

 **ENTERED**

**2000**  
**RECEIVED**

**Environmental  
Resources  
Management**

16300 Katy Freeway  
Suite 300  
Houston, Texas 77094-1611  
(281) 579-8999  
(281) 579-8988 (fax)

February 2, 2000

Mr. Carl Will  
Hazardous Waste & Radioactive Materials  
New Mexico Environment Department  
P. O. Box 26110  
Santa Fe, New Mexico 87502



Mr. Michael Hebert  
EPA Region 6 Main Office  
1445 Ross Avenue, Suite 1200  
MC 6 EN-HX  
Dallas, Texas 75202-2733

Subject: Summary of January 28, 2000 Meeting Regarding Closure  
Financial Assurance Cost Estimate for Sparton's Coors Road  
Facility

Dear Gentlemen:

Pursuant to our agreement during our meeting on January 28, 2000, we are pleased to provide you this summary of our meeting regarding the agencies' comments provided prior to and during the meeting. We believe the meeting was very beneficial in that it facilitated clarification of the requirements of the pending Consent Decree and associated work plans. As discussed, the agencies and we on behalf of Sparton agreed to complete the remaining action items noted below by Friday, February 4, 2000, if at all possible. At that time, we hope to resolve the remaining questions, if any, associated with the below noted action items. Subsequently, we will submit a revised (undiscounted) closure cost estimate for agency approval. A formal financial assurance package can then be submitted for agency approval.

The following summary references the comment numbers in ERM's letter, dated January 28, 2000, a revised copy of which is attached. The issues associated with agency comments were resolved except for item #s 1, 3, 4, and 13.

*Comment #1. Regarding Bids for On-Site Containment System*

The bids and estimates for the on-site system, total \$77,200, which is well below the cost table estimate of about \$102,000. ERM expects the difference will easily cover potential contingencies. David Cobrain of NMED will review the quotes for concurrence or further questions.

*Comment #2. Regarding Bids for SVE Equipment*

The blower has already been purchased. Installation will cost about \$350; therefore, there are no further issues with this item.

*Comment #3. Regarding Permitting Costs*

The discharge permitting cost allowance that was included in the contingency shown in the December 31, 1999 cost table was considered acceptable. ERM agreed to footnote the contingency to reflect that it covers the cost of discharge permitting. Carl Will and David Cobrain indicated the State's position is that the Consent Decree requires payment of a \$12,000 permit fee and revisions to address deficiencies in the previously submitted RCRA permit application (which Metric Corporation has estimated will cost \$2,000). The annual cost of up to \$4,700 may not be required if Sparton achieves clean closure of the subject units. ERM understands this matter is a topic for further discussion by others and agreed to forward the State's position to Sparton Management with the State's request to include "known" costs for RCRA permitting in a revised closure cost estimate.

*Comment #4. Regarding Bids for Well Replacement and Abandonment Costs*

The well replacement bids represent about \$150,000 of the \$660,000 O&M equipment budget, and the abandonment bids represent about \$75,600 of the \$89,146 well abandonment cost estimate. David Cobrain agreed to review the bids provided.

*Comment #5. Regarding Health and Safety Plan*

The plan has already been submitted. No further issue.

*Comment #6. Regarding Well 72 Costs*

Well 72 has already been installed. No further issue.

*Comment #7. Regarding Well 72 Sampling Costs*

Sampling costs for Well 72 are included in the cost estimate. No further issue.

*Comment #8. Regarding Monitoring Activities*

The pumping test and capture zone evaluation have already been performed and approved. The cost estimate includes costs for the other plan-specified activities. No further issue.

*Comment #9. Regarding Maintenance Inspection Activities*

We agreed to provide a copy of Appendix K to the O&M manual to David Cobrain, since he had not seen it. (A copy is attached.) David Cobrain expressed the opinion that the O&M cost estimates for future years may be low. The adequacy of this item will be reviewed on a year-to-year basis. No further issue with the current December 31, 1999 cost estimate.

*Comment #10. Regarding SVE System Operation Period*

The pending Consent Decree and Vadose Zone Work Plan require SVE operation for only one year. No further issue.

*Comment #11. Regarding Infiltration Gallery O&M Costs*

The originally discussed "life" of a gallery was based on the four years of successful operation of the nearby Van Waters and Rogers system and not on an engineered study. The use of Aqua Mag sealing inhibitor is expected to facilitate an extended system life. The question of whether the gallery will require major reconditioning or replacement can be revisited in five years. No further issue regarding the gallery O&M December 31, 1999 cost estimate.

*Comment #12. Regarding Infiltration Pond Maintenance*

It was agreed the cost estimate is reasonable. No further issue.

*Comment #13. Regarding Infiltration Unit Closure*

Backfilling is not required since the gallery and ponds are at grade. The cost estimate contingency covers removal of piping structures connected to the gallery. Berm regrading is included. Sparton was asked to agree to \$1,000 of soil sampling at closure to assess whether the soils require further action if a letter of no further action (NFA) is needed. NMED will check to see if the agency has the authority to require such sampling since the units only receive treated water and, from Sparton's view, require no sampling unless effluent quality significantly exceeded discharge limits. Sparton doesn't foresee at this time a need for an NFA letter for the entire property.

*Other Comments:*

It was agreed that:

- A. Only the cost estimate for financial assurance, and not the form of the financial assurance, would be approved after resubmittal of revised cost tables.
- B. The matter of whether the cost estimate can be discounted to current dollars will be addressed later as a legal issue, not a technical issue. EPA agreed that the cost could be discounted if an appropriate money set-aside instrument were used. NMED's position is that discounting is not allowed under state regulations.
- C. The hourly rate for the closure certification report will be \$75/hour as stated in footnote (j) on the cost table for year 2029.

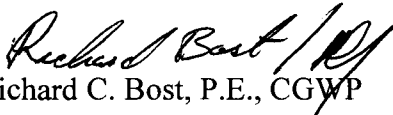
There being no further comments, questions or issues, it was agreed that ERM would get back to Carl Will by early next week with Sparton's response to the comments regarding RCRA permitting and infiltration gallery/pond sampling. NMED will respond by next Friday, February 4, regarding the results of its review of the cost quotes provided and its authority to require sampling. As per our call today, Sparton has agreed to include a first-year RCRA permitting cost as a line item and to a cost table footnote that the O&M contingency for the infiltration units is sufficient to cover soil sampling if ultimately required.

Again, on behalf of Sparton, we appreciate the opportunity to work with you to facilitate a quick agreement on the cost estimate for the financial assurance package. Unless we hear otherwise from you, we trust this summary accurately reflects our meeting discussions.

Looking forward to visiting with you next week. I remain,

Sincerely,

Environmental Resources Management

  
Richard C. Bost, P.E., CGWP  
Principal

RCB/jbr  
Attachments

cc: R. Jan Appel, Sparton Corporation  
James Harris, Thompson & Knight  
Tony Hurst, Hurst Engineers  
Gary Richardson, Metrics Corporation

**January 28, 2000 ERM Letter to Mr. Carl Will,  
New Mexico Environment Department,  
Revised January 31, 1999  
*Attachment 1***

*February 2, 2000*

**Environmental Resources Management**  
16300 Katy Freeway, Suite 300  
Houston, Texas 77094-1611  
(281) 600-1000

**Environmental  
Resources  
Management**

January 28, 2000  
Revised January 31, 2000

16300 Katy Freeway  
Suite 300  
Houston, Texas 77094-1611  
(281) 579-8999  
(281) 579-8988 (fax)

Mr. Carl Will  
New Mexico Environment Department  
2044 Galisteo  
Santa Fe, New Mexico 87502      W.O. #555-002

Subject: Responses to Agency Comments from January 21, 2000  
Regarding Financial Assurance Cost Estimate for Sparton's  
Coors Road Facility



Dear Mr. Will:

On January 21, 2000, you spoke with Mr. Paul Indeglia regarding the information submitted by Environmental Resources Management (ERM) to the New Mexico Environment Department (NMED) on behalf of Sparton Technologies, Inc. (Sparton) and their Coors Road Facility in Albuquerque, New Mexico. The purpose of the discussion was to identify items for which additional information or explanation would be useful to bring closure to the cost estimate for the financial assurance element of the site remediation program.

Listed below are the thirteen (13) items identified in the phone call, followed by the corresponding responses.

ERM is confident that this additional documentation will provide NMED and the United States Environmental Protection Agency (USEPA) with the necessary bases for making a determination of adequacy on the financial assurance.

**Comment #1:** You indicated that you would like to see a bid for the installation of the on-site containment system.

**Response #1:** There are four main elements for the on-site containment system: a 120-foot well, a 50-gpm pump, a 50-gpm air stripper, and the infiltration ponds. The costs are outlined in Attachment 1. The installation of the well, including development and disposal of cuttings and purge water is \$18,000, as quoted by Rodgers and Co. The pump, with controllers and installed, will be \$8,000.00, as quoted by the Grundfos Pumps Corporation. The air stripper will cost \$30,000.00, as quoted by EPG. The piping for the infiltration ponds are estimated to cost \$6,200.00, based on the Environmental Restoration: Assemblies Cost Book.

Grading to flatten the area and create berms is estimated to cost \$15,000. These costs are very similar to the corresponding line items based on ERM experience in the cost tables and are summarized in Attachment 1. These costs totaling \$77,200.00 are less than the total cost of \$102,500.00 shown on the cost table.

Comment #2: You indicated that you would like to see specifications and a bid for the modification to the SVE system.

Response #2: Product specification and a written quote of \$3,441.00 for a Roots 200-cfm blower for the air stripper are included as Attachment 2. The blower has already been ordered. Therefore, the only remaining capital cost is about \$350.00 for installation since the wiring has also already been completed. This \$350.00 installation cost is less than the \$4,500.00 shown on the cost table.

Comment #3: You indicated that you would like to see cost information for the permits, including the renewal of the RCRA permit, the permits for this year's activities, the ground water discharge permit, and the air permit.

Response #3: The cost for developing documentation for permits is included in the project management section of the cost tables.

The air permit is in place. There is no additional work that needs to be done for the air permit.

The modification for the discharge permit has been prepared and was submitted along with the required fees of \$740.00 on December 7, 1999 for review by the agency. For future renewals every five years, there will be a fee of \$50.00 for filing and a flat fee of \$1,380.00 that is reduced by 50% to \$690.00 because future applications will be for permit renewals. Therefore, the total permit renewal fee every five years is \$740.00. The total for the discharge permit renewals for the 30-year period is \$3,700.00. Appropriate sections of the State of New Mexico Water Quality Control Commission Regulation are included as Attachment 3. The cost of \$3,700.00 for the discharge permit is less than the contingency of \$7,000.00 (\$350.00 per year over 20 years) for this line item.

Sparton is meeting with the State on Monday February 7, 2000 to discuss among other subjects the requirements for future State RCRA permits. Should the State decide permitting is required, there will be a cost of \$2,000.00 to

revise the previous submittal and potentially a one-time fee of \$12,000.00, plus an annual cost of up to \$4,700.00, unless Sparton obviates the need via clean closure of the subject units. Resolution of this issue is expected shortly.

**Comment #4:** You indicated that you would like to see cost information for the periodic abandonment of wells due to the fluctuation of the ground water table.

**Response #4:** There are two issues addressed in this comment: the cost for the abandonment of the wells and the costs for the replacement wells.

There is a \$660,000.00 allotment for equipment and the operation and maintenance of the system (budgeted as \$1,000.00 per month for 30 years for the on-site source containment and \$1,000.00 per month for 20 years for the off-site containment system plus contingency). This cost includes the periodic replacement of wells. We have provided a quote from Rodgers & Co., a drilling company in Albuquerque for a 90-foot, 2-inch well and a 200-foot, 4-inch well, corresponding to two representative wells that may need replacement if as the ground water elevation recedes (Attachment 4). The estimates for the 2-inch and 4-inch wells are \$3,728.00 and \$14,812.00, respectively. It is assumed that one in four wells (sixteen of the sixty-three wells) will need to be replaced due to the fluctuation of the ground water elevation and half of the sixteen wells to be replaced with 90-foot wells and half with 200-foot wells. The total replacement cost for these wells is \$148,320.00. The actual cost should be less since not all wells will need to be replaced. There are adequate funds allocated in the cost tables to the replace several wells at each depth.

Regarding the abandonment of the wells, we have provided a quote from Rodgers & Co. for the to plugging and abandonment of all the wells associated with the remediation system (Attachment 5). The estimate for the abandonment of the wells is \$75,600.00, which is less than the \$89,146.00 shown in the cost estimate.

**Comment #5:** You indicated the preparation of a Health and Safety Plan may be required under the Work Plan.

**Response #5:** Page 13 of the Consent Decree (Attachment 6) discusses the issue of a Health and Safety Plan and the process for submission and review. Page 13 of the "Work Plan for the Off-Site Containment System", prepared by S. S. Papadopulos & Associates (Attachment 7), indicate that there is no need for a Health and Safety Plan in regard to the Air Stripper and Infiltration Gallery.



On page 15 of the same document, in regard to the Operation and Maintenance Plan, the Work Plan states "A revised Health and Safety Plan will also be submitted for review and approval." ERM contacted Stavros Papadopoulos and Gary Richardson of Metric to find out if the revised Health and Safety Plan has been completed. The Health and Safety Plan has been prepared and submitted. This is consistent with the dicta of the pending Consent Decree. Thus the cost has been incurred already and does not need to be included in the financial assurance cost tables.

**Comment #6:** You indicated that you would like to see drilling costs for Well 72, as indicated in the Work Plan.

**Response #6:** Well 72 has already been installed and there is no need for a future cost line item for the installation of this well.

**Comment #7:** You indicated that you would like to see cost information for the sampling of Well 72 and the report that may possibly be produced.

**Response #7:** Well 72 has already been installed and the sampling of the well has been accounted for in the development of the cost tables. The cost for producing a report for the sampling of Well 72 is included in the existing cost tables.

**Comment #8:** You indicated that you would like to see additional information on the specific activities to be undertaken for the on-site and off-site monitoring.

**Response #8:** The monitoring program has already been approved as part of the Consent Decree. We have reviewed the monitoring plan and based the estimates on the activities in the plan.

**Comment #9:** You indicated that you would like additional detailed information outlining what activities will be conducted in the on-site and off-site monitoring. You indicated you would like to see additional information that will enable you to assess how we arrived at the cost listed on the cost table for the on-site and off-site monitoring. (Upon further clarification, you indicated you would like to know whether the cost of monitoring equipment is built into the hourly rate or needing to be listed separately.)

**Response #9:** Monitoring equipment costs are built into the hourly rate. The activities involved in the on-site and off-site monitoring (the actual sampling event) will

require a water-level indicator, a combined pH/Conductivity/ Temperature meter, disposable bailers, and latex gloves.

These costs are also well within the total annual contingency of \$2,325.00 for the Materials and Services Expenditures element of this line item, as indicated by the following commercial prices. A water-level indicator costs \$179.50, which can be used for the 30-year project period, resulting in an annual cost of \$5.98. A combined pH/Conductivity/ Temperature meter costs \$445.00, which can be used for the 30-year project period, resulting in an annual cost of \$14.83. A pack of 24 disposable bailers is \$99.50, resulting in an annual cost of \$344.10. A box of 100 disposable latex gloves costs \$7.50, which will be adequate for the 83 annual sampling locations. The total annual cost of the sampling equipment is \$372.42. (See pricing lists in Attachment 10.)

The hourly cost for the technician is derived from the maximum allowed by the New Mexico Underground Storage Tank Program Cost Reimbursement Guidelines (Attachment 11) and is set at \$45.00 per hour. There is an effective contingency of \$1,275.00, or approximately 11%, associated with the monitoring labor.

The time required to sample a well (an average of 3 hours) includes the travel time to and from the location, the actual recording of measurements, the collection of the sample, the proper storage of the samples, decontamination of the sampling equipment, and the completion of appropriate documentation (field book entries and chain-of-custody forms). ERM has developed this time based on 20 years of experience conducting environmental sampling and has verified its consistency with Sparton experience.

Comment #10: You indicated that you would like additional information as to how long the SVE system will operate.

Response #10: The modification to the SVE system is the addition of one 200-cfm blower (see Attachment 2). According to the pending Consent Decree and the "Vadose Zone Investigation and Implementation Workplan" (Attachment 12), the SVE system is only to operate for one year. The bases for the operation for the SVE system for a one-year period are several studies outlined in the "Vadose Zone Investigation and Implementation Workplan". One such study is the soil vapor extraction test conducted on-site in February 1997 and the subsequent tests conducted after the system had been off for a period of time, allowing for the soil vapor to achieve equilibrium. These tests depict the effectiveness of the current system and are exemplified by the influent sampling conducted on

August 5, 1998 that showed a drop in constituent concentration of over 2 orders of magnitude with a corresponding TCE removal of approximately 290 pounds (see page 3 of "Vadose Zone Investigation and Implementation Workplan"). This sampling also demonstrated that the target goals for the SVE system have already been achieved.

Comment #11: You indicated that you would like to see additional information on the maintenance of these infiltration galleries and the associated costs.

Response #11: The assumption that the infiltration galleries were to operate properly for a period of only four (4) years was based on another infiltration gallery in the Albuquerque area (Van Waters and Rogers). At the time of the original discussion between Sparton and the Agency, the Van Waters and Rogers system had only been operating for 4 years, thus the designers of the Sparton system could only say with confidence that it was good for four (4) years. Currently, the system is still operating, and at six (6) years of age, it continues to operate consistent with design expectations.

Upon further development of the Van Waters and Rogers system, it was discovered that the addition of Aqua Mag, a polymer that keeps carbonates and other salts in solution and prevents the precipitation of scaling compounds in the distribution system and the receiving soils in the infiltration galleries, maintains the system performance adequately to meet design expectations. In coordination with the agency, it was agreed that Aqua Mag would be used at the Sparton system. This is documented in the Discharge Approval Plan (Attachment 13).

Mr. Daniel A. Yamashiro, ERM's remediation expert with nearly twenty years of remediation system design (Attachment 14), has evaluated the influent water data, the local geological conditions, and the performance history of Aqua Mag to assess the capacity of the infiltration galleries. Mr. Yamashiro has concluded that the galleries' usefulness will extend beyond a 20-year life under the current design and with proper maintenance of the air stripper, including periodic repacking of the units. As a result of this expectation, there is no need at this time to include a cost for the maintenance of the infiltration galleries beyond that which is included in the existing cost tables.

Comment #12: You indicated that you would like to see cost information on the maintenance of the infiltration ponds.

Response #12: The activities included for the maintenance of the infiltration ponds is the harvesting of the clogging layer. It is estimated that once every two and a half years, maintenance personnel will be required to remove the crust that may form. This crust may cause a reduction of the infiltration rate. The cost for removal of the clogging layer is based on the time of two individuals for a two-week period (or 14 days). At the rate of \$45.00 per hour for two field technicians, \$6,000.00 has been allocated for this task for each occurrence, or \$2,400.00 annually. It is expected that use of a bobcat and operator will reduce this cost. A contingency of two additional days has been included in the \$6,000.00 figure. The costs are covered adequately within the line-item for O&M – Labor listed under the Source Containment section in the O&M Expenditures portion of the cost table. Please refer to the December 31, 1999 letter to Mr. Mike Hebert (Attachment 15).

Comments#13: You indicated that you would like to see the addition of costs associated with the closure of the system. Specifically, you indicated there would need to be costs for the following: back filling of the infiltration ponds and infiltration galleries, soil sampling for the sediments in the infiltration galleries, and dismantling of structures.

Response #13: Closure activities for the infiltration galleries will require, as put forth in the Operation Plan (Attachment E to the “Work Plan”) (Attachment 16), that all structures be removed, and that the perforated pipes in the infiltration gallery be excavated. There will be no back-filling required since the galleries currently exist at grade (the galleries are sub-surface). The activities will require the trenching and removal of the pipes. The acquisition of a truck to trench and remove the pipes will not exceed \$2,000.00. It is anticipated that the pipe will be recycled at no cost. Similarly, it is expected the treatment systems and buildings will be removed (or utilized) by a buyer. Therefore, no costs were included for removal of this equipment. Because the closure cost was expected to be small, it was not explicitly included in the cost tables and is easily covered by the O&M budget included in the cost tables. The O&M line item included \$240,000.00 for a 20-year period for the off-site remediation system. Additionally, there is \$24,000.00 included as contingency. This is considered to be adequate for O&M activities.

Closure activities for the infiltration ponds will require the grading of the 18” berms. The cost for this activity will require a front-end loader for a maximum of two days and will not exceed \$2,000.00. There is a line item of \$360,000.00 in operation and maintenance costs for the 30-year operating period for the on-site source containment system. Additionally, there is

\$36,000.00 allocated for contingency. It is believed that there is adequate cost for this activity within the existing O&M budget.

The air stripper at the facility has been operating as designed since its installation and the water quality data is well below drinking water standards. The stripper is designed to yield water of this quality for its life. Therefore, there should be no reasonable justification for the requirement of soil sampling of the infiltration ponds at closure. Additionally, there is no requirement in the Discharge Plan Approval, dated June 26, 1998 (Attachment 13) requiring post-closure sampling of the infiltration galleries. As noted in footnote (k) in the December 31, 1999 cost tables, should effluent analytical data elucidate a need for such sampling, future modifications to the financial assurance estimate can be made.

ERM anticipates that this will satisfy the request for information by the State of New Mexico Environment Department regarding the financial assurance of Sparton Technologies' remediation system. If there are further comments, please direct them to me at (281) 600-1218 or to the attention of Mr. Mark Cheesman at (281) 600-1064. Thank you.

Sincerely,

Environmental Resources Management



Richard C. Bost, P.E. CGWP  
Principal

RCB/jbr

Attachment 1 - Cost Estimate Source Containment System  
Other Attachments previously submitted on December 31, 1999

cc: Mike Hebert, United State Environmental Protection Agency (Dallas)  
Tony Hurst, Hurst Engineering Services (Albuquerque)  
Jim Harris, Thompson & Knight (Dallas)  
Mark Cheesman, Environmental Resources Management (Houston)

**Cost Estimate**  
**Source Containment System**  
*Attachment 1*

*January 28, 2000*  
*Revised January 31, 2000*

**Environmental Resources Management**  
16300 Katy Freeway, Suite 300  
Houston, Texas 77094-1611  
(281) 600-1000

**Attachment 1**  
Cost Estimate

Source Containment System

Sparton Technology, Inc.  
Coors Road Facility

<b>Item</b>	<b>Cost</b>	<b>Source</b>
Containment Well 6" x 120' w/ 60' screen	\$ 18,000	Rodgers & Co., Inc. - Verbal Estimate, includes waste disposal
Submersible Pump and Controller and Installation 60 gpm @ 250'	\$ 8,000	Verbal Estimate from Grundfos Pumps Corporation
50 gpm Air Stripper 6 tray	\$ 30,000	EPG written quote (attached)
Pond Piping 2" x 2,000'	\$ 6,200	Environmental restoration: Assemblies Cost Book (1996), ECHOS
Grading Ponds/Berms 1,500 ft <sup>2</sup> x \$10.00	\$ 15,000	ERM equivalent project experience
	Total \$ 77,200	
	December 31, 1999 cost estimate \$ 102,050	
	<b>Effective Contingency \$ 24,850</b>	

**Appendix K**  
*Attachment 2*

*February 2, 2000*

**Environmental Resources Management**  
16300 Katy Freeway, Suite 300  
Houston, Texas 77094-1611  
(281) 600-1000