THOMPSON & KNIGHT
A PROFESSIONAL CORPORATION
ATTORNEYS AND COUNSELORS

1700 PACIFIC AVENUE • SUITE 3300
DALLAS, TEXAS 75201-4693
(214) 969-1700
FAX (214) 969-1751

AUSTIN
FORT WORTH
HOUSTON
MONTERREY, MEXICO

DIRECT DIAL:

(214) 969-1102
E-Mail: harrisj@tklaw.com

August 5, 1998

VIA FACSIMILE and U.S. MAIL

Michael T. Donnellan, Esq.
Environmental Enforcement Section
Environment and Natural Resources Division
United States Department of Justice
P.O. Box 7611
Washington, D.C. 20044-7611

Re: Response to SVE Comments

Dear Michael:

Attached as Exhibit "A" is a response to comments, dated July 20, 1998, on the soil vapor extraction workplan. Responses 1 through 12 relate to your comments 1 through 12. Items 13 and 14 are points that were raised at our settlement conference on July 30, 1998.

I am still awaiting your proposed schedule. I will be in deposition all day Thursday, August 6, 1998, so the sooner you can get that to me the sooner I can review it and provide you with comments.

Finally, as I discussed with you yesterday, our response to some of the open issues discussed with the judge at the hearing are being prepared by Stavros Papadopulos and will not be available until Friday.

Please call me if you should have any questions.

Yours very truly,

James B. Harris

JBH/eshd
Enclosure

cc: All Counsel of Record
40310 00001 LERA 75032

RESPONSES TO JULY 20, 1998 DOJ COMMENTS ON SVE

1. The purpose of the workplan is to describe the procedures that will be followed to reduce soil vapor levels to 10 ppm_v. There are two components to this plan. First, based on available data that allows a reasonable estimation of where soil vapors exceed the target concentration, design and operate a system to remove soil vapors. We have already installed such a system and have proposed an operational plan that encompasses both sequential and simultaneous use of vapor recovery wells completed to the water table. There has already been extensive discussion about why such a procedure would be most effective and efficient in removing soil vapors. Second, a mechanism for confirming the estimated limits of soil vapor (above the target concentration) and a mechanism for confirming remediation has reached those levels. As the following comments makes clear, we have agreed to certain additional probe points and certain analytical techniques that are believed to satisfy this requirement.

2. Workplan will include a timeline for specific tasks; however, certain schedules will be keyed to performance of current SVE system.

3. Probe locations were established in July 30, 1998, meeting as shown on the attached figure. The numbers at each probe location correspond to the DOJ numbered locations. An additional probe will be located inside the main plant building based on the results from outside the building footprint subject to restrictions imposed by current operations such as the machine shop, etc.

4. Pipe probe sampling will utilize conventional soil gas exploration methodology. A ¾ to 1-¼ inch steel pipe with a disposable drive point will be pushed or driven into the subsurface. At each sampling depth, the pipe will be retracted slightly to allow extraction of a gas sample through the probe tip.

   Sampling/purging procedures will be similar to that described in the Corrective Measures Study (CMS) Report, Appendix 2(b) with the exception that a second vacuum gauge will be installed at the top of the probe. The extracted gas samples will be screened using a PID (Hnu with 10.2 eV lamp or comparable unit). Vacuum and flow rates during purging/sampling will be recorded.

5. The previous screening-analytical comparison referred to by DOJ was comparing head-space soil gas screening with a PID to analytical results on soil samples. In the SVE workplan, the comparison will be between PID screening and analytical testing of extracted soil gas. Two samples from each probe location will be analyzed in the laboratory.

6. The SVE system is designed to address the entire thickness of the vadose zone. Although highest constituent concentrations are expected in the upper portion of the vadose zone due to the presence of fine-grained soils, the coarse-grained sands and gravels in the lower vadose improve the efficiency of the SVE in reaching the upper "hotspot" areas.

The SVE system will be operated until the 10 ppm_v remediation goal is reached or until multiple extraction cycles (pulse pumping) demonstrate that a higher steady-state or equilibrium concentration is present.

It should be noted that operation of the SVE system for several years has been assumed in the workplan. However, the proposed SVE duration is much less than anticipated for the on-site containment.

7. There is no current plan to calculate the 10 ppm_v limits using groundwater concentrations and equilibrium assumptions. All proposed sampling will extract soil gas for analyses.

8. Mr. Dennis McQuillan provided copies of the referenced correspondence. With respect to the Digital correspondence dated September 28, 1995, the second page indicates "total VOC levels achieved by the system appear to have dropped below 10 ppm_v in all probes by January, 1995." However, June 1995 sampling results (Table 2 of July 17, 1995 Closure Report) showed concentrations above 10 ppm_v from a reduced number of sampling points.

   The GTE correspondence indicates that "average" concentrations of TCE had been reduced to less than 10 ppm_v. These "average" results were presented for shallow (10 probes), intermediate (8 probes) and deep (10 probes). A review of the first operational period for the first six months showed significant ranges in the individual probes. Although we have not seen results for the second 6-month operation, a range would be expected. What range and which probes were used to obtain the "average"?

9. The sampling purge rates will be adjusted based on the size (volume) of a given sampling device (i.e., well, probe, cluster, etc...) The intent is to purge the device in 5 to 10 minutes.

10. As stated in the current workplan, gas samples will be analyzed using method 8260 with detection limits of 10 ug/l or less used to define the 10 ppm_v limit. Higher detection limits will be used in high-concentration areas.

11. As stated in the current workplan, Sparton will furnish quarterly reports on the SVE system. Characterization work will be reported on a periodic basis as work is completed; however, work completed to date will be summarized in an annual report.

12. The SVE system reports will include operating history, sampling results, and emission calculations. Characterization reports, and emission calculations. Characterization reports will have include descriptions of installation, purging, sampling and analyses of results.

13. The February 1997 pilot test of the SVE system indicated an effective radius of influence of 175 to 200 feet at an extraction flow rate of 68 cfm from well VR-1. June 6, 1998, vacuum measurements from the installed system operating at less than 50 cfm and regression analyses indicate that an effective radius of influence is 125 to 150 feet.

Regardless of flow rate and corresponding radius of influence, Sparton has proposed sequential extraction from multiple wells as necessary to address the area of elevated (10 ppm_v) soil gas constituent concentrations. Sequential operation in lieu of concurrent was proposed to take advantage of the intermittent pulse pumping at a given location. When extraction is suspended at a given location to allow off-gassing from sorbed phase in the fine-grained soils, extraction can be conducted at an alternate location. Sequential operation also avoids stagnation phenomenon associated with concurrent operation.

14. Field screening results from the initial pipe probe installations will be correlated to the analytical results so that field screening can be quantified in any future investigation.

THOMPSON & KNIGHT

A PROFESSIONAL CORPORATION
ATTORNEYS AND COUNSELORS
1700 PACIFIC AVENUE
SUITE 3300
DALLAS, TEXAS 75201
(214) 969-1700
FAX (214) 969-1751

AUSTIN
(512) 469-6100 / FAX (512) 469-6180

DIRECT DIAL: (214) 969-1102

FORT WORTH
(817) 347-1700 / FAX (817) 347-1799

HOUSTON
(713) 217-2800 / FAX (713) 217-2828

FACSIMILE COVER LETTER

TO: All Counsel of Record

FROM: James B. Harris, Esq.

SUBJECT: Response to SVE Comments

DATE: August 5, 1998

CLIENT/FILE NO.: 40310.00001

ATTY PHONE EXT: 1102

FAX NO. (See Fax Nos. Below)

NO. OF PAGES: 5 (including cover page)

PRIVILEGED AND CONFIDENTIAL

cc: All Counsel of Record:

R. Jan Appel (517) 787-1822

Charles De Saillan (505) 827-4440
Michael T. Donnellan (202) 514-8395
Jonathan Hewes (505) 768-7395
Gary O'Dea (505) 768-4525
Ana Marie Ortiz (505) 827-1628
Patrick Trujillo (505) 768-4245
John Zavitz (505) 766-8517

Michael Hebert (214) 665-7446
Steven Amter (202) 293-0169
Dennis McQuillan (505) 827-2965

IF YOU DO NOT RECEIVE ALL THE PAGES, PLEASE CALL (214) 969-1690 OR (214) 969-1695 AS SOON AS POSSIBLE

FAX OPERATOR: _____ TIME SENT _____ A.M./P.M. CONFIRMED _____ A.M./P.M.

UNABLE TO SEND: ____ Incorrect telephone number
____ No answer

UNABLE TO CONFIRM: ____ No telephone number
____ After hours
____ No answer