	None	Leave in the current configuration to focus on the area in Cell 1.
B1	X			OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
B2	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
B3	X			LF	None	Leave in the current configuration to focus on the area in Cell 1.
C1		X		OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
C2	X			NA	None	Leave in the current configuration to focus on the area in Cell 1.
C3	X			OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
D1	X			OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
D2	X			NA	None	Leave in the current configuration to focus on the area in Cell 1.
D3	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
D4	X			OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
E1		X		OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
E2	X			NA	None	Leave in the current configuration to focus on the area in Cell 1.
E3	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
E4	X			OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
E5	X			OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
F1		X		OPEN	None	Leave in the current configuration to focus on the area in Cell 1.

TABLE 6
SVE WELL PROPOSED CHANGES
VESTAL AREA 4

CURRENT STATUS					PROPOSED CHANGES	
SVE WELL #	VAC WELL	INJ WELL	OFF	FLOW STATUS	PROPOSED FLOW CHANGES	REASON
F2	X			OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
F3	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
F4	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
F5	X			LF	None	Leave in the current configuration to focus on the area in Cell 1.
F6	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
G1	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
G2	X			OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
H1	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
H2			X	OFF	None	Leave in the current configuration to focus on the area in Cell 1.
I1	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
I2			X	OFF	None	Leave in the current configuration to focus on the area in Cell 1.
I3	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
I4		X		NA	None	Leave in the current configuration to focus on the area in Cell 1.
I5	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
J1			X	OFF	None	Leave in the current configuration to focus on the area in Cell 1.
J2	X			LF	None	Leave in the current configuration to focus on the area in Cell 1.
J3	X			LF	None	Leave in the current configuration to focus on the area in Cell 1.
J4	X			OPEN	None	Leave in the current configuration to focus on the area in Cell 1.
J5	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
J6	X			LF	None	Leave in the current configuration to focus on the area in Cell 1.
K1		X		NA	None	Leave in the current configuration to focus on the area in Cell 1.

TABLE 6
SVE WELL PROPOSED CHANGES
VESTAL AREA 4

CURRENT STATUS					PROPOSED CHANGES	
SVE WELL #	VAC WELL	INJ WELL	OFF	FLOW STATUS	PROPOSED FLOW CHANGES	REASON
K2	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
K3	X			LF	None	Leave in the current configuration to focus on the area in Cell 1.
K4			X	OFF	None	Leave in the current configuration to focus on the area in Cell 1.
K5	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
L1		X		NA	None	Leave in the current configuration to focus on the area in Cell 1.
L2	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
L3		X		NA	None	Leave in the current configuration to focus on the area in Cell 1.
L4	X			LF	None	Leave in the current configuration to focus on the area in Cell 1.
M1			X	OFF	None	Leave in the current configuration to focus on the area in Cell 1.
M2	X			LF	None	Leave in the current configuration to focus on the area in Cell 1.
M3	X			WATER	None	Leave in the current configuration to focus on the area in Cell 1.
M4			X	OFF	None	Leave in the current configuration to focus on the area in Cell 1.
N1			X	OFF	None	Leave in the current configuration to focus on the area in Cell 1.
N2			X	OFF	None	Leave in the current configuration to focus on the area in Cell 1.
N3			X	OFF	None	Leave in the current configuration to focus on the area in Cell 1.

APPENDIX A
Operation and Maintenance Data
(Including Daily O&M Records, Routine Maintenance and Inspection Forms, and Field Notes)

FAXED — 7-13-04 1125 HRS

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 7/13/04 ARRIVAL TIME: 0830 FAULT LIGHTS ON (list): NONE

REASON FOR VISIT: MONTHLY QUARTERLY ~~X~~ OTHER
OTHER (define): Carbon Bed 06 Sampling, Monthly PID Redgs.

TASK PERFORMED: Pulled 06 Samples From INFLUENT, MID CARBON AND EFFLUENT.

Opened Valve To Cell #2 At MANIFOLD (Was partially open)

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED
HOUR METER: SVE UNIT 6914.3 HRS.

SVE PUMPING UNIT

INJECTION BLOWER TEMP:	160° F (0900 HRS.)	180° (1115 HRS.)
INJECTION BLOWER TEMP SETTING:	~~220~~ F	
PRESSURE AFTER INJECTION BLOWER	8 ~~"H2O~~ HG	
VACUUM BLOWER TEMP:	200° F (0900 HRS.)	190° (1115 HRS.)
VACUUM BLOWER TEMP SETTING:	220 F	
VACUUMAFTER FILTER	6 ~~"H2O~~ HG	
PRESSURE AFTER VACUUM BLOWER:	5 ~~"H2O~~ HG	

GREASE SEALS CHECKED: ✓ DATE OF LAST GREASE: 6-24-'04

OIL LEVEL CHECKED: ✓ DATE OF LAST OIL CHANGE: 6-1-'04

BELTS CHECKED FOR WEAR: ✓ BELT GUARD IN PLACE: ✓

INF - 15.4 ppm
MID - 3.2 ppm
EFF - 0.6 ppm

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 7/13/04

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ____

PRESSURE BEFORE GAC UNIT 1 — 9 "H2O
TEMPERATURE BEFORE GAC 1 — 100° F

PRESSURE BETWEEN GAC UNIT 1 AND 2 — 6 "H20

PRESSURE AFTER GAC UNIT 2 — 3 "H2O
TEMPERATURE AFTER GAC 2 — 84° F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

VOLUME OF WATER IN STORAGE TANK: 0 GALLONS
WATER IN CONTAINMENT VESSEL: YES ____ NO ✓ AMOUNT: 0 INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 90 F

PRESSURE AT INJECTION MANIFOLD: 68 "H2O

TEMP AT INJECTION MANIFOLD: 66 F

VACUUM AT VACUUM MANIFOLD: 15 "H2O

TEMP AT VACUUM MANIFOLD: 68 F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 50 F

PRESSURE AT INJECTION MANIFOLD: 76 "H2O

TEMP AT INJECTION MANIFOLD: 66° F

VACUUM AT VACUUM MANIFOLD: 75 "H2O

TEMP AT VACUUM MANIFOLD: 68° F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: Looks Good

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: _____YES ____ NO
SVE WELLS SAMPLED: ____ YES ____ NO
CARBON CHANGEOUT PERFORMED: ____
WATER REMOVAL PERFORMED: ____
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: _____
INSPECT MAIN POWER AND TELEPHONE LINE: _____

SUMMERY OF PROCESS AIR SAMPLING: Pulled 06 Samples From Influent, Mid Carb. + Effluent.

SUMMARY OF OTHER ACTIVITIES: Took PID Readings in all Vacuum Wells. With Exception of Wells Pulling Water 29 Readings in all 8-Pulled Water. Lubricated Blower Motors

COMMENTS:

SIGNATURE OF OPERATIONS TECHNICIAN(S): M.P. McGuire

FAXED - 7-26-04 1110 HRS

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 7/23/04 ARRIVAL TIME: 0900 FAULT LIGHTS ON (list): "NOT RUNNING"

REASON FOR VISIT: MONTHLY QUARTERLY OTHER
OTHER (define): RE-START IBVE SYSTEM, PULL OF SAMPLES FROM CARBON BEDS, CHANGE CARBON BEDS. (INF/EFF.)

TASK PERFORMED: IBVE SYSTEM SHUT DOWN SOMETIME ON MONDAY (PM) RE-STARTED AT 0930 TODAY. NO APPARENT CAUSE. LIGHTNING ?

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED
HOUR METER: SVE UNIT 7065.3

SVE PUMPING UNIT

INJECTION BLOWER TEMP: (1030) 140 F → 150° → 150°
INJECTION BLOWER TEMP SETTING: 220 F
PRESSURE AFTER INJECTION BLOWER 8 "~~H2O~~ Hg

VACUUM BLOWER TEMP: (1030) 185 F → 190° → ~~200°~~ 195°
VACUUM BLOWER TEMP SETTING: 220 F
VACUUMAFTER FILTER 6 "H2O
PRESSURE AFTER VACUUM BLOWER: 5 "H2O

GREASE SEALS CHECKED: ✓ DATE OF LAST GREASE: 7-13-'04

OIL LEVEL CHECKED: ✓ DATE OF LAST OIL CHANGE: 6-1-04

BELTS CHECKED FOR WEAR: ✓ BELT GUARD IN PLACE: ✓

5 of 9

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 7/22/04

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

PRESSURE BEFORE GAC UNIT 1	10" "H2O
TEMPERATURE BEFORE GAC 1	86° F
PRESSURE BETWEEN GAC UNIT 1 AND 2	6" "H20
PRESSURE AFTER GAC UNIT 2	3" "H2O
TEMPERATURE AFTER GAC 2	80° F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

VOLUME OF WATER IN STORAGE TANK: 0 GALLONS

WATER IN CONTAINMENT VESSEL: YES ____ NO ✓ AMOUNT: 0 INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 50 F

PRESSURE AT INJECTION MANIFOLD: 54" "H2O

TEMP AT INJECTION MANIFOLD: 70° F

VACUUM AT VACUUM MANIFOLD: 75" "H2O

TEMP AT VACUUM MANIFOLD: 72° F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 50 F

PRESSURE AT INJECTION MANIFOLD: 65" "H2O ✓

TEMP AT INJECTION MANIFOLD: 70° F

VACUUM AT VACUUM MANIFOLD: 76" "H2O ✓

TEMP AT VACUUM MANIFOLD: 70° F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: Good

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: _____YES ____ NO
SVE WELLS SAMPLED: ____ YES ____ NO
CARBON CHANGEOUT PERFORMED: ____
WATER REMOVAL PERFORMED: ____
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: _____
INSPECT MAIN POWER AND TELEPHONE LINE: _____

SUMMERY OF PROCESS AIR SAMPLING: _____

SUMMARY OF OTHER ACTIVITIES: _____

COMMENTS: _____

SIGNATURE OF OPERATIONS TECHNICIAN(S): M.P. McHugh

1005 - restarted.
1145 - Reset

TAPED 7-26-04 - 1135 HRS

OSTemp 705

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 7/26/04 ARRIVAL TIME: 0900 FAULT LIGHTS ON (list): "Shut Down"

REASON FOR VISIT: MONTHLY QUARTERLY OTHER
OTHER (define): System Shut Down After 5 1/2 Hrs. Last Thursday 7/22.

TASK PERFORMED: Restarted Syst Last Thur. 7/22 - Ran for only 5 1/2 Hrs. Shut Down Approx. 3:30 PM on Thur. 7/22. Temp Hot 90° Very Humid and Blower Temp on Vac. was Running at 200° When We Left at 1 Pm. Today We Reset Temp on Vac. Blower To 225/230° and Restarted at 1005 Hrs.

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED
HOUR METER: SVE UNIT 7070.9

SVE PUMPING UNIT

INJECTION BLOWER TEMP: 150° F
INJECTION BLOWER TEMP SETTING: 220° F
PRESSURE AFTER INJECTION BLOWER 0 "H20 ~~HP~~

VACUUM BLOWER TEMP: 185° F
VACUUM BLOWER TEMP SETTING: 220° F
VACUUMAFTER FILTER 6 "H20 ~~HP~~
PRESSURE AFTER VACUUM BLOWER: 5 "H20 ~~HP~~

GREASE SEALS CHECKED: ✓ DATE OF LAST GREASE: 7-22-04

OIL LEVEL CHECKED: ✓ DATE OF LAST OIL CHANGE: 6-1-04

BELTS CHECKED FOR WEAR: ✓ BELT GUARD IN PLACE: ✓

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 7/26/04

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

PRESSURE BEFORE GAC UNIT 1	8" "H2O
TEMPERATURE BEFORE GAC 1	80° F
PRESSURE BETWEEN GAC UNIT 1 AND 2	7" "H20
PRESSURE AFTER GAC UNIT 2	4" "H2O
TEMPERATURE AFTER GAC 2	85 F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

VOLUME OF WATER IN STORAGE TANK: 0 GALLONS

WATER IN CONTAINMENT VESSEL: YES ____ NO ✓ AMOUNT: 0 INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ____ 240-VOLT DISCONNECT ON ____

SELECTOR SWITCH: MANUAL ____ OFF ____ AUTO ____

VACUUM STATUS LIGHT: ON ____ OFF ____

CONTROL BOX LOCKED ____

ELECTRICAL HEAT BREAKER: ON ____ OFF ____

ELECTRICAL HEATER THERMOSTAT SETTING: _____F

PRESSURE AT INJECTION MANIFOLD: _____ "H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____"H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: _____ "Hg

WATER PUMP PRESSURE RELIEF SETTING: _____ psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ____ 240-VOLT DISCONNECT ON ____

SELECTOR SWITCH: MANUAL ____ OFF ____ AUTO ____

VACUUM STATUS LIGHT: ON ____ OFF ____

CONTROL BOX LOCKED ____

ELECTRICAL HEAT BREAKER: ON ____ OFF ____

ELECTRICAL HEATER THERMOSTAT SETTING: _____F

PRESSURE AT INJECTION MANIFOLD: _____"H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____"H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: _____ "Hg

WATER PUMP PRESSURE RELIEF SETTING: _____ psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: Good

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: _____YES ____ NO
SVE WELLS SAMPLED: ____ YES ____ NO
CARBON CHANGEOUT PERFORMED: ____
WATER REMOVAL PERFORMED: ____
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: _____
INSPECT MAIN POWER AND TELEPHONE LINE: _____

SUMMERY OF PROCESS AIR SAMPLING: _____

SUMMARY OF OTHER ACTIVITIES: Re-started IRUS System at 1005 hrs. (Down since Thurs 7/22 - 3pm) Ran for 1½ hrs. and took Temp/Press Readings Re-set shut off Temp on vac. blower to 225°/230°.

COMMENTS: 11:30 Temps = Inj. - 150° Vac - 185°

SIGNATURE OF OPERATIONS TECHNICIAN(S): M.P. McGuire

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 7/29/04 ARRIVAL TIME: 0915 FAULT LIGHTS ON (list): "DOWN"

REASON FOR VISIT: MONTHLY QUARTERLY OTHER
OTHER (define): SHUT DOWN TUES. 7/27 7:45 PM - RAN FOR 34 HRS FROM MON. 7/26 - 1005 AM

TASK PERFORMED: RESTARTED AT 09:45. CLOSED TVS A LITTLE AT BLOWER

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED
HOUR METER: SVE UNIT 7104.0 HRS.

SVE PUMPING UNIT

INJECTION BLOWER TEMP: _____ F
INJECTION BLOWER TEMP SETTING: 220 F
PRESSURE AFTER INJECTION BLOWER 9 "~~H2O~~ Hg

VACUUM BLOWER TEMP: _____ F
VACUUM BLOWER TEMP SETTING: 220 F
VACUUMAFTER FILTER 8 "~~H2O~~ Hg
PRESSURE AFTER VACUUM BLOWER: 5 "~~H2O~~ Hg

GREASE SEALS CHECKED: _____ DATE OF LAST GREASE: _____

OIL LEVEL CHECKED: _____ DATE OF LAST OIL CHANGE: _____

BELTS CHECKED FOR WEAR: _____ BELT GUARD IN PLACE: _____

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE:___/___/___

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION._____

PRESSURE BEFORE GAC UNIT 1 _____"H2O
TEMPERATURE BEFORE GAC 1 _____F

PRESSURE BETWEEN GAC UNIT 1 AND 2 _____"H20

PRESSURE AFTER GAC UNIT 2 _____"H2O
TEMPERATURE AFTER GAC 2 _____F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION._____

VOLUME OF WATER IN STORAGE TANK:_____ GALLONS
WATER IN CONTAINMENT VESSEL: YES ____ NO____ AMOUNT:_____ INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ____ 240-VOLT DISCONNECT ON ____

SELECTOR SWITCH: MANUAL ____ OFF ____ AUTO ____

VACUUM STATUS LIGHT: ON ____ OFF ____

CONTROL BOX LOCKED ____

ELECTRICAL HEAT BREAKER: ON ____ OFF ____

ELECTRICAL HEATER THERMOSTAT SETTING: _____F

PRESSURE AT INJECTION MANIFOLD: _____"H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____"H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: _____"Hg

WATER PUMP PRESSURE RELIEF SETTING: _____ psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ____ 240-VOLT DISCONNECT ON ____

SELECTOR SWITCH: MANUAL ____ OFF ____ AUTO ____

VACUUM STATUS LIGHT: ON ____ OFF ____

CONTROL BOX LOCKED ____

ELECTRICAL HEAT BREAKER: ON ____ OFF ____

ELECTRICAL HEATER THERMOSTAT SETTING: _____F

PRESSURE AT INJECTION MANIFOLD: _____"H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____"H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: _____ "Hg

WATER PUMP PRESSURE RELIEF SETTING: _____ psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: _____

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: _____YES ____ NO
SVE WELLS SAMPLED: ____ YES ____ NO
CARBON CHANGEOUT PERFORMED: ____
WATER REMOVAL PERFORMED: ____
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: _____
INSPECT MAIN POWER AND TELEPHONE LINE: _____

SUMMERY OF PROCESS AIR SAMPLING: _____
_____
_____
_____

SUMMARY OF OTHER ACTIVITIES: _____
_____
_____
_____

COMMENTS: _____
_____
_____
_____

SIGNATURE OF OPERATIONS TECHNICIAN(S): _____

_____

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 8/2/04 ARRIVAL TIME: 0900 FAULT LIGHTS ON (list): "Down"

REASON FOR VISIT: MONTHLY QUARTERLY OTHER
OTHER (define): Check out System, Re-Start, Call Doug.

TASK PERFORMED: System was Re-Started Tues. 7/29 at 1030 hrs. Ran for 23 hrs., Shut Down on Fri. at 0930 hrs. Will Contact Tom Sisko of Mont Elec. So He Can Hook up Computer To Determine Cause of Re-Current Shut Downs. Will Be Changing CARBON (2-Lbs) on Tues 8/5.

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED
HOUR METER: SVE UNIT 7127.0

SVE PUMPING UNIT

		Opened/Disc. Vac.	Closed By-Pass
INJECTION BLOWER TEMP:	185 F	180°	180°
INJECTION BLOWER TEMP SETTING:	230 F		
PRESSURE AFTER INJECTION BLOWER	10 "H20 ~~Hg~~	15" Hg	
VACUUM BLOWER TEMP:	205 F	180°	200°
VACUUM BLOWER TEMP SETTING:	230 F		
VACUUMAFTER FILTER	9 "H20 ~~Hg~~	14" Hg	
PRESSURE AFTER VACUUM BLOWER:	6 "H20 ~~Hg~~	10" Hg	

GREASE SEALS CHECKED: ✓ DATE OF LAST GREASE: 7-29-04

OIL LEVEL CHECKED: ✓ DATE OF LAST OIL CHANGE: 6-1-04

BELTS CHECKED FOR WEAR: ✓ BELT GUARD IN PLACE: ✓

7200 HRS. = 24 HRS = 300 DAYS.

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 8/2/09

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

PRESSURE BEFORE GAC UNIT 1	8 "H2O
TEMPERATURE BEFORE GAC 1	82° F
PRESSURE BETWEEN GAC UNIT 1 AND 2	6 "H20
PRESSURE AFTER GAC UNIT 2	3 "H2O
TEMPERATURE AFTER GAC 2	78° F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

VOLUME OF WATER IN STORAGE TANK: 0 GALLONS

WATER IN CONTAINMENT VESSEL: YES ____ NO ✓ AMOUNT: 0 INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 50° F

OPENED SOME VACS / DISCHD

PRESSURE AT INJECTION MANIFOLD: 84 "H2O 76"

TEMP AT INJECTION MANIFOLD: 70 F 70°

VACUUM AT VACUUM MANIFOLD: 88 "H2O 64"

TEMP AT VACUUM MANIFOLD: 68 F 66°

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

OPENED SOME VALVES + DISC.

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 50° F

PRESSURE AT INJECTION MANIFOLD: 84 "H2O 78"

TEMP AT INJECTION MANIFOLD: 68 F 68°

VACUUM AT VACUUM MANIFOLD: 88 "H2O 68"

TEMP AT VACUUM MANIFOLD: 70 F 70°

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: _____

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: _____YES ____ NO
SVE WELLS SAMPLED: ____ YES ____ NO
CARBON CHANGEOUT PERFORMED: ____
WATER REMOVAL PERFORMED: ____
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: _____
INSPECT MAIN POWER AND TELEPHONE LINE: _____

SUMMERY OF PROCESS AIR SAMPLING: _____
_____
_____
_____

SUMMARY OF OTHER ACTIVITIES: _____
_____
_____
_____

COMMENTS: _____
_____
_____
_____

SIGNATURE OF OPERATIONS TECHNICIAN(S): _____

_____

FAXED FRI. 8-6-04 1145 HRS

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 8/6/04 ARRIVAL TIME: 0800 FAULT LIGHTS ON (list): "NONE"

REASON FOR VISIT: ~~MONTHLY~~ QUARTERLY OTHER
OTHER (define): CARBON CHANGEOUT - 2 BEDS.

TASK PERFORMED: CHANGED CARBON IN BEDS #1 AND #2. #3 BED WILL STAY AS INFLUENT. #2 WILL BE ON LINE AND #1 WILL BE THE SPARE. CLEANED SOME FLOW METERS, MOWED AND DID SOME WEED EATING. 9 DRUMS OF SPENT CARBON STORED INSIDE THE FENCE. RESTARTED SYSTEM AT 1105 HRS.

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED
HOUR METER: SVE UNIT 7222.0

SVE PUMPING UNIT

INJECTION BLOWER TEMP: 145° F
INJECTION BLOWER TEMP SETTING: 230° F
PRESSURE AFTER INJECTION BLOWER 8" ~~"H2O~~ HG

VACUUM BLOWER TEMP: 170° F
VACUUM BLOWER TEMP SETTING: 230° F
VACUUMAFTER FILTER 7" ~~"H2O~~ HG
PRESSURE AFTER VACUUM BLOWER: 4" ~~"H2O~~ HG

GREASE SEALS CHECKED: ✓ DATE OF LAST GREASE: 6-1-04

OIL LEVEL CHECKED: ✓ DATE OF LAST OIL CHANGE: 8-2-04

BELTS CHECKED FOR WEAR: ✓ BELT GUARD IN PLACE: ✓

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 8/6/'04

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

PRESSURE BEFORE GAC UNIT 1	11" "H2O
TEMPERATURE BEFORE GAC 1	74° F
PRESSURE BETWEEN GAC UNIT 1 AND 2	10" "H20
PRESSURE AFTER GAC UNIT 2	5" "H2O
TEMPERATURE AFTER GAC 2	70° F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

VOLUME OF WATER IN STORAGE TANK: 0 ✓ GALLONS

WATER IN CONTAINMENT VESSEL: YES ____ NO ✓ AMOUNT: 0 INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 50° F

PRESSURE AT INJECTION MANIFOLD: _____ "H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____ "H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 50° F

PRESSURE AT INJECTION MANIFOLD: _____ "H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____ "H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: SITE LOOKS GOOD

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: ____YES ____ NO
SVE WELLS SAMPLED: ____ YES ____ NO
CARBON CHANGEOUT PERFORMED: ✓
WATER REMOVAL PERFORMED: ____
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: _____
INSPECT MAIN POWER AND TELEPHONE LINE: _____

SUMMERY OF PROCESS AIR SAMPLING: _____

SUMMARY OF OTHER ACTIVITIES: CHANGED CARBON IN BEDS #1 AND #2. #3 REMAINS INFLUENT WITH #2 ON LINE. #1 BED IS THE SPARE CLEANED SOME MORE FLOAT. MESHES IN VALVES #1 AND #2. DID SOME MOWING AND WEED EATING AROUND THE SITE.

COMMENTS: SYSTEM RUNNING SMOOTHLY SINCE RE-START ON MONDAY 8/2. OUTSIDE AIR TEMP HAS DROPPED CONSIDERABLY 69° AND HUMIDITY IS LOW. SVE SYSTEM HAS BEEN RUNNING FOR 309 DAYS (7422.0 HRS)

SIGNATURE OF OPERATIONS TECHNICIAN(S): M.P. McGuire

FAXED — 8-16-04 1230

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 8/16/04 ARRIVAL TIME: 0900 FAULT LIGHTS ON (list): "NONE"

REASON FOR VISIT: MONTHLY QUARTERLY OTHER
OTHER (define): CARBON BED 06 SAMPLING

TASK PERFORMED: _____

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED
HOUR METER: SVE UNIT 7460.5 HRS.

SVE PUMPING UNIT

INJECTION BLOWER TEMP: 150° F
INJECTION BLOWER TEMP SETTING: 230 F
PRESSURE AFTER INJECTION BLOWER 9" ~~"H20~~ HG

VACUUM BLOWER TEMP: 190° F
VACUUM BLOWER TEMP SETTING: 230 F
VACUUMAFTER FILTER 6" ~~"H20~~ HG
PRESSURE AFTER VACUUM BLOWER: 5" ~~"H20~~

GREASE SEALS CHECKED: ✓ DATE OF LAST GREASE: 8-6-04

OIL LEVEL CHECKED: ✓ DATE OF LAST OIL CHANGE: 6-1-04

BELTS CHECKED FOR WEAR: ✓ BELT GUARD IN PLACE: ✓

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 8/16/04

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

PRESSURE BEFORE GAC UNIT 1	10 "H2O
TEMPERATURE BEFORE GAC 1	78° F
PRESSURE BETWEEN GAC UNIT 1 AND 2	8" "H20
PRESSURE AFTER GAC UNIT 2	4" "H2O
TEMPERATURE AFTER GAC 2	76 F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. _____

VOLUME OF WATER IN STORAGE TANK: 0 GALLONS

WATER IN CONTAINMENT VESSEL: YES ____ NO ✓ AMOUNT: 0 INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 50 F

PRESSURE AT INJECTION MANIFOLD: _____ "H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____ "H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 50 F

PRESSURE AT INJECTION MANIFOLD: _____ "H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____ "H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: — NEEDS MOWING —

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: _____YES ____ NO
SVE WELLS SAMPLED: ____ YES ____ NO
CARBON CHANGEOUT PERFORMED: ____
WATER REMOVAL PERFORMED: ____
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: _____
INSPECT MAIN POWER AND TELEPHONE LINE: _____

SUMMERY OF PROCESS AIR SAMPLING: PURGED 06 SAMPLES FROM INFLUENT, MID-CARBON AND EFFLUENT.

SUMMARY OF OTHER ACTIVITIES:

COMMENTS: PID READINGS AT INF, MID. & EFF. QUITE LOW.

SIGNATURE OF OPERATIONS TECHNICIAN(S): G.P. McGuire

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 9/9/04 ARRIVAL TIME: 1145 FAULT LIGHTS ON (list): "NONE"

REASON FOR VISIT: MONTHLY QUARTERLY OTHER
OTHER (define): Auto Dialer Called 6:15PM on Wed. 9/8 Condition "2"

TASK PERFORMED: Vac. Temp Running A Little High 210°

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED
HOUR METER: SVE UNIT 8036.2

SVE PUMPING UNIT

INJECTION BLOWER TEMP: 170° F 160°
INJECTION BLOWER TEMP SETTING: 230 F
PRESSURE AFTER INJECTION BLOWER 12 ~~"H20~~ H6

VACUUM BLOWER TEMP: 210° F 190°
VACUUM BLOWER TEMP SETTING: 230 F
VACUUMAFTER FILTER 10 ~~"H20~~ H6
PRESSURE AFTER VACUUM BLOWER: 8 ~~"H20~~ H6

GREASE SEALS CHECKED: ✓ DATE OF LAST GREASE: 8-16-'04

OIL LEVEL CHECKED: ✓ DATE OF LAST OIL CHANGE: 6-1-'04

BELTS CHECKED FOR WEAR: ✓ BELT GUARD IN PLACE: ✓

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 9/9/04

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

PRESSURE BEFORE GAC UNIT 1	10 "H2O
TEMPERATURE BEFORE GAC 1	92° F
PRESSURE BETWEEN GAC UNIT 1 AND 2	7 "H20
PRESSURE AFTER GAC UNIT 2	4 "H2O
TEMPERATURE AFTER GAC 2	88° F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

VOLUME OF WATER IN STORAGE TANK: 0 GALLONS
WATER IN CONTAINMENT VESSEL: YES ____ NO ✓ AMOUNT: 0 INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ____ 240-VOLT DISCONNECT ON ____

SELECTOR SWITCH: MANUAL ____ OFF ____ AUTO ____

VACUUM STATUS LIGHT: ON ____ OFF ____

CONTROL BOX LOCKED ____

ELECTRICAL HEAT BREAKER: ON ____ OFF ____

ELECTRICAL HEATER THERMOSTAT SETTING: _____F

PRESSURE AT INJECTION MANIFOLD: _____ "H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____"H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: _____ "Hg

WATER PUMP PRESSURE RELIEF SETTING: _____ psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ____ 240-VOLT DISCONNECT ON ____

SELECTOR SWITCH: MANUAL ____ OFF ____ AUTO ____

VACUUM STATUS LIGHT: ON ____ OFF ____

CONTROL BOX LOCKED ____

ELECTRICAL HEAT BREAKER: ON ____ OFF ____

ELECTRICAL HEATER THERMOSTAT SETTING: _____F

PRESSURE AT INJECTION MANIFOLD: _____ "H2O

TEMP AT INJECTION MANIFOLD: _____ F

VACUUM AT VACUUM MANIFOLD: _____"H2O

TEMP AT VACUUM MANIFOLD: _____ F

VACUUM AT KNOCKOUT TANK: _____ "Hg

WATER PUMP PRESSURE RELIEF SETTING: _____ psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: _____

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: _____YES ____ NO
SVE WELLS SAMPLED: ____ YES ____ NO
CARBON CHANGEOUT PERFORMED: ____
WATER REMOVAL PERFORMED: ____
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: _____
INSPECT MAIN POWER AND TELEPHONE LINE: _____

SUMMERY OF PROCESS AIR SAMPLING: _____

SUMMARY OF OTHER ACTIVITIES: _____

COMMENTS: _____

SIGNATURE OF OPERATIONS TECHNICIAN(S): _____

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 9/20/04 ARRIVAL TIME: 0830 FAULT LIGHTS ON (list): None

REASON FOR VISIT: MONTHLY QUARTERLY OTHER
OTHER (define): 3rd Qtr. 06 Sampling Event

TASK PERFORMED: Pulled 06 Samples From Vac Wells
18 Cells, Opened By-Pass on Vac a Little More; Got Vac Blower Temp to Drop 10° or So. Also Cracked The Inj. By-Pass Also So Inj. Running a Little Hotter.

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED

HOUR METER: SVE UNIT 8298.0 9/20

SVE PUMPING UNIT 8321.0 9/21

			9/21
INJECTION BLOWER TEMP:	140° F	160°	130°
INJECTION BLOWER TEMP SETTING:	220 F		
PRESSURE AFTER INJECTION BLOWER	7 ~~"H20~~ H6		
			9/21
VACUUM BLOWER TEMP:	190/200° F	180°	180°
VACUUM BLOWER TEMP SETTING:	220 F		
VACUUMAFTER FILTER	6 ~~"H20~~ H6		
PRESSURE AFTER VACUUM BLOWER:	4 ~~"H20~~ H6		

GREASE SEALS CHECKED: ✓ DATE OF LAST GREASE: 9-9-04

OIL LEVEL CHECKED: ✓ DATE OF LAST OIL CHANGE: 9-9-04

BELTS CHECKED FOR WEAR: ✓ BELT GUARD IN PLACE: ✓

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 9/01/04

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

PRESSURE BEFORE GAC UNIT 1	8 "H2O
TEMPERATURE BEFORE GAC 1	85° F
PRESSURE BETWEEN GAC UNIT 1 AND 2	6 "H20
PRESSURE AFTER GAC UNIT 2	3 "H2O
TEMPERATURE AFTER GAC 2	90° F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

VOLUME OF WATER IN STORAGE TANK: 0 GALLONS

WATER IN CONTAINMENT VESSEL: YES ____ NO ✓ AMOUNT: 0 INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 45° F

PRESSURE AT INJECTION MANIFOLD: 68 "H2O

TEMP AT INJECTION MANIFOLD: 67° F

VACUUM AT VACUUM MANIFOLD: 72 "H2O

TEMP AT VACUUM MANIFOLD: 72° F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 45° F

PRESSURE AT INJECTION MANIFOLD: 72 "H2O

TEMP AT INJECTION MANIFOLD: 62° F

VACUUM AT VACUUM MANIFOLD: 76 "H2O

TEMP AT VACUUM MANIFOLD: 60° F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: Looks Good

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: ✓ YES ___ NO
SVE WELLS SAMPLED: ✓ YES ___ NO
CARBON CHANGEOUT PERFORMED: ___
WATER REMOVAL PERFORMED: ___
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: ✓
INSPECT MAIN POWER AND TELEPHONE LINE: ___

SUMMERY OF PROCESS AIR SAMPLING: Pulled 06 Sampled From VAC Wells in Cell # 1

SUMMARY OF OTHER ACTIVITIES: Mowed the Lawn Around the Site. Took PID Rdgs. Took VAC Wells Sampled, Recorded Flow Rdgs. All VAC. Wells.

COMMENTS: A Lot of the Flow Meters & VAC Hoses are Plugged With Sand Again. We've Cleaned most of them But they Plug Right up Again & Some Hoses are Packed Solid. They're Discolored and Need Replacing. PID Stopped Functioning / Recalibrated, Cleaned Still Not Working.

SIGNATURE OF OPERATIONS TECHNICIAN(S): M.P. McFarland

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 9/28/04 ARRIVAL TIME: 0900 FAULT LIGHTS ON (list): "NONE"

REASON FOR VISIT: MONTHLY QUARTERLY OTHER
OTHER (define): Re-Sample VAP. Wells in Cell #2

TASK PERFORMED: Re-Sample Vap. Wells From Q6 Sampling Event 9-21-04 (Water in Wells, No Rdgs.)

MAIN EQUIPMENT BUILDING

MAIN CONTROL PANEL ✓ CONTROL BOX LOCKED ✓ CONTROL DOOR LOCKED
HOUR METER: SVE UNIT 8489.0 HRS.

SVE PUMPING UNIT

INJECTION BLOWER TEMP: 160° F
INJECTION BLOWER TEMP SETTING: 230° F
PRESSURE AFTER INJECTION BLOWER 8" ~~"H2O~~ HG

VACUUM BLOWER TEMP: 190° F
VACUUM BLOWER TEMP SETTING: 230° F
VACUUMAFTER FILTER 6 ~~"H2O~~ HG
PRESSURE AFTER VACUUM BLOWER: 5 ~~"H2O~~ HG

GREASE SEALS CHECKED: ✓ DATE OF LAST GREASE: 9-21-04

OIL LEVEL CHECKED: ✓ DATE OF LAST OIL CHANGE: 9-9-04

BELTS CHECKED FOR WEAR: ✓ BELT GUARD IN PLACE: ✓

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

DATE: 9/8/04

CARBON BED SYSTEM

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. ✓

PRESSURE BEFORE GAC UNIT 1	8" "H2O
TEMPERATURE BEFORE GAC 1	74° F
PRESSURE BETWEEN GAC UNIT 1 AND 2	6" "H2O
PRESSURE AFTER GAC UNIT 2	3" "H2O
TEMPERATURE AFTER GAC 2	74° F

WATER STORAGE UNIT

CHECK ALL ABOVE-GROUND PIP[ING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS; CHECK CARBON BEDS CONNECTIONS AND ASSOCIATED INSTRUMENTATION. _____

VOLUME OF WATER IN STORAGE TANK: 0 GALLONS

WATER IN CONTAINMENT VESSEL: YES ____ NO ✓ AMOUNT: 0 INCHES

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 1 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 45° F

PRESSURE AT INJECTION MANIFOLD: 74 "H2O

TEMP AT INJECTION MANIFOLD: 67° F

VACUUM AT VACUUM MANIFOLD: 68" "H2O

TEMP AT VACUUM MANIFOLD: 64° F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

CELL 2 DISTRIBUTION CENTER

CHECK ALL ABOVE-GROUND PIPING, VALVES, FITTINGS AND OTHER COMPONETS FOR CRACKS OR LEAKS AND ADIQUCY OF SEALS.

CONTROL BOX DISCONNECT ON: ✓ 240-VOLT DISCONNECT ON ✓

SELECTOR SWITCH: MANUAL ___ OFF ___ AUTO ✓

VACUUM STATUS LIGHT: ON ✓ OFF ___

CONTROL BOX LOCKED ✓

ELECTRICAL HEAT BREAKER: ON ✓ OFF ___

ELECTRICAL HEATER THERMOSTAT SETTING: 45° F

PRESSURE AT INJECTION MANIFOLD: 14 "H2O

TEMP AT INJECTION MANIFOLD: 62° F

VACUUM AT VACUUM MANIFOLD: 76 "H2O

TEMP AT VACUUM MANIFOLD: 66° F

VACUUM AT KNOCKOUT TANK: N/A "Hg

WATER PUMP PRESSURE RELIEF SETTING: N/A psi

VESTAL AREA 4 SITE INSPECTION AND OPERATION/MAINTANCE LOG

GENERAL SITE OBSERVATIONS

CHECK AND NOTE CONDITION OF SITE: Good

FIELD ACTIVITY CHECKLIST

SVE WELLHEAD AIR FLOWS MEASURED: ✓ YES ___ NO
SVE WELLS SAMPLED: ✓ YES ___ NO
CARBON CHANGEOUT PERFORMED: ___
WATER REMOVAL PERFORMED: ___
EXTERIOR OF MAIN AND CELL BUILDINGS INSPECTED: ✓
INSPECT MAIN POWER AND TELEPHONE LINE: ___

SUMMERY OF PROCESS AIR SAMPLING: Re-Sampled Vac. Wells, in Cell #2 Samples pulled 9/21 (No Rdgs) Due to Water in Wells as a Result of Remnants of Hurricane. Heavy Rain.

SUMMARY OF OTHER ACTIVITIES: ___

COMMENTS: Still Not Getting Good PID Rdgs; on Wells. Must Still Be Water Logged. However Rdgs. are Closer to Normal at the Carbon Bed. INF 17.4, MID-2.3 and EFF. 1.7 ppm

SIGNATURE OF OPERATIONS TECHNICIAN(S): M. P. McGuire

APPENDIX B
Sampling and Analytical Data — Process Air Data

(Including QC Data, Laboratory Data Summary Sheets, Chain of Custody Forms, Field Sample Log Book Notes)

QC SAMPLE RESULTS

SAMPLE DATE	SAMPLE ID	1,1,1-TCA (ppm)	TCE (ppm)	Detection Limits (ppm)
13-Jul-04	INSTRUMENT BLANK	0.00	0.00	0.05
13-Jul-04	VS-SVE-TB-071304-0341	0.00	0.00	0.05
22-Jul-04	INSTRUMENT BLANK	0.00	0.00	0.05
22-Jul-04	VS-SVE-TB-072204-0346	0.00	0.00	0.05
16-Aug-04	INSTRUMENT BLANK	0.00	0.00	0.05
16-Aug-04	VS-SVE-TB-081604-0351	0.00	0.00	0.05
20-Sep-04	INSTRUMENT BLANK	0.00	0.00	0.05
20-Sep-04	VS-SVE-TB-1-092004-0358	0.00	0.00	0.05
20-Sep-04	VS-SVE-TB-2-092004-0367	0.00	0.00	0.05
20-Sep-04	VS-SVE-TB-3-092004-0374	0.00	0.00	0.05
21-Sep-04	INSTRUMENT BLANK	0.00	0.00	0.05
21-Sep-04	VS-SVE-TB-4-092104-0384	0.00	0.00	0.05
21-Sep-04	VS-SVE-TB-5-092104-0393	0.00	0.00	0.05
21-Sep-04	VS-SVE-TB-6-092104-0401	0.00	0.00	0.05
28-Sep-04	INSTRUMENT BLANK	0.00	0.00	0.05
28-Sep-04	VS-SVE-TB-4-092804-0410	0.00	0.00	0.05
28-Sep-04	VS-SVE-TB-5-092804-0419	0.00	0.00	0.05
28-Sep-04	VS-SVE-TB-6-092804-0427	0.00	0.00	0.05

Notes: 0.00 indicates below detection limit.

Shaw E & I Lab Analytical Results

Client: Sevenson/USACE
Client Code: 681086
Analysis Date: 7/14/2004
Sample Date: 7/13/04
Detection Limit: See below
Units: ppmv
Analyst: YL
Project Manager: D. Callahan

SAMPLE ID	*1,1,1-TCA*	*TCE*	*DL*
VS-SVE-INF-071304-0337	18.05	12.86	0.05
VS-SVE-MID-071304-0338	12.40	0.57	0.05
VS-SVE-EFF-071304-0339	0.00	0.00	0.05
VS-SVE-SP-071304-0340	0.00	0.00	0.05
VS-SVE-TB-071304-0341	0.00	0.00	0.05

Notes:
[1] TVOC: estimated value. TVOC was calculated by the average response factor of the known contaminants.
[2] 0.00 indicates BELOW DETECTION LIMIT. (For TVOC, the Detection Limit is 1.0 ppmv.)
[3] DL = Detection Limit.

CHAIN - OF - CUSTODY for AIR SAMPLES

Hour Meter: 6914.3 HRS

Client: SEVENSON / USACE Client Code: #681086

Flow Meter- Type : _____ Range (cfm): _____

Site Address: 210 STAGE RD, VESTAL, NY 13850

Withdrawl blower - Vacuum : _____ Pressure: _____

Project Manager: D. CALLAHAN

Injection blower - Vacuum: _____ Pressure: _____

System Status : "OPERATING

	Sample ID.	Date	Time	Indicated Flow (cfm)	Carbon Dioxide (ppm) PID	Analysis Requested	Notes
1	VS-SVE-0337	7-13-'04	0935		15.4 ppm	TO14, A	INFLUENT
2	VS-SVE-0338		0947		2.2 ppm		MID CARBON
3	VS-SVE-0339		1012		0.6 ppm		EFFLUENT
4	VS-SVE-0340		1025		0.3 ppm		PUMP BLANK
5	VS-SVE-0341		1042		0.3 ppm		TRIP BLANK
6							
7							
8							
9							
10							
11							
12							

Collected By: COLASURDO / MCGUIRE Date: 7-13-04 Time: 0830

Delivered By: _____ Date: _____ Time: _____

Received By: _____ Date: 7/14/04 Time: 9:30

Remarks: _____

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Shaw E & I Lab Analytical Results

Client: Sevenson/USACE
Analysis Date: 7/26/2004
Detection Limit: See below
Analyst: YL

Client Code: 681086
Sample Date: 7/22/04
Units: ppmv
Project Manager: D. Callahan

SAMPLE ID	*1,1,1-TCA*	*TCE*	*DL*
VS-SVE-INF-072204-0342	14.22	13.76	0.05
VS-SVE-MID-072204-0343	33.26	13.71	0.40
VS-SVE-EFF-072204-0344	0.07	0.14	0.05
VS-SVE-SP-072204-0345	0.00	0.00	0.05
VS-SVE-TB-072204-0346	0.00	0.00	0.05

Notes:
[1] TVOC: estimated value. TVOC was calculated by the average response factor of the known contaminants.
[2] 0.00 indicates BELOW DETECTION LIMIT. (For TVOC, the Detection Limit is 1.0 ppmv.)
[3] DL = Detection Limit.
[4] The samples were received on 7/26/04 due to the mailing delay.

CHAIN - OF - CUSTODY for AIR SAMPLES

Hour Meter: 7065.3

Flow Meter- Type : _____ Range (cfm): _____

Withdrawl blower - Vacuum : _____ Pressure: _____

Injection blower - Vacuum: _____ Pressure: _____

Client: SEVERSON/USACE Client Code: #681086

Site Address: 210 STATE Rd. VESTAL, NY

Project Manager: D. CALLAHAN

System Status : "OPERATING"

	Sample ID.	Date	Time	Indicated Flow (cfm)	Carbon Dioxide (PID) (ppm) (PID)	Analysis Requested	Notes
1	VS-SVE-0342	7-22-04	1045		16.1 ppm	TO14A	INFLUENT
2	VS-SVE-0343		1105		* 19.4 ppm		MID-CARBON
3	VS-SVE-0344		1145		0.4 ppm		EFFLUENT
4	VS-SVE-0345		—		0.3 ppm		PUMP BLANK
5	VS-SVE-0346		—		0.3 ppm		TRIP BLANK
6							
7							
8							
9							
10							
11							
12							

Collected By: COLMENERO/MCGUIRE Date: 7-22-04 Time: 1045

Delivered By: _____ Date: _____ Time: _____

Received By: VR Date: 7/26/04 Time: 9:30

Remarks: _____

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Shaw E & I Lab Analytical Results

Client: Sevenson/USACE
Analysis Date: 8/17/2004
Detection Limit: See below
Analyst: YL

Client Code: 681086
Sample Date: 8/16/04
Units: ppmv
Project Manager: D. Callahan

SAMPLE ID	*1,1,1-TCA*	*TCE*	*DL*
VS-SVE-INF-081604-0347	2.13	2.49	0.05
VS-SVE-MID-081604-0348	0.00	0.00	0.05
VS-SVE-EFF-081604-0349	0.00	0.00	0.05
VS-SVE-SP-081604-0350	0.00	0.00	0.05
VS-SVE-TB-081604-0351	0.00	0.00	0.05

Notes:
[1] TVOC: estimated value. TVOC was calculated by the average response factor of the known contaminants.
[2] 0.00 indicates BELOW DETECTION LIMIT. (For TVOC, the Detection Limit is 1.0 ppmv.)
[3] DL = Detection Limit.

CHAIN - OF - CUSTODY for AIR SAMPLES

Hour Meter: 7460.5 HRS. Client: SEVENSON/USACE Client Code: 681096

Flow Meter- Type : _____ Range (cfm): _____ Site Address: 216 STAGER., VESTAL, NY

Withdrawl blower - Vacuum : _____ Pressure: _____ Project Manager: D. COLLISHAW

Injection blower - Vacuum: _____ Pressure: _____ System Status : OPERATING

	Sample ID.	Date	Time	Indicated Flow (cfm)	Carbon Dioxide PID(ppm)	Analysis Requested	Notes
1	USVE-0347	8-16-04	1115		5.4 ppm	TO14A	INFLUENT
2	USVE-0348		1130		0.5 ppm		MID-CARBON
3	USVE-0349		1150		0.5 ppm		EFFLUENT
4	USVE-0350		—		0.4 ppm		PUMP BLANK
5	USVE-0351		—		0.4 ppm		TRIP BLANK
6							
7							
8							
9							
10							
11							
12							

Collected By: COLLISHAW/MCGUIRE Date: 8-16-04 Time: 1115 HRS.

Delivered By: _____ Date: _____ Time: _____

Received By: _____ Date: 8/17/04 Time: 9:20

Remarks: _____

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Shaw E & I Lab Analytical Results

Client: Sevenson/USACE
Analysis Date: 9/21-22/2004
Detection Limit: See below
Analyst: YL

Client Code: 681086
Sample Date: 9/20/04
Units: ppmv
Project Manager: D. Callahan

SAMPLE ID	*1,1,1-TCA*	*TCE*	*DL*
VS-SVE-C2-092004-0353	1.48	1.75	0.05
VS-SVE-E2-092004-0354	1.63	2.06	0.05
VS-SVE-B2-092004-0355	0.57	0.86	0.05
VS-SVE-D4-092004-0356	2.46	2.71	0.05
VS-SVE-D3-092004-0357	0.38	0.33	0.05
VS-SVE-TB-1-092004-0358	0.00	0.00	0.05
VS-SVE-D1-092004-0359	0.62	0.88	0.05
VS-SVE-F2-092004-0361	0.34	0.55	0.05
VS-SVE-E4-092004-0362	0.48	0.66	0.05
VS-SVE-E4-D-092004-0363	0.36	0.55	0.05
VS-SVE-F4-092004-0364	0.22	0.24	0.05
VS-SVE-F5-092004-0365	0.00	0.00	0.05
VS-SVE-TB-2-092004-0367	0.00	0.00	0.05
VS-SVE-C3-092004-0368	1.69	1.98	0.05
VS-SVE-B3-092004-0369	1.67	2.21	0.05
VS-SVE-A3-092004-0370	0.00	0.09	0.05
VS-SVE-B1-092004-0371	0.00	0.11	0.05
VS-SVE-E5-092004-0372	0.73	0.57	0.05
VS-SVE-F3-092004-0373	0.19	0.20	0.05
VS-SVE-TB-3-092004-0374	0.00	0.00	0.05
VS-SVE-PB-1-092004-0375	0.00	0.00	0.05

Notes:
[1] TVOC: estimated value. TVOC was calculated by the average response factor of the known contaminants.
[2] 0.00 indicates BELOW DETECTION LIMIT. (For TVOC, the Detection Limit is 1.0 ppmv.)
[3] DL = Detection Limit.

Cod(2nd 1 AMBIENT = 0.5 ppm ((

CHAIN - OF - CUSTODY for AIR SAMPLES

Hour Meter: 8223.0 HRS. Client: SEVENSON/USACE Client Code: #681096

Flow Meter- Type : _____ Range (cfm): _____ Site Address: 210 STATE B. VESTAL, NY

Withdrawl blower - Vacuum : _____ Pressure: _____ Project Manager: D. CALLAHAN

Injection blower - Vacuum: _____ Pressure: _____ System Status : "OPERATING"

	Sample ID.	Date	Time	Indicated Flow (cfm)	Carbon Dioxide (ppm) PID	Analysis Requested	Notes
WS 1	VS-SVE-0352	9-20-04	N/R-H2O	-5	N/R H2O	TO14A	D-2 H2O
2	VS-SVE-0353		0942	-5	5.0 ppm		C-2
3	VS-SVE-0354		0948	-5	8.1 ppm		E-2
4	VS-SVE-0355		0954	-5	4.9 ppm		B-2
5	VS-SVE-0356		0959	*25%	14.3 ppm		D-4
WS 6	VS-SVE-0357		1065	-5	3.4 ppm		D-3
7	VS-SVE-0358		—	TRIP BLANK	0.5 ppm		TB #1
8							
9							
10							
11							
12							

Collected By: COLASURDO/MCGUIRE Date: 9-20-'04 Time: 0930

Delivered By: _____ Date: _____ Time: _____

Received By: [illegible] Date: 9/21/04 Time: 9:40

Remarks: _____

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Cool-2 #1 AMBIENT - 0.5 ppm

CHAIN - OF - CUSTODY for AIR SAMPLES

Hour Meter: 8298.0 HRS

Client: SEVERN/USACE Client Code: #681086

Flow Meter- Type : _____ Range (cfm): _____

Site Address: 210 STAGE RD, VESTAL, NY

Withdrawl blower - Vacuum : _____ Pressure: _____

Project Manager: D. CALLAHAN

Injection blower - Vacuum: _____ Pressure: _____

System Status : "OPERATING"

	Sample ID.	Date	Time	Indicated Flow (cfm)	Carbon Dioxide (ppm)	Analysis Requested	Notes
1	VS-SVE-0359	9-20-04	1014	-5	3.7 ppm	TO14, A	D-1
W 2	VS-SVE-0360		N/R H2O	-5	N/R H2O		E-3 H2O
3	VS-SVE-0361		1019	8	3.3 ppm		F-2
4	VS-SVE-0362		1023	25	2.3 ppm		E-4
5	VS-SVE-0363		1025	DUPE	2.3 ppm		E-4-D
W 6	VS-SVE-0364		1031	-5	1.8 ppm		F-4
7	VS-SVE-0365		1036	CONT READ	0.5 ppm		F-5 SAND
W 8	VS-SVE-0366		N/R H2O	" "	N/R H2O		F-6 H2O SAND
9	VS-SVE-0367		TRIP BLANK	—	TRIP BLANK		TB #2
10							
11							
12							

Collected By: COLBURN/MCGUIRE Date: 9-20-04 Time: 0930

Delivered By: _____ Date: _____ Time: _____

Received By: _____ Date: 9/21/04 Time: 9:40

Remarks: _____

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Cool #3 AMBIENT 0.4ppm

CHAIN - OF - CUSTODY for AIR SAMPLES

Hour Meter: 8298.0 HRS

Client SEVENSON/USACE Client Code: #691096

Flow Meter- Type : _____ Range (cfm): _____

Site Address: 210 STAGE B, VESTAL, NY

Withdrawl blower - Vacuum : _____ Pressure: _____

Project Manager: D. CALLAHAN

Injection blower - Vacuum: _____ Pressure: _____

System Status : "OPERATING"

	Sample ID.	Date	Time	Indicated Flow (cfm)	Carbon Dioxide (ppm) PID	Analysis Requested	Notes
1	VS-SVE-0368	9-20-04	1050	-5	3.8 ppm	TO14, A	C-3
2	VS-SVE-0369		1057	-5	6.2 ppm		B-3
W 3	VS-SVE-0370		1103	-5	1.7 ppm		A-3
4	VS-SVE-0371		1108	-5	2.3 ppm		B-1
5	VS-SVE-0372		1117	-5	2.6 ppm		E-5
W 6	VS-SVE-0373		1123	12	0.7 ppm		F-3 PLUGGED
7	VS-SVE-0374		—	—	0.4 ppm		TB #3
8	VS-SVE-0375		—	—	0.4 ppm		SP.
9							
10							
11							
12							

Collected By COLQUHOUN/MCGUIRE Date: 9-20-04 Time: 0930

Delivered By: _____ Date: _____ Time: _____

Received By: _____ Date: 9/21/04 Time: 9:40

Remarks: _____

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Shaw E & I Lab Analytical Results

Client: Sevenson/USACE
Analysis Date: 9/29/2004
Detection Limit: See below
Analyst: YL

Client Code: 681086
Sample Date: 9/28/04
Units: ppmv
Project Manager: D. Callahan

SAMPLE ID	*1,1,1-TCA*	*TCE*	*DL*
VS-SVE-J4-092804-0402	0.00	0.00	0.05
VS-SVE-J2-092804-0403	0.00	0.00	0.05
VS-SVE-L2-092804-0404	0.00	0.00	0.05
VS-SVE-K5-092804-0405	0.00	0.00	0.05
VS-SVE-K2-092804-0407	0.00	0.00	0.05
VS-SVE-K3-092804-0408	0.00	0.00	0.05
VS-SVE-K3-D-092804-0409	0.00	0.00	0.05
VS-SVE-TB-4-092804-0410	0.00	0.00	0.05
VS-SVE-J6-092804-0412	0.00	0.00	0.05
VS-SVE-J3-092804-0413	0.00	0.00	0.05
VS-SVE-G2-092804-0416	0.00	0.00	0.05
VS-SVE-TB-5-092804-0419	0.00	0.00	0.05
VS-SVE-J5-092804-0420	0.00	0.00	0.05
VS-SVE-I1-092804-0421	0.00	0.00	0.05
VS-SVE-M3-092804-0422	0.00	0.00	0.05
VS-SVE-INF-092804-0423	1.45	2.45	0.05
VS-SVE-MID-092804-0424	2.87	0.00	0.05
VS-SVE-EFF-092804-0425	0.00	0.00	0.05
VS-SVE-PB-2-092804-0426	0.00	0.00	0.05
VS-SVE-TB-6-092804-0427	0.00	0.00	0.05

Notes:
[1] TVOC: estimated value. TVOC was calculated by the average response factor of the known contaminants.
[2] 0.00 indicates BELOW DETECTION LIMIT. (For TVOC, the Detection Limit is 1.0 ppmv.)
[3] DL = Detection Limit.

LGR # 4 - RE-SAMPLE - FROM 9-21 - AMBIENT - 1.2 PPM

CHAIN - OF - CUSTODY for AIR SAMPLES

Hour Meter: 8489.0 HRS

Client: SEVENSON/USACE Client Code: #681086

Flow Meter- Type : _____ Range (cfm): _____

Site Address: 210 STAGE RD, VESTAL, NY

Withdrawl blower - Vacuum : _____ Pressure: _____

Project Manager: D. CALLAHAN

Injection blower - Vacuum: _____ Pressure: _____

System Status : OPERATING

	Sample ID.	Date	Time	Indicated Flow (cfm)	Carbon Dioxide PID (ppm) PID	Analysis Requested	Notes
1	VS-SVE-0402	9-28-04	1000	-5	1.7 ppm	TO14, A	J-4
2	VS-SVE-0403		1005	-5	1.7 ppm		J-2
3	VS-SVE-0404		1011	-5	1.5 ppm		L-2
4	VS-SVE-0405		1015	-5	1.6 ppm		K-5
5	VS-SVE-0406		OFF	OFF -5 OFF	OFF		K-4
6	VS-SVE-0407		1020	-5	1.6 ppm		K-2
7	VS-SVE-0408		1026	-5	2.0 ppm		K-3
8	VS-SVE-0409		1028	-5			K-3-1
9	VS-SVE-0410		TRIP BLANK	———			TB #4
10							
11							
12							

Collected By: COLBURN / MCGUIRE Date: 9-28-04 Time: 1000

Delivered By: _____ Date: _____ Time: _____

Received By: VR Date: 9/29/04 Time: 10:30

Remarks: _____

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Cooler #5 - Re-Sample Event - 9-21-'04 AMBIENT Rdg. 1.2 ppm

CHAIN - OF - CUSTODY for AIR SAMPLES

Hour Meter: 9489.0 HRS. Client: SEVENSON/USACE Client Code: #691086

Flow Meter- Type : _____ Range (cfm): _____ Site Address: 210 STAGER, WESTAL, NY

Withdrawl blower - Vacuum : _____ Pressure: _____ Project Manager: D. CALLAHAN

Injection blower - Vacuum: _____ Pressure: _____ System Status : "OPERATING"

	Sample ID.	Date	Time	Indicated Flow (cfm)	Carbon Dioxide PID (ppm) FID	Analysis Requested	Notes
1	US-SVE-0411	9-28-04	H2O 1033 N/R	-5	5.2 ppm	TO14, A	M-2 WATER
2	USSVE-0412		1042	-5	1.3 ppm		J-6
3	US-SVE-0413		1046	-5	1.3 ppm		J-3
4	US-SVE-0414		N/R H2O	-5	N/R H2O		G-1 WATER
5	US-SVE-0415		N/R H2O	0/5	N/R H2O		I-5 WATER
6	US-SVE-0416		1105	0/5	2.8 ppm		G-2
7	US-SVE-0417		H2O ~~H2O~~ N/R	~~0/5~~ N/R	1.8 ppm		I-3 WATER
8	US-SVE-0418		H2O - N/R	N/R	N/R - H2O		H-1 WATER
9	US-SVE-0419		TRIP BLANK	—	TRIP BLANK		TB #5
10							
11							
12							

Collected By: COLBURN/MCGUIRE Date: 9-28-04 Time: 1000

Delivered By: _____ Date: _____ Time: _____

Received By: [signature] Date: 9/28/04 Time: 10:30

Remarks: _____

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Cooler #6 - Re-Sample From 9-21-'04 AMBIENT - 1.2 ppm

CHAIN - OF - CUSTODY for AIR SAMPLES

Hour Meter: 8489.0 HRS. Client: SEVENSON / USACE Client Code: #68096

Flow Meter- Type : _____ Range (cfm): _____ Site Address: 210 STAGE RD, VESTAL, NY

Withdrawl blower - Vacuum : _____ Pressure: _____ Project Manager: D. CALLAHAN

Injection blower - Vacuum: _____ Pressure: _____ System Status : "OPERATING"

	Sample ID.	Date	Time	Indicated Flow (cfm)	Carbon Dioxide PID (ppm) PID	Analysis Requested	Notes
1	VS-SVE-0420	9-28-'04	1110	-5	1.3 ppm	TO14, A	J-5
2	VS-SVE-0421		1120	-5	1.2 ppm		I-1
3	VS-SVE-0422		1125	-5	1.2 ppm		M-3
4	VS-SVE-0423		1135	—	17.4 ppm		INF.
5	VS-SVE-0424		1144	—	2.3 ppm		MID. CARB
6	VS-SVE-0425		1156	—	1.7 ppm		EFF.
7	VS-SVE-0426		—	—	1.2 ppm		SP
8	VS-SVE-0427		—	—	1.2 ppm		TB #6
9							
10							
11							
12							

Collected By: COLBURN / MCGUIRE Date: 9-28-'04 Time: 1000

Delivered By: _____ Date: _____ Time: _____

Received By: [signature] Date: 9/29/04 Time: 10:30

Remarks: _____

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APPENDIX C
Summary of Operation Data/Contaminant Yield Calculation

Appendix C

Summary of Operation Data

Vestal, Area 4

SAMPLE DATE	SAMPLE ID	REPORT SAMPLE ID	FLOW (CFM)	1,1,1-TCA (ppmv)	TCE (ppmv)	TOTAL TARGETED CONTAMINANTS (ppmv)	LBS OF 1,1,1-TCA per day	LBS OF TCE per day	LBS OF TOTAL TARGETED CONTAMINANTS PER DAY	OPERATION DAYS	STATION HOUR METER	NUMBER OF DAYS IN PERIOD
6/27/03	INF	VS-SVE-INF-062703	517	12.70	12.83	25.53	3.28	3.26	6.53	4.04	97.0	1.96
7/7/2003	INF	VS-SVE-INF-070703-0001	517	26.62	19.87	46.49	6.87	5.04	11.91	14.08	338	10.04
7/9/2003	INF	VS-SVE-INF-070903-0006	517	75.42	68.79	144.21	19.45	17.46	36.92	16.04	385	1.96
7/17/2003	INF	VS-SVE-INF-071703-0011	517	33.34	22.24	55.58	8.60	5.65	14.25	20.50	492	4.46
7/29/2003	INF	VS-SVE-INF-072903-0016	517	10.83	7.39	18.22	2.79	1.88	4.67	28.63	687.2	8.13
8/12/2003	INF	VS-SVE-INF-081203-0026	517	15.77	9.20	24.97	4.07	2.34	6.40	34.11	818.7	5.48
8/25/2003	INF	VS-SVE-INF-082503-0031	512	24.37	20.12	44.49	6.23	5.06	11.28	44.30	1063.3	10.19
9/3/2003	INF	VS-SVE-INF-090303-0036	512	33.08	15.94	49.02	8.45	4.01	12.46	53.0	1273	8.74
9/8/2003	INF	VS-SVE-INF-090803-0041	512	16.57	9.80	26.37	4.23	2.46	6.70	57.1	1369.5	4.02
9/24/2003	INF	VS-SVE-INF-092403-0099	512	10.72	5.16	15.88	2.74	1.30	4.04	70.6	1695.5	13.58
10/15/2003	INF	VS-SVE-INF-101503-0114	512	11.02	8.98	20.00	2.82	2.26	5.07	91.6	2,198.6	20.96
10/15/2003	INF	VS-SVE-INF-101503-0114	512	11.02	8.98	20.00	2.82	2.26	5.07	91.6	2198.6	0.00
10/28/2003	INF	VS-SVE-INF-102803-0119	512	10.36	8.80	19.16	2.65	2.21	4.86	104.7	2512.0	13.06
11/11/2003	INF	VS-SVE-INF-111103-0124	512	3.89	5.81	9.70	0.99	1.46	2.45	111.5	2,676.9	6.87
11/19/2003	INF	VS-SVE-INF-111903-0129	512	4.96	5.51	10.47	1.27	1.39	2.65	119.3	2,862.7	7.74
12/4/2003	INF	VS-SVE-INF-120403-0187	512	2.89	3.03	5.92	0.74	0.76	1.50	132.0	3167.2	15.69
1/14/2004	INF	VS-SVE-INF-011404-0197	512	2.71	3.57	6.28	0.69	0.90	1.59	139.8	3,355.7	7.85
1/26/2004	INF	VS-SVE-INF-012604-0202	512	6.39	7.13	13.52	1.63	1.79	3.42	149.5	3,587.2	9.65
2/9/2004	INF	VS-SVE-INF-020904-0207	512	12.11	12.34	24.45	3.09	3.10	6.20	161.0	3,863.0	11.49
2/24/2004	INF	VS-SVE-INF-022404-0212	512	14.57	11.56	26.13	3.72	2.91	6.63	175.9	4,220.7	14.90
3/10/2004	INF	VS-SVE-INF-031004-0262	512	8.74	10.12	18.86	2.23	2.54	4.78	183.9	4,412.5	7.99
4/5/2004	INF	VS-SVE-INF-040504-0267	512	9.82	10.18	19.99	2.51	2.56	5.07	199.1	4778.4	15.25
4/27/2004	INF	VS-SVE-INF-042704-0272	512	5.76	6.54	12.30	1.47	1.64	3.11	213.9	5133	14.78
5/11/2004	INF	VS-SVE-INF-051104-0277	512	9.21	11.02	20.23	2.35	2.77	5.12	227.1	5,450.0	13.21
6/1/2004	INF	VS-SVE-INF-060104-0282	512	8.24	10.29	18.53	2.10	2.59	4.69	246.3	5,910.7	19.20
6/22/2004	INF	VS-SVE-INF-062204-0332	512	5.08	4.40	9.48	1.30	1.11	2.40	267.1	6,411.0	20.85
7/13/2004	INF	VS-SVE-INF-071304-0337	512	18.05	12.86	30.91	4.61	3.23	7.84	288.1	6,914.3	20.97
7/22/2004	INF	VS-SVE-INF-072204-0342	512	14.22	13.76	27.98	3.63	3.46	7.09	294.4	7,065.3	6.29
8/16/2004	INF	VS-SVE-INF-081604-0347	512	2.13	2.49	4.63	0.54	0.63	1.17	310.9	7,460.5	16.47
9/28/2004	INF	VS-SVE-INF-092804-0423	512	1.45	2.45	3.89	0.37	0.62	0.98	353.7	8,489.0	42.85

Appendix C

Example Calculations

Vestal, Area 4

Example: 8/25/03
1,1,1 TCA (ppm) to 1,1,1 TCA (lbs/day)

0.00000374(conversion constant)* 24.37(ppm)* 512(flow)* 133.4(molecular weight) = 6.23 lbs

Example: 8/12/03 to 8/25/03 'Total Target VOCs'

[6.40 (8/12) + 11.28 (8/25)] / 2 = 8.84 avg. lbs per day for the period
8.84 (lbs per day) * 10.19 (days) = 90.08 pounds per reporting period

Calculated Flow Rate:
Vacuum Pressure (inches Hg) = 6
Blower Speed (RPM) = 2000
Temperature (degrees F) = 72
Elevation = 1200 feet
Based on proprietary Roots, Inc flow rate software for Roots 68 blower,
the CFM for these parameters is 512 on 8/25/03

Appendix C

Influent Sample Parameters

Vestal, Area 4

SAMPLE DATE	SAMPLE ID	VACUUM PRESURE (inches Hg)	RPM	TEMPERATURE (degrees F)	FLOW (cfm)	PID	OPERATION DAYS	STATION HOUR METER
6/27/03	VS-SVE-INF-062703	6	2000	68	517	34.0	4.0	97.0
7/7/2003	VS-SVE-INF-070703-0001	6	2000	72	517	153.4	14.1	338
7/9/2003	VS-SVE-INF-070903-0006	6	2000	75	517	87.0	16.0	385
7/17/2003	VS-SVE-INF-071703-0011	6	2000	80	517	79.5	20.5	492
7/29/2003	VS-SVE-INF-072903-0016	6	2000	75	517	20.3	28.6	687.2
8/12/2003	VS-SVE-INF-081203-0026	6	2000	73	517	45.6	34.1	818.7
8/25/2003	VS-SVE-INF-082503-0031	6	2000	72	512	27.5	44.3	1063.3
9/3/2003	VS-SVE-INF-090303-0036	6	2000	70	512	21.3	53.0	1273.0
9/8/2003	VS-SVE-INF-090803-0041	6	2000	70	512	22.8	57.1	1369.5
9/24/2003	VS-SVE-INF-092403-0099	6	2000	70	512	12.6	70.6	1695.5
10/15/2003	VS-SVE-INF-101503-0114	6	2000	62	512	14.2	91.6	2,198.6
10/15/2003	VS-SVE-INF-101503-0114	6	2000	68	512	13.7	91.6	2198.6
10/28/2003	VS-SVE-INF-102803-0119	6	2000	65	512	16.4	104.7	2512.0
11/11/2003	VS-SVE-INF-111103-0124	6	2000	54	512	7.9	111.5	2676.9
11/19/2003	VS-SVE-INF-111903-0129	6	2000	50	512	12.1	119.3	2862.7
12/4/2003	VS-SVE-INF-120403-0187	6	2000	48	512	7.7	132.0	3167.2
1/14/2004	VS-SVE-INF-011404-0197	6	2000	50	512	7.7	139.8	3,355.7
1/26/2004	VS-SVE-INF-012604-0202	6	2000	50	512	12.9	149.5	3,587.2
2/9/2004	VS-SVE-INF-020904-0207	6	2000	40	512	21.3	161.0	3,863.0
2/24/2004	VS-SVE-INF-022404-0212	6	2000	45	512	19.5	175.9	4,220.7
3/10/2004	VS-SVE-INF-031004-0262	6	2000	48	512	10.3	183.9	4,412.5
4/5/2004	VS-SVE-INF-040504-0267	6	2000	66	512	11.9	199.1	4778.4
4/27/2004	VS-SVE-INF-042704-0272	6	2000	68	512	5.0	213.9	5133
5/11/2004	VS-SVE-INF-051104-0277	6	2000	64	512	13.4	227.1	5,450.0
6/1/2004	VS-SVE-INF-060104-0282	6	2000	62	512	14.8	246.3	5,910.7
6/22/2004	VS-SVE-INF-062204-0332	6	2000	68	512	7.7	267.1	6,411.0
7/13/2004	VS-SVE-INF-071304-0337	6	2000	76	512	15.4	288.1	6,914.3
7/22/2004	VS-SVE-INF-072204-0342	6	2000	80	512	16.1	294.4	7,065.3
8/16/2004	VS-SVE-INF-081604-0347	6	2000	75	512	5.4	310.9	7,460.5
9/28/2004	VS-SVE-INF-092804-0423	6	2000	60	512	17.4	353.7	8,489.0