



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

August 9, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED P 110 337 053

Mr. Tony Hurst, P.E.
Hurst Engineering Services
153 Camino de Sabinal
P.O. Box 220
Bosque, NM 87006



RE: 1999 Annual Report, and
Off-Site Containment System Operation and Maintenance Manual, and
Design Plans and Specifications and Permits for the Source Containment System
EPA/NMED Comments
Sparton Technology, Inc., Consent Decree
Civil Action No. CIV 97 0206 LH/JHG

Dear Mr. Hurst:

The United States Environmental Protection Agency ("EPA") and the New Mexico Environment Department ("NMED"), have received the 1999 Annual Report dated June 1, 2000, the Off-Site Containment System Operation and Maintenance Manual dated May 30, 2000, and the Design Plans and Specifications and Permits for the Source Containment System dated May 30, 2000, submitted by Sparton Technology, Inc. ("Sparton") pursuant to Section VII, Paragraph 18, of the March 3, 2000 Consent Decree. EPA and NMED reviewed the above documents to determine if they fulfill the requirements of the Consent Decree.

The 1999 Annual Report dated June 1, 2000, the Off-Site Containment System Operation and Maintenance Manual dated May 30, 2000, and the Design Plans and Specifications and Permits for the Source Containment System dated May 30, 2000, satisfies the majority of the requirements of the Consent Decree; however, the enclosed comments must be addressed to the satisfaction of EPA and NMED prior to approval. Pursuant to Section X, Paragraph 30a, Sparton has forty-five days, except as where indicated, to address these comments and resubmit the revised documents for approval. If you have any questions, please contact Michael A. Hebert (EPA) at 214-665-8315 or James Bearzi (NMED) at 505-827-1567.

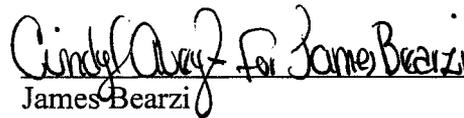
EPA/NMED Annual Report, Off-Site O&M,
and Source Containment Design Plan comments

Albuquerque v. Sparton Technology, Inc.
No. CV 97 0206 (D.N.M.)

Sincerely yours,



Michael A. Hebert
Project Coordinator
U.S. EPA Region 6



James Bearzi
Project Coordinator
New Mexico Environment Department

Enclosure - EPA/NMED comments regarding
1999 Annual Report, and
Off-Site Containment System Operation and Maintenance Manual, and
Design Plans and Specifications and Permits for the Source Containment System

cc: Secretary - Sparton Technology, Inc.

Sparton Technology Inc.
Coors Road Plant Remedial Program-1999 Annual Report
June 1, 2000

An independent evaluation and detailed review of the referenced document (report) was conducted to determine if the technical issues in the "Work Plan for the Assessment of Aquifer Restoration", Attachment D of the March 3, 2000, Sparton Consent Decree (Work Plan) were addressed. Four primary tasks were described in the Work Plan and are listed below.

- Task 1 - Assemble and evaluate hydrogeologic data
- Task 2 - Evaluate water-quality data and assess progress in restoration
- Task 3 - Develop groundwater flow and contaminant transport model
- Task 4 - Prepare Annual Reports

The report upon which this comment document is based is intended to fulfill the requirements of the fourth task. Below is a general comment and specific comments regarding the report.

General Comments

1. Section 3.4 Task 4 - Preparation of Annual Reports of the Work Plan specifies certain items will be conducted and included as part of the annual report. In general, the report is well written and includes the necessary detail. The report addresses a majority of the required items with a few exceptions related to the SVE system operating data. Several comments are provided below regarding the model and its treatment of specific site data.
2. Please provide in appropriate sections of the report the estimated mass in place as specified in Section 3.4, p.9 of Attachment D of the Consent Decree.
3. Please provide in appropriate sections of the report a comparison of water quality data from monitoring and containment wells to media standards (the more stringent of MCLs for drinking water or the maximum allowable concentrations in ground water set by NMWQCC) as specified in Section 3.4, p. 10 of Attachment D of the Consent Decree.
4. In appropriate sections of the report, please provide plots of monthly mass removal rates and cumulative removal rates of chemicals of concern and compare these with the contaminant mass in place as specified in Section 3.4, p. 10 of Attachment D of the Consent Decree.
5. Please provide a summary of the annual progress in aquifer restoration in terms of the percentage mass removal (i.e., annual removal of mass at CW-1 in comparison to the estimated mass of contaminants present in the aquifer), and in terms of the estimated percentage change in the volume of groundwater with contaminant concentrations above

media standards (the more stringent of MCLs for drinking water or the maximum allowable concentrations in ground water set by NMWQCC).

Specific Comments

1. Executive Summary, p. ES-2, second full paragraph. "The total mass of TCE removed by the soil vapor extraction systems was about 4.5 kg in 1999." Please provide data and calculation methods used to determine this mass of TCE. If the data are estimated and the methodology is not well supported, please provide a range of possible values rather than a single estimated number.
2. Section 1, p. 1-1. The third paragraph in this section should also mention that implementation of the public involvement plan was also part of the agreed settlement between Sparton and the various governments.
3. Section 2.4, p. 2-5, 3rd full paragraph. "The results of the tests indicated a radius of influence of 175 to 200 feet." This report (and previous reports) has not provided sufficient data and calculations to support this estimated radius of influence. Please provide such data and calculations in this report, or remove the reference to radius of influence.
4. Section 2.5, p. 2-6. Sparton should include in the first paragraph of this section that implementation of a public involvement plan and a restoration work plan were remedial measures included in the March 3, 2000 Consent Decree.
5. Section 2.6.1.3, p. 2-9, 2nd and 3rd paragraphs and included bullets. The maps for the UFZ, ULFZ, and LLFZ, the estimated impacted areas, and the calculations used to estimate the volume of impacted groundwater should be incorporated into this report or included as an appendix. Please provide this information.
6. Section 3.3, page 3-2, paragraph 1. The second sentence states "Monitoring data indicated that influent constituent concentrations had dropped to the range where treatment was no longer required." For clarification, please restate the sentence to read "Influent air concentration data for air entering the AcuVac SVE system from VR-1 indicated that the concentration was sufficiently low as to not need treatment prior to discharge to the atmosphere."
7. Section 4.2.1, p. 4-3". The report states "The AcuVac system was operated from May 12 to June 23, 1999 (42 days) at 50 cfm. The Roots blower system was operated from June 28 to August 25, 1999 (58 days) at 200 cfm." Please provide a reference to the document where the actual flow rate data can be found and provide the flow rate data in an appendix to this document.

8. Section 4.2.2, p. 4-3. "The AcuVac system operated at a vacuum of 6.0 inches of water, and the Roots blower operated at 24.5 inches of water." Please provide a reference to the document where the actual vacuum data can be found and provide the vacuum data in an appendix.
9. Section 4.2.3, p. 4-3. Please provide the data and calculations used to estimate the 7.5 mg/m³ at the end of the period of AcuVac operation. An exponential decline in the concentration of volatile compounds is frequently observed in extracted soil gas in the initial stages of soil vapor extraction (SVE) operation. In later stages of SVE operation, relatively flat and linear concentration decline curves are commonly observed. Please provide justification for the relationship shown between the initial data point and the estimated point provided in Figure 5.21 (and Figure 5.22).
10. Section 5.1.2, Water Quality, page 5-2. This section should be revised to reflect the observed increase in chromium concentrations since initiation of the off-site system. In addition this section or Section 7 should be revised to incorporate recommendations concerning these increases in the chromium concentrations.
11. Section 5.1.2.2, (general). Please provide discussion regarding the continuing presence of TCE in well MW-71 in the fourth quarter 1998 and fourth quarter 1999 data presented in Tables 2.5 and 4.3. Also the annual report should include a discussion on the potential for the existing containment system to capture impacted groundwater from this zone.
12. Section 5.2, p. 5-4, 1st paragraph, p. 5-4. Please provide the flow rate data and methodology for estimating the final soil gas concentration as also discussed in Comments 7 and 9 above.
13. Please provide the evidence (e.g., high to low range) to support the graphical relationship between the two data points presented in Figure 5.22 in the calculation of mass removal by the SVE system (see Comment 9).
14. Section 5.2, p. 5-4, last paragraph. Please provide the calculations to support the statements regarding the percent of the phase equilibrium concentration at MW-18, and justification for why soil gas at MW-18 would be at phase-equilibrium.
15. Section 6.1.1, Hydraulic Properties, p. 6-3 2nd paragraph. Please provide more explanation for the selection of 0.114 ft/day as the vertical hydraulic conductivity of the sand unit and recent Rio Grande deposits. The ratio of horizontal to vertical hydraulic conductivity is 219, based on this selection. This appears to be a very high ratio. Please provide justification for this high of a ratio in these types of deposits.
16. Section 6.1.1, Hydraulic Properties, p. 6-3 1st paragraph. Please provide data, including boring log data to support the areal extent of the 4970-foot clay, provided in Figure 6.3.

17. Section 6.1.1, Sources and Sinks, p. 6-4, 2nd full paragraph. Please provide justification for the recharge rates applied to the Arroyo, canal and irrigated fields. The text states that the rates were estimated based on the model calibration. Explain whether the estimated recharge rates are consistent with recharge rates used in other modeling efforts completed on the aquifer systems in the Albuquerque area. If the estimated recharge rates are consistent with recharge rates used in other modeling efforts, please explain whether these recharge rates are supported by actual field demonstration data in the Albuquerque area. Provide the net-flux rates from these sources.
18. Section 6.1.2, Model Calibration, p. 6-5 table. The values used for hydraulic conductivity for the sand units were not changed as a result of the model calibration. Provide a discussion regarding whether or not the adjustment of these parameters was a part of the calibration procedure and whether there were any other parameters calibrated other than those listed in the model.
19. The text in Section 2 lists the hydraulic conductivity of the aquifer as a range from 25 to 30 ft/day. A hydraulic conductivity of 30 ft/day appears to match the steady state drawdown in wells OB-1 and OB-2 better than 25 feet per day, but it results in a smaller capture area. The model match presented in Table 6.2 indicates the model is over predicting the drawdown at OB-1 and OB-2. Explain whether the hydraulic conductivity of the sand units varied as a part of the calibration procedure. Could an alternative model match be generated that matches the hydraulic head data as well with a hydraulic conductivity of 30 ft/day?
20. Section 6. Please provide a figure that compares the capture area predicted by the model with the TCE plume shown in other figures (for November 1998 and October 1999).
21. Section 6. There is no information regarding whether the model was run in transient mode and compared to the data from the short and long term pumping tests of CW-1. In addition, provide a discussion indicating whether this was a part of the calibration procedure.
22. Section 6. There is no information regarding whether a sensitivity analysis has been performed on the groundwater flow model. If this analysis was conducted, please present the results. If it was not, please explain why this is not considered necessary. Given the apparent desire to provide a capture zone that provides just minimal capture of the plume, testing the sensitivity of the assumptions that are used in the hydraulic analysis of the aquifer would seem appropriate. The flow model is an excellent tool for accomplishing this.

23. Section 6. Please provide the approximate travel time from the Sparton Facility to well CW-1 (based on the flow model or based on the aquifer analysis provide in previous sections of the report).
24. Section 6.2.1, Transport Parameters, p. 6-7, last full sentence. Please provide the data that support the use of 0.01 percent as the organic carbon content of the aquifer. In addition provide a discussion of how sensitive the model is to the choice of organic carbon content and whether future runs of the model will include retardation.
25. Section 7.1, Summary and Conclusions, p. 7-2, 1st full paragraph (also see Section 5.1.2 and Executive Summary, page ES-2). The text indicates that 115 million gallons of groundwater have been pumped at the off-site containment well in 1999 and indicates that this represents 10 percent of the volume of contaminated groundwater. Not all of the groundwater pumped by CW-1 comes from the contaminated groundwater plume. Please provide an estimate of what percentage of the pumped groundwater was derived from the volume of contaminated groundwater and what percentage of the total volume this represents. This issue should also be addressed in Section 5.1.2 and Executive Summary, page ES-2.

Sparton Technology
Design Plans and Specifications and Permits for the Source Containment System
at the Sparton Coors Road Plant
May 30, 2000

An independent evaluation and detailed review of the referenced document (plans and specification) was conducted. This review was conducted to determine if there are technical issues that may prevent the proposed system from adequately achieving the goals specified in the "Work Plan for the Installation of a Source Containment System," Attachment F of the March 3, 2000, Sparton Consent Decree (Work Plan). There are certain requirements in the Work Plan that were to be included in the plans and specifications. These include site plans, architectural plans, specifications for equipment and materials, descriptions of the necessary permits, a schedule for obtaining necessary permits, copies of applications for the necessary permits, and several appendices. The required content of the appendices include the design data including tables of significant data used in the design, equations used in the design, sample calculations, and lab or field test data used as part of the design.

General Comment

1. The plans and specifications are generally well presented and include the required elements specified in the work plan. There do not appear to be technical issues that would prevent the proposed system from substantively achieving the goals specified in the work plan.
2. Please provide Table 1 with appropriate revisions in each monthly report required in Section VII, Paragraph 20 of the March 3, 2000 Consent Decree in order to evaluate the progress of obtaining all the necessary permits for the source containment system.
3. The Design Plans and Specifications and Permits for the Source Containment System should be revised once all the necessary permits are obtained and submitted as a final document in order to document all the procedures and information utilized in the design of the source containment system. This final document may be submitted with the Construction Work Plan that is required in Section 7.2 of the Work Plan for the Installation of a Source Containment System (i.e., Attachment F of the March 3, 2000 Consent Decree).

Sparton Technology
Sparton Technology, Inc. Coors Road Plant
Final Off-site Containment System Operation and Maintenance Manual
May 30, 2000

An independent evaluation and cursory review of the referenced document (manual) was conducted to determine if there are any major technical issues that may cause the current system to experience significant failure or potentially provide a means of exposure to hazardous constituents to workers and/or local citizens. General and specific comments are provided below.

General Comment

1. In general the report is prepared in a standard or typical format for this type of manual and presents the necessary information. The manual should serve its purpose of allowing a trained operator to take the necessary actions and to make the appropriate decisions to provide safe and ongoing operation of the containment treatment system. However, the text portion of the manual is lacking in additional detail, requiring the user to search for the information throughout the document or determine if it is present. As an example, the manual contains an equipment replacement schedule but there are few specific details as to how the equipment is actually replaced by the operator or contractor. This may be remedied by additional reference or providing more specific details.
2. The Final Off-site Containment System Operation and Maintenance Manual should be revised to incorporate all operational and maintenance issues related to the recent activities to provide treatment for chromium in the effluent from well CW-1.

Specific Comments

1. Page 7, top paragraph: Mention is made that the infiltration gallery is anticipated to require replacement after approximately 4 years. No reference or specific details are provided as to how this activity is to be accomplished as part of normal operation and maintenance. Please provide the necessary details on this task, either in this section or subsequent sections.
2. Page 7, third bullet: The building has a high sump level system shut-off control and the system appears to have adequate spill control capacity at 4,000 gallons (approximately three times the air stripper volume). Please describe the level at which the high sump-level system will shut-off the treatment system and provide the design rationale for such a level. If it is at 4,000 gallons, a general concern is that approximately 4,000

gallons of potentially untreated water could accumulate before the system is shut-off by the high sump level. Although the excess capacity is a good safeguard for spill containment, it would be appropriate to have the system shut-off at a lower volume.

3. Page 9, third paragraph: Provide details for the sampling of the three monitoring wells or provide reference to the Ground Water Monitoring Program Plan (GWMPP). Discuss the analytical parameters that are required.
4. Page 14, top bullet: The paragraph presents the requirements for cleaning the encrustation from the air stripper trays, which is cleaned with a high-pressure wash and a wet/dry vacuum. Describe, in this section or in the Waste Management section (Page 18), how this waste is to be disposed and handled.
5. Page 18, Waste Management: Provide a discussion on how the used or replaced equipment will be handled, disposed, or recycled. In addition, discuss how the decontamination fluids and other investigation-derived wastes are handled and disposed.
6. Page 21, Contingency Plans: Provide a contingency for unforeseen operational issues or problems that may arise throughout the operational lifetime of the system. The intent of this is to allow for the manual to be amended and updated accordingly.

Attachments A through K

No comments.

Attachment L - Health and Safety Plan

General Comment

1. The Health and Safety Plan contained in this manual appears to be generic in nature. The plan lacks details specific to address potential hazards and exposures that may result from conducting routine operation and maintenance associated with the containment system. For instance, in Section 5.5 Chemical Resistance and Integrity of Protective Material, well and vapor probe installation and soil sampling are discussed which are not necessarily applicable to containment system operation. It would be appropriate to discuss monitoring well or piezometer sampling or influent/effluent sampling and the respective protective material. The plan lacks discussion of two important physical hazards, heat exposure (i.e., working inside treatment building in summer) and noise (i.e., associated with operation of pumps and blowers).

Specific Comments

1. Section 1.3 - Visitors, page 2: Include in this section, and other applicable sections (Section 8.0 - Site Control Measures), any means for prevention of trespassers from gaining access to the treatment building. This may include a discussion on site security measures (fencing, locks, exterior lighting, signs, etc.) to protect a trespasser.
2. Table 3.1 and Section 3.3.1, page 6: The contaminants listed under sampling of untreated water lists only organic constituents. The presence, or the potential for, inorganics (specifically chromium) is not listed and should be included.
3. Section 3.0, page 5: Section 3.0 discusses task and operation based health risk analysis. A subsection (or new section) should be included that address physical hazards. Potential physical hazards included noise exposure, slip, trip, and fall hazards, and heat/cold exposure.
4. Section 4.1 - Training and Briefing Topics, page 9: It is recommended that training/discussions of personnel protective equipment be completed on a daily basis during maintenance activities due to the variable nature of daily work activities and their associated potential exposures.
5. Section 5.5 - Chemical Resistance and Integrity of Protective Material, page 13. The activities discussed are not applicable to the types of activities associated with operation and maintenance of the containment system. Revise this section to include applicable scenarios and required PPE.
6. Table 5.1, page 14: Revise the order of personnel protection to list Level D - Modified Tasks above Level D Tasks (modified level D is associated with a greater level of protection). Revise Level D Tasks to include activities mentioned in the text that will be completed in Level D protection only. Add the handling of Aqua-Mag and the maintenance or replacement of the infiltration gallery to the list of activities under Level D - Modified Tasks.
7. Section 9.3 - Equipment Decontamination. Provide a discussion or reference that provides details on sampling equipment decontamination. In addition, there should be a discussion of how the investigation-derived wastes are handled and disposed.
8. Table 10.1, page 24: Include in the table, the potential for spills within the treatment building and how they are prevented or controlled.
9. Section 10.5 - Emergency Contact/Notification System, page 24: Describe how site personnel are to contact the necessary people (i.e., use of telephone within the treatment building or other means).

10. Table 10.2, page 24: Include emergency contact phone numbers for the SSO and the HSO, which are designated in earlier sections of the plan.