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April 24, 1998

MEMORANDUM

SUBJECT: EPA Oversight Activities
- Soil Vapor Extraction System
- Ground Water Sampling/Monitoring

FROM: Michael A. Hebert

TO: Sparton Plaintiff's

Soil Vapor Extraction System

EPA's contractor visited the Sparton site at the beginning of the week of April 20, 1998, to evaluate Sparton's activities regarding the Soil Vapor Extraction system recently implemented by Sparton. Please see the attached site visit summary for details regarding this site visit. The air split-sample results are expected on or about April 29, 1998.

Ground Water Sampling/Monitoring

EPA's contractor visited the Sparton site at the beginning of the week of April 20, 1998, to obtain ground water split-samples. Specifically, split-samples were obtained from Monitoring Wells Nos. 52, 65, 68, 69, 61, 60, and 70. These samples will be analyzed for EPA SW-846 Method 8260B. Results are expected in about three weeks (i.e., May 15, 1998).

EPA has identified items that should have been included in the Ground Water Monitoring Plan that Sparton submitted that was required by the EPA Order. EPA is preparing a draft of a complete Ground Water Monitoring Plan that will be ready by May 1, 1998. This draft will be circulated to the other Plaintiff's for review and comments.

Any questions, please call me at 214-665-8315.

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**Soil Vapor Extraction System Evaluation
Site Visit Memorandum
April 20, 1998****Sparton Technologies, Inc., Coors Road Plant
Albuquerque, NM**

On Monday, April 20, 1998, TechLaw team members Phebe Davol and Scott Irving met at the facility with Mr. Gary Richardson of Metric, Mr. John Wakefield with Sparton, and Mr. Baird Swanson of the New Mexico Environment Department (NMED). The purpose of the visit was to assess the operating status of the soil vapor extraction (SVE) system and to collect influent and effluent split samples.

Prior to the site visit, the team visited with Mr. Sahji Mathews with the City of Albuquerque to discuss the air permit and the results of his inspection. Specifically, questions focused on the production of hydrochloric acid during destruction of the chlorinated solvents. In general, the City did not feel that the production and emission of hydrochloric acid would be significant.

The following summary presents the findings of the SVE assessment:

1. The SVE system is connected to vapor recovery (VR) well number VR-1 which is located directly in center of the sump (source area). The well is constructed with 4.0 inch diameter Schedule 40 PVC and is screened from approximately 10 to 60 feet below land surface. The well is hard-piped from VR-1 to the recovery building with 6.0 inch diameter PVC piping. The transfer piping runs over the building and is sloped from the center back to either end. Knock-out sumps are located at the SVE unit and adjacent to the well head for the collection of condensate. The immediate area surrounding VR-1 is paved with asphalt or underlies the building slab. However, uncovered soils exist to the north and west of VR-1 which may result in short-circuiting.
2. The SVE unit is manufactured by AcuVac Remediation, Inc., and consists of a six-cylinder internal combustion engine, three catalytic converters, and necessary appurtenances. The system relies upon supplemental fuel (propane) to facilitate proper combustion. Effluent (treated air) is vented to a discharge stack through the roof of the building. The system is capable of operating at approximately 100 to 120 cubic feet per meter (CFM). Currently, the system is operating at approximately 50 cfm as a condition of the permit requirements.
3. System equipment monitoring is being performed daily which includes collection of operational data such as flow rates, vacuum readings, oil pressure, and temperature. System start-up commenced on April 8, 1998. The system operation and maintenance includes

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frequent oil changes (approximately once every three days). A synthetic oil is being utilized to help minimize oil degradation due to exposure with the hydrochloric acid. The engine is manufactured with metallurgy that is generally more resilient to hydrochloric acid exposure and wear. Sparton has indicated that a second engine is being manufactured that will serve as a replacement engine. According to Sparton, it is anticipated that the two engines will be exchanged approximately once a month, with the used engine being sent off for remanufacturing. As influent concentrations decrease the system operation is expected to increase in duration due to less hydrochloric acid production. The exchange of engines will take approximately one day. Similarly, the catalytic converters will be replaced as required.

4. As of this assessment date, no performance monitoring has been performed with the exception of system air sampling. The collection of vacuum influence readings, soil gas analysis, or soil sampling, has not been performed adjacent to VR-1, and therefore, the radius of influence has not been determined. Sparton indicated that performance monitoring would be completed in the future and may include drive point sampling for soil gas analysis. At the time of this assessment, laboratory analytical results had not been received by Sparton for their air sampling event conducted on April 15, 1998. The TechLaw team collected air split samples from Sparton's and NMED's air sampling event. The samples consisted of the following; 1) effluent: post internal combustion engine and catalytic converters, 2) effluent: post internal combustion engine/pre catalytic converters, and 3) influent: untreated influent air from VR-1.
5. Sparton indicated that this is likely to be the final/permanent SVE unit to be used at the facility. Sparton has indicated that their plans are to run it indefinitely to accomplish remediation of the soil. The system can be connected singularly to existing or new vapor extraction wells, as allowed by the City permit. All other vapor extraction wells installed at the site are constructed with 2.0 inch diameter PVC and are screened similar to VR-1.
6. Condensate is being generated at a rate of approximately 1 to 2 gallons per day at the knock-out sump adjacent to VR-1. The condensate is being directed to a groundwater extraction well adjacent to VR-1 for collection and treatment.





FAX TRANSMISSION SHEET

**U.S. EPA, REGION 6
COMPLIANCE ASSURANCE AND ENFORCEMENT DIVISION
HAZARDOUS WASTE ENFORCEMENT BRANCH
TECHNICAL SECTION**

TRANSMISSION DATE: April 24, 1998

<u>TO:</u>	<u>Phone #:</u>	<u>FAX #:</u>
Michael Donnellan		202-514-8395
Gary O'Dea		505-768-4525
Patrick Trujillo		505-768-4245
Anna Marie Ortiz		505-827-1628
Dennis McQuillan		505-827-2965
Baird Swanson		505-884-9254
Charles de Saillan		505-827-4440
Robert Morrison		619-480-1179
Steve Amter		202-293-0169
<u>FROM:</u> Michael A. Hebert (6EN-HX) EPA	<u>Phone #:</u> 214-665-8315	<u>FAX #:</u> 214-665-7446

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COMMENTS: EPA oversight summary for your information.

Thanks, Mike Hebert

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