



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



March 1, 1996

CERTIFIED MAIL-RETURN RECEIPT REQUESTED Z 698 454 958

Mr. Richard D. Mico
Sparton Technology, Inc.
Vice President and General Manager
4901 Rockaway Blvd., SE
Rio Rancho, New Mexico 87124

Dear Mr. Mico:

The enclosed comments by the U.S. Environmental Protection Agency (EPA) address requirements found in Tasks VII-X of the Scope of Work for a Corrective Measure Study (CMS) in the Administrative Order on Consent (Order), Docket No. VI-004(h)-87-H. As referenced in Task X.C of the Order, the Final CMS Report is now due to EPA within 30 days from receipt of this letter.

Many of the issues raised in the Sparton Technology letter dated November 6, 1995, such as movement of the contaminant plume, changing contaminant concentrations within the plume, restoration of the contaminated ground water, and utilization of the local ground water are also discussed in the draft CMS Report. EPA previously responded to these and other issues in our letter of February 20, 1996 (Enclosure 2). Accordingly, Sparton shall refer to the issues set forth in Enclosure 2 when revising the CMS Report. During a phone conversation on February 27, 1996, between Ronald Crossland of my staff and Jan Appel of Sparton Corporation, EPA informed Sparton that the issues discussed in EPA's letter of February 20, 1996, would be included by reference in the enclosed CMS comments.

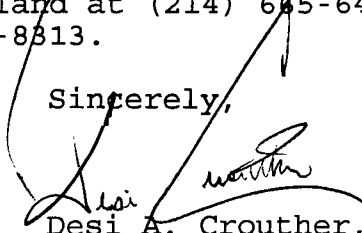
I have enclosed a copy of the public hearing transcript and the written comments received by EPA for the RCRA Statement of Basis. I refer you to Enclosures 3-10, so that Sparton may fully understand the issues and concerns expressed by the City, County, State, and Federal agencies during the public comment period (Enclosure 3-10). EPA's comments on the CMS Report have incorporated specific technical issues raised during the public comment period.

GWB-00502-SPARTON

OGC-000338

My staff will be contacting you to schedule a meeting to discuss revisions to the CMS Report. If you have any questions, please contact Ronald Crossland at (214) 665-6480 or Vincent Malott at (214) 665-8813.

Sincerely,


Desi A. Crouther, Chief
Hazardous Waste Enforcement Branch

Enclosures (10)

1. CMS Technical Review Comments
2. EPA Letter of February 27, 1996
3. City of Albuquerque Comments
4. County of Bernalillo Comments
5. New Mexico Environment Department Comments
6. Office of Natural Resources Trustee Comments
7. New Mexico Attorney General's Comments
8. U.S. Department of Interior, Bureau of Reclamation Comments
9. Local Community Comments
10. February 1, 1996 Hearing Transcript

cc (w/o enclosures):

Mr. Ron Kern, HRMB, New Mexico Environment Department
Mr. Dennis McQuillan, GWPRB, New Mexico Environment Department
Mr. Steve Cary, New Mexico Office of Natural Resources Trustee
Mr. Norman Gaume, Albuquerque Public Works Department
Mr. Kurt Montman, Albuquerque Environmental Health Department
Mr. Jan Appel, Sparton Corporation
Mr. James Harris, Thompson & Knight

ENCLOSURE 1

TECHNICAL REVIEW COMMENTS DRAFT CORRECTIVE MEASURE STUDY REPORT SPARTON TECHNOLOGY ALBUQUERQUE, NEW MEXICO

EPA reviewed the Draft Corrective Measure (CMS) Report for the Sparton Technology (Sparton) facility located in Albuquerque, New Mexico for compliance with the Scope of Work for a Corrective Measure Study (Tasks VII-X) as contained in the Corrective Action Plan (CAP) of the Order. The technical comments also incorporate specific technical issues raised during the public comment period for the RCRA Statement of Basis and the various alternatives for remediation of the contaminant plume.

1. Section II. Background (p. 1-23)

Per Task VII.A of the CAP, Sparton shall submit an update to the information describing the current situation at the facility; this information shall include the current operating status of the facility.

2. Section III.B. Contamination Characterization (p. 24-40)

Ground water sample analyses collected since the conclusion of the RFI have provided significant new information on the nature and extent of ground water contamination. Per Task VII.A of the CAP, Sparton shall submit an update to the information describing the known nature and extent of the contamination as documented by the RCRA Facility Investigation Report. The update shall include analytical data for the period of 1991 to the current date, including data collected as part of Sparton's Supplemental Groundwater Monitoring Plan (SGMP). In addition, issues regarding movement of the contaminant plume and changing contaminant concentrations within the plume have been previously addressed by EPA (Enclosure 2, response numbers 4 and 5), and Sparton shall revise the CMS Report accordingly.

3. Section III.D. Potential Receptors/Exposure Pathways (p. 44)

Issues regarding local use of the ground water have been previously addressed by EPA (Enclosure 2, response numbers 1-3, 7), as well as by the City of Albuquerque (Enclosure 3). EPA has identified the contaminant plume originating from the Sparton Coors Road facility as a principal threat requiring both active containment and restoration to the more stringent of State or Federal standards. Accordingly, Sparton shall revise this section to address human exposure to contaminated ground water since the ground water is both

currently used and has the potential for further development.

4. Section III.D.5. Potential Receptors-Commercial/Industrial (p. 47)

Sparton shall provide the documentation supporting the conclusion that VOC concentrations in the soil are below permissible exposure limits for both on-site and off-site areas. VOC concentrations in the soil may present a threat to human health as a result of the current and future development in the area.

5. Section III.E.3. Groundwater Protection Standards - New Mexico Groundwater Standards (p. 49)

Sparton shall amend this section to include the requirements specified in the New Mexico Water Quality Control Commission Regulations, Subpart IV - Prevention and Abatement of Water Pollution (note: Sections 4101-Purpose, and 4103-Abatement Standards and Requirements).

6. Section III.E.5. Background Concentrations (p. 49)

EPA does not concur that monitoring well MW-6 represents background concentrations in the ground water. Although the ponds and sump that acted as the original source at the Sparton site were of limited size, significant spreading of the dense non-aqueous phase liquid ("DNAPL") undoubtedly occurred as it migrated downward and encountered clayey layers present in the vadose zone. Regarding monitoring well MW-51, while initial analytical results in 1990 indicated 6 ppb of TCE, contaminant concentrations have been non-detect since the 1991 sampling event. Therefore, Sparton shall delete this section discussing background contaminant concentrations since no contaminants have been identified in the ground water that are not associated with the original release.

7. Section III.F. Purpose for Response (p. 56)

The contaminant plume originating from the Sparton Coors Road facility is a principal threat requiring both active containment and restoration to the more stringent of Federal or State standards, as discussed by EPA (Enclosure 2, response numbers 1-3, 7), as well as other local, State, and Federal agencies (Enclosures 3-10). Accordingly, Sparton shall revise this section to address human exposure to contaminated ground water as the principal exposure pathway since the ground water is both currently used and has the potential for further development. In addition, the statement "... the Interim Measures implemented on site have

... accomplished contaminant source removal." shall be deleted since contaminants remain in the aquifer and overlying vadose zone.

8. Section IV. Establishment of Corrective Action Objectives (p. 57)

Per Task VII.B, Establishment of Corrective Action Objectives, in the CAP, Sparton shall amend Section IV of the CMS Report to address the following corrective action objectives: 1) prevent further migration of the contaminant plume; 2) restore the contaminated aquifer to the more stringent of Federal or State standards; and 3) reduce the quantity of source material in the soil and ground water, to the extent practicable, to minimize further release of contaminants to the surrounding ground water and ensure no further contaminant migration to the ground water above the existing cleanup goals established for ground water. Remediation of the subsurface soil shall be consistent with the New Mexico Water Quality Control Commission Regulations, Subpart IV - Prevention and Abatement of Water Pollution (note: Sections 4101-Purpose and 4103-Abatement Standards and Requirements).

9. Section V. Screening of Corrective Measure Technologies (p. 59-65) and Section VI. Retained Alternatives (p. 66-73)

- a. Treatment of extracted ground water and soil gas will require a combination of technologies to remove organics and inorganics prior to discharge into the environment. Sparton shall evaluate the design of a treatment train which will allow the attainment of chemical-specific discharge requirements, and be easily modified to treat increased flow from an expanded system.
- b. Sparton described the use of chemical precipitation on pages 63 and 71 of the CMS Report. On page 71 of the CMS Report, Sparton dismissed further evaluation of chemical precipitation because "metals are not the focus of the corrective action". However, all contaminants released into the environment from the Sparton facility are the focus of the corrective action and chromium concentrations exceed the State and Federal standards. Sparton shall evaluate the use of chemical precipitation as part of a treatment train to remove chromium and other metals from extracted ground water per Task VIII of the CAP; or, Sparton shall provide sufficient information per Task VII of the CAP as to why this technology would not be suitable for implementation at the Sparton site. The concentration of chromium, particularly the more toxic hexavalent

form, shall be below the applicable State and Federal standards prior to reuse, reinjection, or discharge of the treated ground water.

- c. In addition to the technologies described in the CMS Report, Sparton shall also evaluate the use of ion exchange as part of a treatment train to remove chromium and other metals from extracted ground water per Task VIII of the CAP; or, Sparton shall provide sufficient information per Task VII of the CAP as to why this technology would not be suitable for implementation at the Sparton site. The concentration of chromium, particularly the more toxic hexavalent form, shall be below the applicable State and Federal standards prior to reuse, reinjection, or discharge of the treated ground water. The use of ion exchange and chemical precipitation methods are described in the EPA Manual on Ground-Water and Leachate Treatment Systems (EPA/625/R-94/005).
 - d. Sparton described the use of catalytic oxidation on pages 64 and 72 of the CMS Report. A comment received during the public comment period indicated that the use of catalytic oxidation may be a cost effective solution for the destruction of organics from extracted ground water and soil gas at the Sparton site (Enclosure 9 - JRC Environmental Technologies). Sparton shall further evaluate this technology per Task VIII of the CAP; or, Sparton shall provide sufficient information per Task VII of the CAP as to why this technology would not be suitable for implementation at the Sparton site.
 - e. References to a shrinking contaminant plume shall be deleted from the descriptions of the slurry wall alternative (p. 68).
 - f. Sparton shall include the use of surficial recharge in the Calabacillas Arroyo (Enclosure 8), injection wells, or infiltration galleries as mechanisms for the return of treated ground water to the aquifer. Sparton should also consider other beneficial uses of the treated ground water to ensure conservation of ground water.
10. Section VII.B.1. Containment of the Dissolved Groundwater Phase - No Further Action (pg. 77)
- a. Since the contaminant plume continues to expand in size and concentrations have been observed to be increasing in a number of monitoring wells (Enclosure 2, response number 4 and 5), references to a shrinking contaminant plume and significant reductions in contaminant

concentrations at almost all sampling locations shall be deleted from this section.

- b. Since the dominant transport mechanism for the contaminant plume is advection (Enclosure 2, response number 4), Sparton shall amend the No Further Action remedy to include both the estimated number of additional monitoring wells necessary to monitor the continued migration of the contaminant plume, and the updated estimate for the number of wells necessary for quarterly monitoring of the contaminant plume. Sparton shall also prepare a cost estimate per Task VIII.B of the CAP for the amendments.
 - c. EPA previously requested in a letter to Sparton dated October 3, 1995, for specific criteria for evaluating changes in land use/development and ground water monitoring when determining the need for further corrective measure studies in the no further action remedy. Sparton's language proposed for inclusion in the draft CMS Report is not acceptable to EPA. The statement "Applications for permits to drill and complete private or public drinking water wells in ground water impacted by Sparton's operations will be monitored" does not indicate the frequency of the monitoring or how the monitoring will be performed. The statement "Sparton will on an annual basis update its description of the impacted areas to take into consideration any expansion or contraction of the impacted groundwater" does not indicate how expansion of the contaminant plume will be monitored.
 - d. Sparton shall provide an estimate of the impact on the existing New Mexico Utilities well No. 2 and the duration of the contaminant plume in the ground water above State and Federal standards.
11. Section VII.B.1. Containment of the Dissolved Groundwater Phase - (pg. 77)

EPA previously requested in a letter to Sparton dated October 3, 1995, the inclusion of a discussion addressing ground water extraction wells as a hydraulic containment system to prevent further plume migration. Sparton's language proposed for inclusion in the draft CMS report (Sparton letter of November 6, 1995) is not acceptable to EPA (Enclosure 2, response No. 8 and 9). Sparton shall provide an evaluation of a ground water extraction and treatment system for hydraulic containment of the contaminant plume in all flow zones per Tasks VIII.A and B of the CAP.

12. Section VII.B.2. Containment of the Dissolved Groundwater Phase - Infiltration Gallery/Injection Wells (pg. 78-81)

Sparton shall provide the technical evaluation of this technology in combination with large-scale ground water extraction and treatment per Task VIII.A.1.a.i. of the CAP. Sparton shall also provide the detailed cost estimate for this technology (infiltration gallery/injection wells) as required in Task VIII.B of the CAP.

13. Section VII.C.1. Remediation of the Dissolved Groundwater Phase - No Further Action (pg. 82)

Since this alternative is identical to the No Further Action alternative described on page 77 of the draft CMS Report, Sparton shall amend this alternative to address the issues raised in Comment No. 10.

14. Section VII.C.2. Remediation of the Dissolved Groundwater Phase - Continuation of Interim Measure Corrective Action (pg. 83-84)

a. With the exception of continuation of the existing ground water recovery and treatment system, this alternative is also identical to the No Further Action alternative described on page 77 of the draft CMS Report, Sparton shall amend this alternative to address the issues raised in Comment No. 10.

b. Lining of the Corrales Main Canal in the vicinity of the Sparton Technology facility has been identified as a possible means of reducing the amount of local ground water recharge (Enclosure 8). Per Task VIII.A.1.a.i of the CAP, Sparton shall evaluate this option as a means of reducing seasonal ground water level fluctuations and enhancing the effectiveness of a ground water extraction system in the upper flow zone at the facility.

15. Section VII.C.4. Remediation of the Dissolved Groundwater Phase - Large-Scale Groundwater Extraction and Treatment System (pg. 84-89)

a. While EPA agrees that ground water extraction is suitable for the high permeability sands and gravels at the site (pg 84), EPA disagrees with the discussion in the CMS Report concerning the limited effectiveness of a large-scale ground water extraction system. EPA has previously provided a discussion of ground water extraction to Sparton (Enclosure 2, response number 8).

- b. Sparton shall revise this alternative to address the hydraulic containment of the contaminant plume for all flow zones, and restoration of the ground water (both on-site and off-site) to the more stringent of the State or Federal standards.
 - c. Per Task VIII.A.1.a.i, Sparton shall also consider the effectiveness of combining the injection of surfactants into the aquifer to enhance a ground water extraction system and reduce the projected cleanup times for the aquifer.
 - d. EPA does not concur with Sparton's opinion that discharge to the Rio Grande is the most appropriate disposal method for treated ground water (pg 86). Recharge to the aquifer utilizing surficial recharge in the Calabacillas Arroyo (Enclosure 8), injection wells, infiltration galleries, or some other beneficial use of the treated ground water must be evaluated by Sparton as an alternative for disposal of treated ground water, per Task VIII.A and B of the CAP. The conservation of ground water is an integral part of the Long-Range Water Conservation Strategy for the City of Albuquerque (Enclosure 3). EPA has previously requested that Sparton provide an evaluation of the alternatives for the treatment of extracted ground water and the return (e.g., injection wells or an infiltration gallery) of treated ground water to the aquifer to comply with any restrictions in ground water usage. Sparton's language previously proposed for inclusion in the draft CMS report (Sparton's letter of November 6, 1995) is not acceptable to EPA (Enclosure 2, response number 9, pg. 20 in the letter's enclosure). The analysis and conclusions provided in the proposed language do not address the requirements listed in Task VIII of the CAP.
16. Section VII.C.5. Remediation of the Dissolved Groundwater Phase - Soil Vapor Extraction System (pg. 98-102)
- a. While Sparton provided a general description of the technology on pages 98-102, Sparton shall provide supporting documentation for this technology relevant to site conditions as required in Tasks VIII.A, VIII.A.1.a.i, and VIII.A.1.c of the CAP. Sparton shall also provide the basis for the estimation of a ten- and twenty-well system. Sparton shall also provide an evaluation of the effectiveness of combining soil vapor extraction with ground water extraction per Task VIII.A.1.a.i of the CAP.

- b. Lining of the Corrales Main Canal in the vicinity of the Sparton Technology facility has been identified as a possible means of reducing the amount of local ground water recharge (Enclosure 8). Per Task VIII.A.1.a.i of the CAP, Sparton shall evaluate the effectiveness of combining this option with soil vapor extraction as a means of reducing seasonal ground water level fluctuations and enhancing the effectiveness of soil vapor extraction in removing contaminants above and within the ground water table.

17. Section VII.C.6. Remediation of the Dissolved Groundwater Phase - Air Sparging (p. 102-103)

Utilization of air sparging has been performed at 23 Underground Storage Tank sites in Bernalillo County (Enclosure 6, Attachment B) with no apparent obstacles in implementing this technology. While Sparton provided a general description of the technology on pages 102-103, Sparton has not yet provided an evaluation of this technology relevant to site conditions as required in Task VIII.A of the CAP. Sparton shall also provide the documentation for the estimates of a ten- and twenty-well air sparging system. While Sparton considered the effectiveness of air sparging combined with soil vapor extraction, Sparton shall also consider the effectiveness of air sparging with ground water extraction.

18. Section VII.C.7. Remediation of the Dissolved Groundwater Phase - In Situ Bioremediation (p. 103-106)

While Sparton provided a general cost estimate for this technology on page 106, Sparton shall provide the detailed cost estimate for this technology as required in Task VIII.B of the CAP.

19. Section VII.D.1. Remediation of the Soil-Sorbed Phase (Unsaturated Zone) - No Further Action (p. 106-107)

Sparton has also stated that there are no receptors or exposure pathways for the residual contamination in the soil. Since the ground water can be directly impacted by the contaminants leaching from the soil, and ground water is an exposure pathway, Sparton shall revise this section accordingly to address impacts to ground water.

20. Section VII.D.2. Remediation of the Soil-Sorbed Phase (Unsaturated Zone) - Soil Flushing (p. 107-110)

While Sparton provided a general cost estimate for this technology on page 110, Sparton shall provide the detailed cost estimate for this technology as required in Task VIII.B of the CAP.

21. Section VII.D.3. Remediation of the Soil-Sorbed Phase (Unsaturated Zone) - In Situ Bioremediation (p. 110-111)

While Sparton provided a general cost estimate for this technology on page 111, Sparton shall provide the detailed cost estimate for this technology as required in Task VIII.B of the CAP.

22. Section VII.D.4. Remediation of the Soil-Sorbed Phase (Unsaturated Zone) - Vapor Extraction System (p. 112-113)

While Sparton provided a general description of the technology on pages 112-113, Sparton shall provide the supporting documentation for this technology relevant to site conditions as required in Tasks VIII.A, VIII.A.1.a.i, and VIII.A.1.c of the CAP. Sparton shall also provide the basis for the estimation of a ten- and twenty-well system.

23. Section VII.E.1. Remediation of Soil Gas Vapor Phase (Unsaturated Zone) - No Further Action (p. 114)

Sparton has stated that "elevated soil-gas VOC concentrations occur only on site". While shallow soil gas surveys have detected substantial soil gas concentrations at the facility, significant soil gas concentrations have also been identified in an area between the facility and Irving Boulevard (Attachment 7 in the RFI Report). Sparton shall revise this section accordingly.

Sparton has also stated that there are no receptors or exposure pathways for the soil gas. Since the ground water can be directly impacted by the soil gas, and ground water and is an exposure pathway, Sparton shall revise this section accordingly to address potential impacts to ground water.

24. Section VII.E.2. Remediation of Soil Gas Vapor Phase (Unsaturated Zone) - Vapor Extraction System (p. 114)

a. While shallow soil gas surveys have detected substantial soil gas concentrations at the facility, significant soil gas concentrations have also been identified in an area between the facility and Irving Boulevard (Attachment 7 in the RFI Report). Sparton

shall evaluate the implementation of this technology in the off-site area per Tasks VIII.A and B of the CAP.

- b. While Sparton provided a general description of the technology on page 114, Sparton shall provide supporting documentation for this technology relevant to site conditions as required in Tasks VIII.A, VIII.A.1.a.i, and VIII.A.1.c of the CAP. Sparton shall also provide the basis for the estimation of a ten- and twenty-well system.