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UNITED STATES ENVIRONMENTAL PROTECTION  
AGENCY  
REGION 6  
1445 Ross Avenue  
Dallas, Texas 75202

**CERTIFIED MAIL RETURN RECEIPT REQUESTED: 7000 0520 0022 2564 6993**

Mr. Tony Hurst, P.E.  
Hurst Engineering Services  
17990 Clydesdale Road  
Colorado Springs, CO 80908

RE: Sparton Technology Inc. Work Plan for the Proposed MW71-R Pump and Treat System  
EPA/NMED Comments  
Sparton Technologies, Inc. Consent Decree  
Civil Action No. CIV 97 0206 LH/JHG  
EPA ID No. NMD083212332

Dear Mr. Hurst:

The United States Environmental Protection Agency (EPA) and the New Mexico Environment Department (NMED), received Sparton Technology Inc., work plan for the proposed Monitor Well 71R (MW71-R) pump and treat system.

EPA and NMED have completed a technical review of the proposed work plan and have enclosed those comments. The plan is approved providing the changes identified in the enclosure are implemented and a revised plan submitted.

There is a one-year time limit on monitoring after system start-up. Sparton must report on the system's progress and propose the next action as an approval condition. Only 30 days shall be allowed for report submission after that one-year period.

If you have any questions, please contact John Kieling (NMED) at 505-428-2535, or me at 214-665-6535.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles A. Barnes".

Charles A. Barnes  
Project Coordinator  
U.S. EPA Region 6

Enclosure

cc: Secretary-Sparton Technology, Inc.

**TECHNICAL REVIEW**

**FORMER COORS ROAD PLANT REMEDIAL PROGRAM**  
**WORK PLAN FOR**  
**THE PROPOSED MW-71R PUMP-AND-TREAT SYSTEM**

**SPARTON TECHNOLOGY, INC.**  
**Albuquerque, New Mexico**  
**EPA ID No. NMD083212332**

**GENERAL COMMENTS**

1. The Work Plan for the Proposed MW-71R Pump-and-Treat System (Work Plan) does not contain sufficient detail to allow for an adequate evaluation of the work proposed. Since the Work Plan is meant to propose significant activities, including a step test, installation of pumping and treatment systems, operational and sampling requirements, and potential future actions, more detail must be provided.

At a minimum, basic background information should be provided or referenced for the following topics:

- Geology and hydrogeology of the site (particularly for the deeper groundwater unit where the pumping system is to be installed);
  - Depth to groundwater, groundwater flow directions, and horizontal and vertical gradients;
  - Distribution of groundwater contamination for all hydrogeologic units including contaminant contour maps;
  - Map depicting the site, groundwater contamination sources, all monitoring and extraction wells, the down gradient municipal well (or at least an arrow showing the direction and distance from other features), proposed pumping well, and re-injection well locations;
  - Well construction details for MW-71R;
  - Screened interval of down gradient municipal water supply well and any other wells that could be impacted by contamination; and
  - A general site conceptual model that discusses the contaminant distribution and migration characteristics.
2. As a corrective measure, the implementation of the Pump-and-Treat System should follow the guidance provided in US EPA's RCRA Corrective Action Plan (OSWER Directive 9902.3-2A). This guidance outlines the types of information that should be submitted to EPA to allow for evaluation of the Work Plan.

Some of the documentation that needs to be submitted includes:

- Corrective measures objectives;
  - Conceptual model of contaminant migration;
  - Project management;
  - Design criteria;
  - Design basis;
  - Waste management practices;
  - A complete operation and maintenance plan;
  - Final plans and specifications;
  - Construction work plan;
  - Health and safety plan; and
  - Public involvement plan.
3. It is not possible to evaluate whether the remedy is working without at least a minimal well network in this hydrostratigraphic unit. It will be critical to have a well network in the deep flow zone to define the extent of contamination and allow for evaluation of any remedial efforts. Without these wells, it is not possible to know whether the proposed pumping rate of 40 gpm is sufficient to remediate the deep flow zone. Revise the Work Plan to include installation and sampling of several monitoring wells in the deep flow zone. Alternatively, evaluate the possibility of using the two existing 300-foot USGS wells in the area as observation wells. The evaluation should include compiling available information about the location of these wells, their screened intervals, and any sampling results.
4. The discussion of the proposed step test does not provide sufficient detail. The method of measuring pumping rates is not described, and management of the extracted groundwater from the step test should be described further. It will be important to have sample results from the well prior to re-injecting the groundwater in the subsurface.

Likewise, there is no mention of plans to collect water level measurements in other monitoring wells during the step test. At this point, it is unclear whether the wells above the 4,800-foot clay layer will be impacted by pumping in the deep flow zone. If so, the proposed new extraction well may pull more contaminated groundwater deeper into the aquifer. Similarly, it is unclear how the location of the groundwater re-injection relates to the shallow groundwater contamination and whether it may impact migration or remediation in the shallow flow zones. Revise the Work Plan to include a more detailed description of the step test activities. Also discuss how the possible impacts of pumping and re-injection will be measured and evaluated.

## SPECIFIC COMMENTS

1. Introduction, Page 1, Paragraph 1: The second sentence in this paragraph mentions the “deep flow zone below the 4800-foot clay layer.” No further information is provided about these units. For example, it will be important to know the approximate thickness of the clay layer and whether it is laterally extensive. Revise the Work Plan to include a complete description of the 4,800-foot clay layer and the deep flow zone.
2. Pump-and-Treat System, Page 2, Paragraph 2: The proposed treatment system incorporates an activated carbon filter unit to remove any organic compounds. However, chromium contamination has also historically been a problem at the site. Discuss what contingencies will be in place if unacceptable levels of chromium are measured in the extracted groundwater.
3. The proposal only states that the well will be installed adjacent to the carbon filter unit and will be 100 to 150 feet deep with 50 to 100 feet of screen. A more detailed description should be provided. The wells in the vicinity of the proposed re-injection well are sampled either annually (MW-48, MW-55, and MW-56) or semi-annually (MW-67). Increasing the sampling frequency for these wells during the year of conducting the pump-and-treat operation must also be included.
4. Pump-and-Treat System, Page 2, Paragraph 2: Almost no detail is provided about the design and operation of the dry well to be installed for re-injection of the groundwater produced by the extraction well. Specific construction details along with discussion of any factors to be used in making field decisions during construction of the well should be provided.

It is also unclear why re-injection is being proposed rather than another method of disposal for the extracted groundwater. Depending on the location of the re-injected water, the migration of shallow contaminated groundwater or associated remedial actions may be impacted by the re-injection activities. Provide discussion about the relationship between the shallow groundwater contamination, re-injection activities, and the rationale for the proposal to re-inject the groundwater.

4. Operation and Sampling, Page 2, Paragraph 1: The proposed sampling includes analysis of volatile organic compounds (VOCs) and reporting of trichloroethene, 1,1-dichloroethene (1,1-DCE), and 1,1,1-trichloroethane (1,1,1-TCA) results. Since there may be other breakdown products due to biodegradation and it will be important to understand the water quality prior to re-injecting it, all VOCs should be reported with the sampling results.

Chromium is also proposed for sampling. Based on the operational history of the site, the management of wastes containing heavy metals occurred for several years and have been found in groundwater. Since the current proposal does not include any treatment of

metals in groundwater, it will be important to sample all metals that have been released at the site prior to re-injection.

This section also states, “The step-test results will be evaluated to determine the appropriate pumping rate for the system and to size the permanent pump for the well.” However, no detail is provided about what data will be collected during the step test, how the information will be evaluated and how the appropriate pump size will be determined. Revise the Work Plan to include more detail about how the step test data will be evaluated. Also revise the proposed sample parameters to include all VOCs and any appropriate metals.

5. Operation and Sampling, Page 3, Paragraph 2: This section discusses the sampling that will be performed but does not discuss any response actions that will be taken if the results suggest that contaminant concentrations in the effluent are above acceptable levels. Revise the Work Plan to include a list of contaminants and concentrations that will be used to evaluate the water quality results and discuss any contingencies for handling effluent that is not suitable for re-injection.
6. Potential Future Actions, Pages 3-4: The decision-making process for future actions is not well-defined. The first bullet indicates that pumping will be stopped if sampling results are below MCLs for more than three months after the first year. There are no contingencies for restarting the system if further sampling indicates that contaminant concentrations begin increasing.

The second bullet indicates that if MCLs are not reached by the end of the year, “an evaluation will be conducted to determine whether continued operation of the system should reduce the concentrations below MCLs.” Without a well network in the deep flow zone, it is unclear how such an evaluation could be accomplished.

The third bullet states if concentrations stabilize above MCLs or are increasing, “an investigation plan will be developed to obtain the data needed for assessing the risks associated with the presence of contaminants in the DFZ and/or for determining the appropriate remedial action.” This statement does not propose any specific response actions that would be taken. The Work Plan should clearly discuss actions that would be proposed, including additional investigation, monitoring and consideration of further remedial actions, should the proposed system not meet its objectives.

If contaminant concentrations stabilize at a level above MCLs or continue to increase during the one-year proposed pump-and-treat operation, then Sparton must install additional deep monitoring wells, and possibly additional containment wells. Sparton’s proposal to develop an investigation plan to assess the risks related to the presence of contaminants in the Deep Flow Zone is not sufficient. In the EPA/NMED/Sparton MW-71R technical dispute resolution discussions, both parties discussed the issue of, and agreed to the necessity of installing additional deep ground water monitoring/extraction

wells.

7. Required Permits, Page 4: This section does not discuss the purpose of each of the permits required for implementation of the proposed Work Plan. Provide at least a brief description of the purpose of each permit and the requirements for each permit.

It would also be helpful if the acronyms used for the approving agencies were defined.