
**Sparton Technology, Inc.
Former Coors Road Plant
Remedial Program**

**Final Report on the
On-Site Soil Vapor Extraction System**

November 29, 2001

**Sparton Technology, Inc.
Former Coors Road Plant
Remedial Program**

**Final Report on the
On-Site Soil Vapor Extraction System**

Prepared For:

**Sparton Technology, Inc.
Rio Rancho, New Mexico**

Prepared By:

**Pierce L. Chandler, Jr., P.E., Rockwall, Texas
Metric Corporation, Albuquerque, New Mexico**

In Association with:



**S.S. Papadopoulos & Associates, Inc.
Bethesda, Maryland**

November 29, 2001

Table of Contents

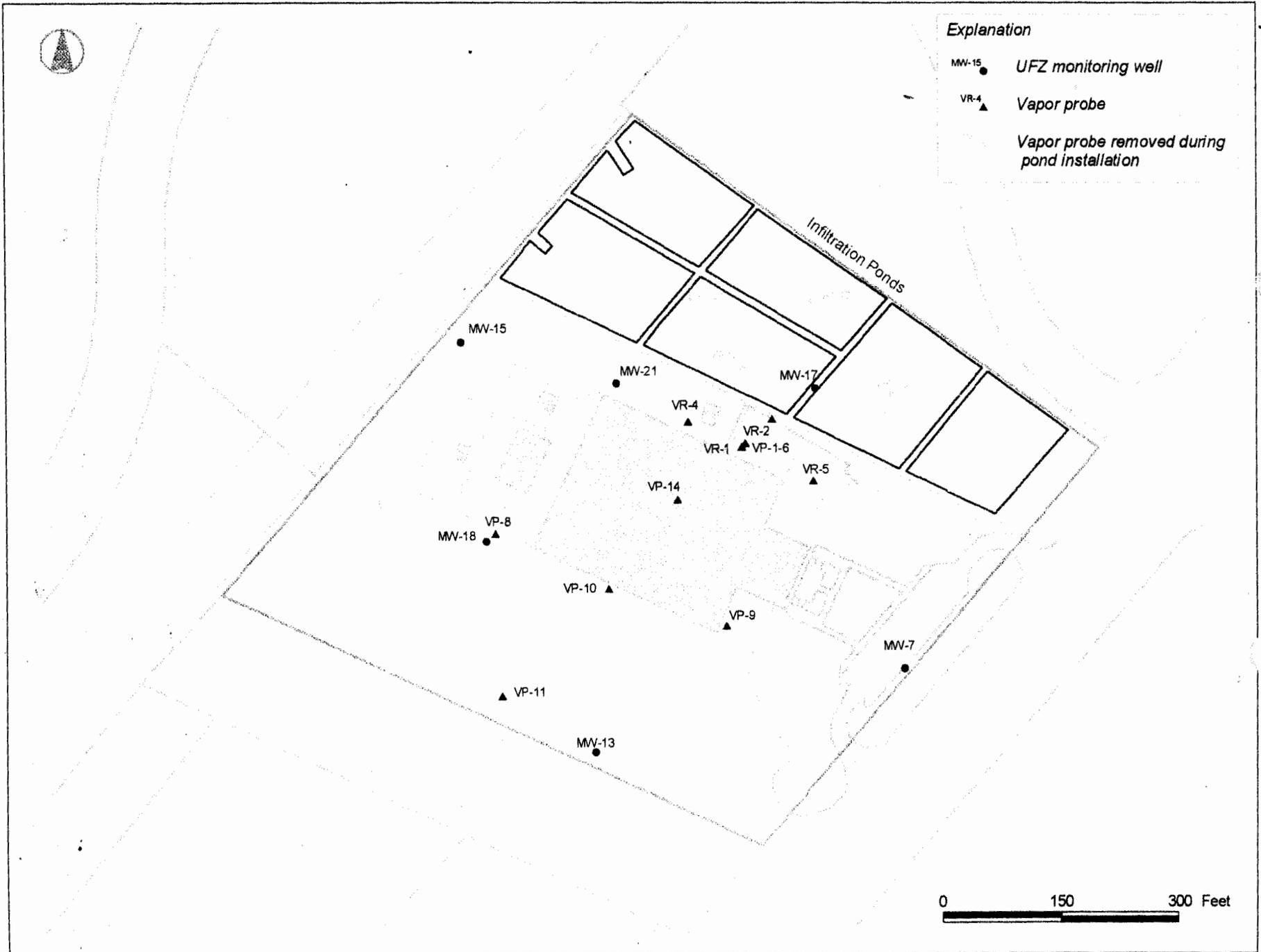
	Page
Section 1 Introduction	1
Section 2 "Robust" 400-cfm SVE System Operation.....	3
Section 3 SVE Performance Monitoring Sampling	4
Section 4 Conclusions and Recommendations	7
Figure	
Figure 1 Location of Vapor Probes and On-Site Monitoring Wells Sampled During Post-Shutdown Performance Monitoring.....	2
Table	
Table 1 Performance Monitoring Sampling Results.....	6

Report

Introduction

This report presents the results of the final phase of operation of the soil vapor extraction (SVE) system at the Sparton Technology, Inc. 's former Coors Road Plant, in Albuquerque, New Mexico. This final phase of SVE system operation was conducted to fulfill the requirements of Attachment E to the March 3, 2000 Consent Decree in City of Albuquerque et al. v. Sparton Technology, Inc., No. CV97 0206 (D.N.M.). This final phase consisted of a "robust" 400-cubic feet per minute (cfm) extraction system with direct discharge to the atmosphere. Under the terms of the Consent Decree, the 400-cfm SVE system was operated for a total combined operating period of one year. After shutdown, the entire SVE monitoring system (see Figure 1) was sampled during two consecutive monthly events to assess whether the remediation goal of less than 10 ppm_v of constituent concentrations in soil gas had been met.

Previous phases of SVE at the site consisted of a 50-cfm AcuVac system that was operated on vapor recovery well VR-1 (see Figure 1) for 195 days between April 8 and October 20 of 1998. The 50-cfm AcuVac system was operated again in 1999 between May 12 and June 23. Because constituent concentrations in the influent, and hence in the effluent, had dropped to levels that were well within city/county emission requirements for direct discharge to the atmosphere, the AcuVac system was replaced with a 200-cfm Roots blower discharging directly to the atmosphere. The Roots blower was operated between June 28 and August 25, 1999. At the time the Roots blower operation was suspended in 1999, only one soil gas sample from the SVE monitoring points had constituent concentrations above the remediation goal of 10 ppm_v, and this sample was from a groundwater monitoring well (MW-18) that had elevated aqueous-phase constituent concentrations.



1.2 Site Monitoring Wells Sampled During Post-Shutdown Performance Monitoring

"Robust" 400-cfm SVE System Operation

The "robust" 400-cfm system prescribed in the Consent Decree (Attachment E, Vadose Zone Investigation and Implementation Workplan or VZI Workplan) was implemented by operating a second 200-cfm Roots blower in parallel with the existing 200-cfm Roots blower from a previous SVE phase. As in past phases, both blowers were connected to vapor recovery well VR-1. Operation of the "robust" 400-cfm system began on April 10, 2000, and terminated on June 15, 2001. The 400-cfm SVE system was operated for a total of 8917 hours, or approximately 371.5 days, over this period to meet the 1-year requirement of the Consent Decree VZI Workplan. The hours of system operation during each month and the total for the entire operating period were as follows:

April, 2000	504 hours
May, 2000	744 hours
June, 2000	664 hours
July, 2000	672 hours
August, 2000	396 hours
September, 2000	0 hours (leaseholder building modifications)
October, 2000	502 hours
November, 2000	720 hours
December, 2000	744 hours
January, 2001	744 hours
February, 2001	672 hours
March, 2001	744 hours
April, 2001	720 hours
May, 2001	744 hours
<u>June, 2001</u>	<u>347 hours</u>
15 months	8,917 hours (~371.5 days)

Both the startup time and the duration of the SVE operations were within the time frame specified in the Consent Decree.

SVE Performance Monitoring Sampling

The Consent Decree VZI Workplan required two consecutive months of performance monitoring sampling after a three-month shutoff period had elapsed. The first performance monitoring sampling was conducted on September 24 and 25, 2001 – some 100 days after the shutdown of the robust 400-cfm SVE system. The second performance monitoring sampling was conducted on October 16 and 17, 2001. The United States Environmental Protection Agency (USEPA) and the New Mexico Environment Department (NMED) were informed of the sampling plans and schedules were adjusted to insure that their representatives were present during the sampling operations.

Soil gas samples were obtained and analyzed from the following soil gas probes and groundwater monitoring wells (see Figure 1 for locations):

Soil gas probes: VR-1, VR-2, VR-4, VR-5, VP-1, VP-2, VP-4, VP-5, VP-6, VP-8, VP-9, VP-10, VP-11, and VP-14.

Monitoring wells: MW-7, MW-13, MW-15, MW-17, MW-18, and MW-21.

Note that soil gas probes VR-3, VP-3, VP-7, VP-12, and VP-13, which were specified for sampling in the VZI Workplan, are not included in the above list. Vapor probe VP-3 is one of the six probes (VP-1 to VP-6) that had been completed within a single hole. This probe was scheduled for sampling; however, attempts to sample it were unsuccessful because the probe is apparently plugged. As specified in the VZI Workplan, the remaining four probes (VR-3, VP-7, VP-12, and VP-13) were to be sampled only if they existed at the time of the post-shutdown performance monitoring. They were not sampled because they had been removed during the construction of the rapid infiltration ponds for the "Source Containment System".

In accordance with the VZI Workplan, each sampled probe/well was purged for at least 10 minutes prior to sampling. The purge rate was adjusted to remove at least

TABLE 1
PERFORMANCE MONITORING SAMPLING RESULTS

SAMPLING LOCATION	September 2001		October 2001	
	TCE mg/m ³	TCE ppm _v ^a	TCE mg/m ³	TCE ppm _v ^a
VR-1	4.2	0.94	4.9	1.1
VR-2	1.2	0.27	2.2	0.49
VR-4	0.97	0.22	1.1	0.25
VR-5	0.17	0.038	<0.10	<0.022
VP-1	5.6	1.3	<0.10	<0.022
VP-2	4.5	1.0	4.5	1.0
VP-4	1.7	0.38	2.1	0.47
VP-5	<0.10	<0.022	1.8	0.40
VP-6	3.9	0.87	1.6	0.36
VP-8	<0.10	<0.022	<0.10	<0.022
VP-9	0.79	0.18	1.1	0.25
VP-10	0.18	0.040	0.22	0.049
VP-11	0.12	0.027	<0.10	<0.022
VP-14	0.16	0.036	0.12	0.027
MW-7	1.9	0.43	1.9	0.43
MW-13	0.55	0.12	0.48	0.11
MW-15	6.6	1.5	1.8	0.40
MW-17	0.24	0.054	0.14	0.031
MW-18	5.8	1.3	5.4	1.2
MW-21	2.4	0.54	1.1	0.25

^a Laboratory results were reported in mg/m³. A conversion factor of 0.224 ppm_v/(mg/m³) was used to determine concentrations in ppm_v.

Conclusions and Recommendations

The results of the analysis of samples from the two post-shutdown performance monitoring events indicate that the highest constituent (TCE) concentration in soil gas was 1.5 ppm_v which was found in the September sample from monitoring well MW-15. The measured concentrations are well below the 10 ppm_v remediation goal specified in the Consent Decree. In fact, the concentration at most sampling locations was considerably below one ppm_v, or nearly zero.

These results satisfy the requirements of the Consent Decree for the termination of the SVE system. Therefore, SVE operations at the site will be terminated upon approval of this report by USEPA and NMED. The two 200-cfm extraction blowers will be removed together with their associated plumbing, and all soil gas probes will be plugged and abandoned in accordance with State of New Mexico requirements.