

**BLACK & VEATCH**

5728 LBJ Freeway, Suite 300, Dallas, Texas 75240, (214) 770-1500, Fax: (214) 770-1549

**Sparton Corporation
Coors Road Facility**

**B&V Project 26602.0100
B&V File B
May 29, 1996**

**Mr. Dennis McQuillan
Remediation Manager
Groundwater Protection & Remediation Bureau
New Mexico Environment Department
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502**

**Re: NMED Letter of May 22, 1996 (Facsimile)
Additional Monitoring Well Installation
Sparton Technology, Inc., Coors Road Facility
Albuquerque, New Mexico**

Dear Mr. McQuillan:

We received your letter containing the combined recommendations of the State, County, and City regarding the installation of additional monitoring wells proposed by Sparton. This correspondence is Sparton's response. We have taken the liberty of copying representatives of the other entities with an interest in this matter, in order to assist you in coordinating their input on these issues. The letter contained two attachments representing alternative monitoring well schemes consisting of nine and five additional wells. Although the FAX was difficult to read, it appeared that the alternatives included wells as described in the attached Table 1.

There is an obvious difference in philosophy between the well locations in the NMED letter, our discussions of April 25, 1996, and Sparton's May 14, 1996, letter. In an effort to expedite installation of additional monitoring wells, we would like to explain our understanding of the differences and promote resolution.

Sparton's intent was to provide definition of the leading edge of the plume by installing additional wells horizontally outside and vertically below the leading edge of the plume. It should be noted that the leading edge of the plume is the only area where existing groundwater monitoring wells (UFZ Wells 53, 58, and 61, ULFZ Wells 50, 60, and 64, and LLFZ Well 55) show time-increasing concentrations. Sparton's approach would be to install these wells and, if non-detect, questions of movement of the leading edge of the plume and horizontal and vertical extent would be resolved in our judgement.

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In addition to looking at increasing concentration trends, Sparton used the following logic in selection of locations for additional wells:

LLFZ Well 65 was located to cluster with existing non-detect UFZ Well 52. This location is hydraulically down-gradient and in the historical path of the plume. Further, it would resolve any potential movement under Well 52.

LLFZ Well 66 was located to cluster with existing non-detect UFZ Well 57. This location was chosen because ULFZ Well 64 on the north side of the leading edge has been showing a recent increase in concentration, and to determine whether the plume is turning northward across the hydraulic gradient.

TFZ Well 65 was located to cluster with existing Cluster No. 9 (Wells 48, 55, 56). This cluster is near the leading edge of the plume and is the only offsite cluster with both increasing concentration with time and increasing concentration with depth. This well is intended to better define the vertical limit of the plume at the leading edge.

New cluster consisting of a new UFZ Well 68 and a LLFZ Well 69 was centrally located in front of the leading edge of the plume. Location corresponds closely to the current longitudinal axis of the plume. A two-well cluster was used to avoid the obvious uncertainty associated with a single well. This cluster also provides approximately a 70-foot monitored vertical interval.

Clearly, Sparton desires to define the current vertical and horizontal limits of the leading edge of the plume through a system of non-detect wells installed in front of, and below, the leading edge. Sparton's proposed five-well system is a cost-effective way to achieve this definition. The purpose is two-fold: to resolve any uncertainty with respect to the down-gradient limits of the plume and to better define the leading edge of the plume with respect to evaluating containment.

Based on our objectives, both NMED alternatives seem incomplete -- particularly with respect to definition of the leading edge of the plume. NMED Wells A, B, and C are UFZ wells only. If they are non-detect, claim could still be made that contamination is moving underneath and the leading edge of the plume would be undefined. In NMED's nine-well plan, Well G (ULFZ) is clustered with existing UFZ Well 53.

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However, since Well 53 is already showing detections, the new Well G may also show detect and horizontal and vertical limits in this area would still be undefined.

The NMED proposals appear to be more focused on improving vertical definition of the plume by using three wells to define horizontal extent in the UFZ and two to six deeper wells to define vertical extent. Sparton's impression from various correspondence and meetings with interested parties is that horizontal limits at the leading edge of the plume are the greatest area of interest. This is the result of the horizontal movement observed to date -- particularly as contrasted to minimal vertical movement and the prevalent heterogeneous, anisotropic conditions restricting vertical movement.

We will be calling you in the next several days in an attempt to resolve these issues. Sparton is ready to begin installation of additional wells and wants to make every effort to reach agreement with the various parties before doing so.

Soil-vapor (soil gas) investigation was also referenced in your letter. In a previous letter dated May 10, 1996, NMED had concurred with a phased investigative approach; however, the initial phase consisted of four "nested vapor probes" in and around the source area. A nested vapor probe would utilize individual probes to monitor soil vapor or soil gas at approximately 10-foot vertical intervals. NMED also suggested that soil samples from each monitored interval should be analyzed for VOC and chromium.

As with the groundwater monitoring wells, there also appears to be a difference in philosophy with respect to vertical soil-gas characterization. As you are aware, Sparton voluntarily sampled and analyzed soil gas from 13 UFZ wells screened across the saturated zone. Results were included in the CMS Report submitted May 13, 1996. Based on those results and discussion of those results in the April 25, 1996, meeting, Sparton believed that a single nested vapor or soil-gas probe would be an appropriate second phase. The deep soil gas investigation and previous surface soil gas investigations suggest that any elevated soil gas concentrations occur in the immediate vicinity of the original source area. Accordingly, a single nested soil-gas probe in the central portion of the capped, source area should be sufficient to determine the need, if any, for additional vapor probes. Secondly, a significant amount of VOC and metal concentration data had been previously developed from borings and monitor wells installed in the source area. A total of six sample borings were drilled in the source area (75 x 180 feet). Six monitor wells have been installed in the same area. A significant amount of screening and analytical data was obtained

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and reported to NMED and EPA. Soil and soil gas testing included PID (headspace) screening, total organic halogen (TOX), total metals, EP-tox, VOC indicators, and complete VOC Scan. A summary of results is given in the attached Table 2. A location map of borings/wells (RFI Attachment 6) is also attached. Approximate NMED nested vapor probe locations are also shown.

Based on the wealth of historical data, Sparton believes the source area has been well characterized and that a single nested vapor probe should be a cost-effective way to demonstrate/update current soil gas conditions in the source area.

The NMED letter also references a Health and Safety Plan for vapor probe installation. As a first response, it should be noted that all intrusive activities at or near the Sparton facility will be conducted in accordance with a job-specific Health and Safety Plan (HASP) in accordance with federal regulations. Intrusive activities would include both groundwater monitor well installation and vapor probe installation.

A NMED memorandum dated May 17, 1996, attached to the NMED letter, alleges that a "very serious worker health-and-safety issue" exists relative to soil vapor investigation. Occupational health and safety is always a serious concern; however, the NMED memorandum may have overlooked the following information that would suggest a minimal health and safety problem, if any, exists:

- (1) Primary sources of contamination were removed in the mid 1980's;
- (2) Interim measures were implemented in December 1988 and continue through the present time;
- (3) VOC concentrations are decreasing in all onsite wells with detection histories;
- (4) Surface soil gas investigations (1984, 1987, and 1991) indicate over an order of magnitude decrease in VOC since 1984;
- (5) Substantial intrusive exploration in the source area in the mid 1980's (reported in the RFI) encountered only a few instances of elevated VOC concentrations while drilling;
- (6) Recent deep soil gas investigation throughout the plume area found elevated soil-gas VOC concentrations only in the source area.

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In the context of decreasing VOC concentration, VOC vapor density, availability of current venting points, and previous intrusive experience, we have been unable to create a realistic scenario that would result in harmful worker exposure. However, as previously stated, a Health and Safety Plan will be developed and implemented for all intrusive work at the Sparton site.

We appreciate your interest and input in moving this project forward. If you have any questions, please call me at (214) 770-1500 or FAX (214) 770-1549.

Very truly yours,

BLACK & VEATCH



Pierce L. Chandler, Jr.
Project Manager

bk
Enclosures

cc: Mr. Mark Weidler, NMED Secretary
Mr. Ed Kelley, Director, Water & Waste Management Division
Mr. Richard Mertz, Chief Counsel
Mr. Benito Garcia, Hazardous & Radioactive Materials Bureau
Mr. Ron Kern, Hazardous & Radioactive Materials Bureau
Mr. Steve Cary, Office of the Natural Resources Trustee
Mr. Vincent Malott, EPA
Mr. Evan Pearson, EPA
Mr. Norman Gaume, Albuquerque Public Works
Mr. Curt Montman, Albuquerque Environmental Health
Mr. Gary O'Dea, Albuquerque City Attorney's Office
Mr. Richard Brusuelas, Bernalillo County Environmental Health
Mr. Jim Harris, Thompson & Knight
Mr. Gary Richardson, Metric Corporation
Mr. Jan Appel, Sparton Technology, Inc.
Ms. Anna Marie Ortiz, Assistant General Counsel
Mr. Richard Mico, Sparton Technology, Inc.

Table 1			
Well*	Location	Monitoring Zone	Apparent Location Criteria
A	Chantilly near Benton	UFZ	Horizontal limit of plume
B	Chantilly near Buckeye	UFZ	Horizontal limit of plume
C	Bryan, 500' east of Chantilly	UFZ	Horizontal limit of plume
D	Existing Cluster No. 9	TFZ	Vertical limit of plume
E	Existing ULFZ Well 46	LLFZ	Vertical limits of plume
F	Existing ULFZ Well 46	LLFZ	Vertical limits of plume
G	Existing UFZ Well 53	ULFZ	Vertical limits of plume
H	Existing Cluster No. 10	LLFZ	Vertical limits of plume
I	Existing Cluster No. 4	TFZ	Vertical limits

* Wells A-E in five-well NMED alternative.
Wells A-I in nine-well NMED alternative.

Table 2

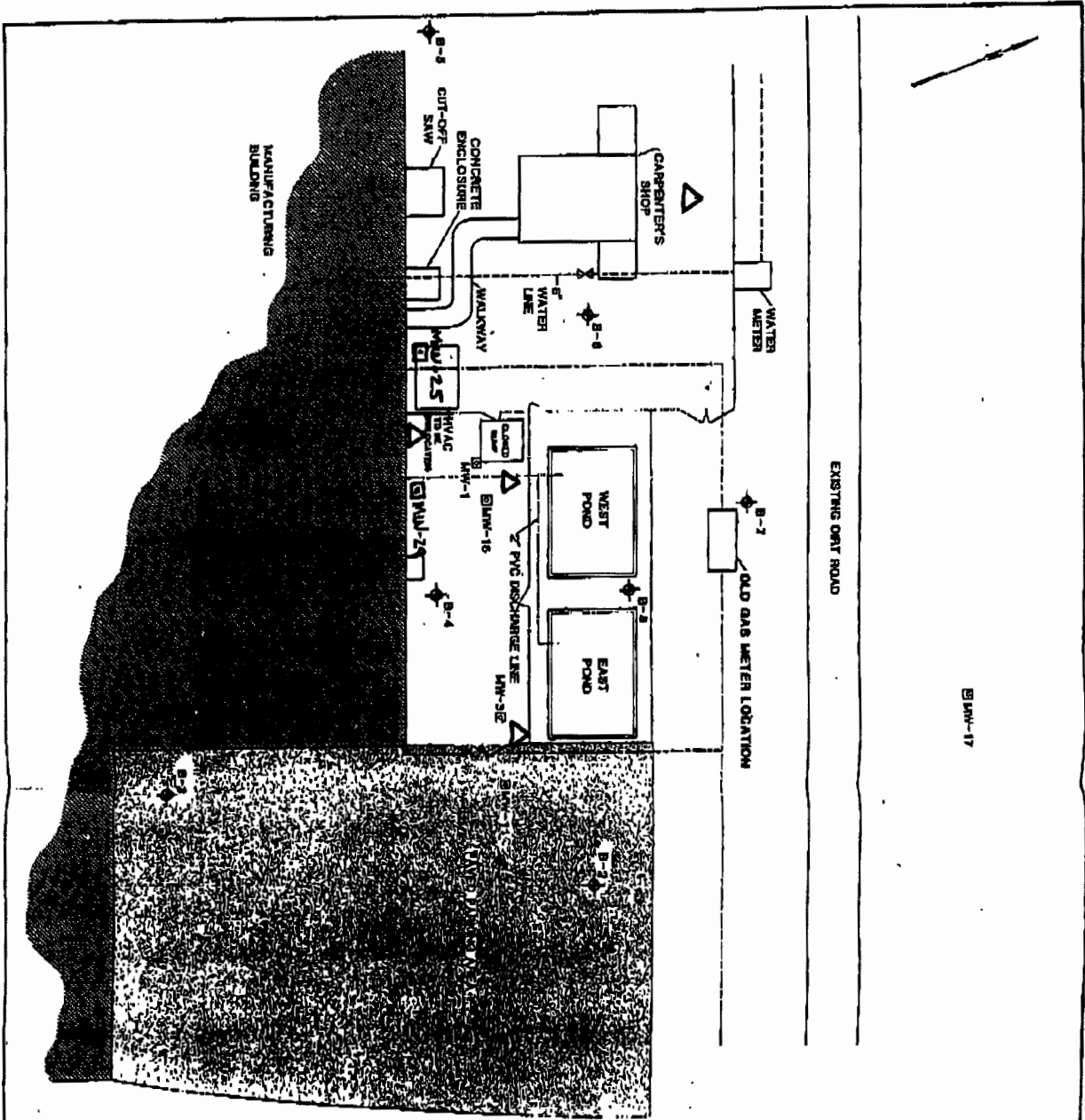
**Onsite Investigation – Analytical Tabulation
Unsaturated Zone Soil Testing**

Well/Boring No.	PID (Headspace)	TOX	Total Metals	EP TOX	VOC Indicators	VOC SCAN	Date
B-2	15	10	10	5	1	3	1985*
B-4	13	11	11	11	—	5	1985*
B-5	17	11	11	6	4	4	1985*
B-6	12	12	12	6	—	4	1985*
B-7	19	12	12	7	4	5	1985*
B-8	14	11	11	11	4	5	1985*
MW-16**	14	3	14	14	—	—	1984**
MX-24***	7	—	—	—	—	—	1988***
MW-25***	7	—	—	—	—	—	1988***
Total	120	70	81	59	13	26	

* RFI Attachment 6 (HDR)

** March 1986 RCRA Post-closure Care Permit Application (HLA)

*** October 1988 Monitor Well Report (HLA)



BM-17

EXISTING DIRT ROAD

OLD GAS METER LOCATION

- LEGEND:**
- PVC Discharge Line
 - Gas Line
 - Water Line
 - Chain Link Fencing (to be relocated in the area of the Ponds and Sump)
 - ⊙ 1" Water Valve
 - ⊙ 4" Boiler Valve with 2-foot concrete pad
 - ⊙ Soil Boiling
 - ⊙ NMED VAPOR PROBE

HLA

SOONER LOCATION DETAIL

IN THE POND AND

SLUR AREA

ALBERTA ENERGY SERVICES LTD.

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CS/PS

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FACSIMILE COVER SHEET

TO: Ana Marie Ortiz

FAX PHONE NO.: 505-827-1628

FROM: Pierce Chandler

DATE: 5/29/96

PROJECT NO.: 026602.0100

NO. OF PAGES: 9 (Including This Sheet)

COMMENTS:

Sparton's response to NMED letter of May 22, 1996 regarding additional monitoring well installation.

In case of transmission problems, please call *Pierce Chandler* at:

(214) 770-1500
Black & Veatch
Dallas, Texas

This FAX Machine Number is (214) 770-1549.