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METRIC
Corporation ENVIRONMENTAL ENGINEERING AND SCIENCE

8429 WASHINGTON PLACE NE, SUITE A
ALBUQUERQUE, NEW MEXICO 87113
Phone: (505) 828-2801
Fax: (505) 828-2803

September 28, 2000

Michael Hebert, Sparton Technology, Inc. Project Coordinator
United States Environmental Protection Agency - Region VI
Technical Section (EN-HX)
Compliance Assurance and Enforcement Division
1445 Ross Avenue
Dallas, Texas 75202

Dear Mr. Hebert:

Enclosed are 3 copies of our Response to the August 9, 2000 Comments by USEPA and NMED on the "Sparton Technology, Inc. Design Plans and Specifications and Permits for the Source Containment System" At the Sparton Coors Road Plant Dated May 30, 2000.

I certify under penalty of law that the response was prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of either the person or persons who manage the system and/or the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I further certify, to the best of my knowledge and belief, that this document is consistent with the applicable requirements of the consent decree entered among the New Mexico Environment Department, the U.S. Environmental Protection Agency, Sparton Technology, Inc., and others in connection with Civil Action No. CIV 97 0206 LH/JHG, United States District Court for the District of New Mexico. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

METRIC Corporation

Gary L. Richardson, P.E.
Executive Vice President

GLR/rkh

cc: Director, Water and Waste Management Division, NMED
Chief, Hazardous Materials Bureau, NMED
Chief, Groundwater Bureau, NMED
Secretary, Sparton Technology, Inc., Jackson, MI
General Manager, Sparton Technology, Inc., Rio Rancho, NM
Tony Hurst, Hurst Engineering Services

Response to the August 9, 2000 Comments by USEPA and NMED on the "SPARTON TECHNOLOGY, INC. COORS ROAD PLANT FINAL OFF-SITE CONTAINMENT SYSTEM OPERATION AND MAINTENANCE MANUAL" May 30, 2000

General Comments:

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.**

The point of this comment is unclear. If the point is that someone cannot take the manual and operate the system, we disagree. In the absence of additional specific comments, we are unable to respond. Where specific concerns have been identified, we have responded. For example we have addressed the specific concern addressed in this comment on page 15, second paragraph under "Equipment Replacement Schedule" (new language).

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.**

Sparton has committed to the New Mexico Environment Department, Groundwater Bureau to install ion exchange chromium treatment at well CW-1. The chromium treatment will not be operational by September 23, 2000, the date these responses are due to EPA and NMED. Sparton will, within 60 days of getting the chromium treatment operational, submit amendments to the manual describing operational and maintenance issues related to the chromium treatment.

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.

See Page 7, top paragraph.

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 4,0000 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.**

See Page 7, third bullet.

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.**

See Page 9, fourth paragraph (new language).

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.**

See Page 21, paragraph 4 (new language).

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.**

See Page 21, paragraphs 5 and 6 (new language).

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.**

See Page 22, paragraph 3.

The Draft Revised Text of the Off-Site Containment System Operation and Maintenance Manual is attached.

ATTACHMENT L - SITE SAFETY AND HEALTH 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).**

The point of this comment is unclear. In the absence of additional specific comments, we are unable to respond. Where specific concerns have been identified, we have responded. For instance we have addressed the specific concerns addressed in this comment as follows:

See Page 1, Section 1.1 - Added sentence.
See Page 5, Section 3.1 - Added sentence.
See Pages 7 and 8, Section 3.3 - Revised to include noise and heat exposure.
See Pages 12 and 13, Section 5.2 - Revised.
See Page 14, Section 5.5 - Revised.

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.**

See Page 2, Section 1.2 - Added paragraph.

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.

See Pages 6 and 7, Table 3.1 and Section 3.3.1 - Revised to include chromium and remove methylene chloride.

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.**

See Pages 5 through 8, Section 3.0 - Revised.

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.**

See Page 10, Section 4.1 - Revised.

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.**

See Page 14, Section 5.5 - Revised.

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.**

See Pages 15 and 16, Table 5.1 - Revised.

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.**

See Page 23, Section 9.3 - Added sentence.

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.**

See Page 26, Table 10.1 - Revised.

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).**

See Page 26, Section 10.5 - Revised.

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.**

See Pages 26 and 27, Table 10.2 and Section 10.8 - Revised.

The Draft Revised Text of the Site Safety and Health Plan is attached.

DRAFT REVISED TEXT

SPARTON TECHNOLOGY, INC.
COORS ROAD FACILITY
FINAL
OFF-SITE CONTAINMENT SYSTEM
OPERATION AND MAINTENANCE MANUAL

PREPARED FOR
SPARTON TECHNOLOGY, INC.
RIO RANCHO, NEW MEXICO

PREPARED BY
METRIC CORPORATION
ALBUQUERQUE, NEW MEXICO

SEPTEMBER 2000

TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

LIST OF ATTACHMENTS

ATTACHMENT A	WELL AND PUMP LITERATURE
ATTACHMENT B	WATER TREATMENT BUILDING AS-BUILT PLANS, CERTIFICATE OF OCCUPANCY, AND SPACE HEATERS AND SUMP PUMPS LITERATURE
ATTACHMENT C	AIR STRIPPER LITERATURE
ATTACHMENT D	CHEMICAL FEED PUMP LITERATURE
ATTACHMENT E	AS-BUILT DRAWINGS FOR PHASE 1 AND PHASE 2 OF THE TREATED WATER PIPELINE
ATTACHMENT F	INFILTRATION GALLERY AS-BUILT PLANS
ATTACHMENT G	SPARTON TRANSMITTER RECEIVER PAIR SPARTON 5354 MONITORING SYSTEM
ATTACHMENT H	NEW MEXICO STATE ENGINEER OFFICE PERMIT RG-69659
ATTACHMENT I	ALBUQUERQUE/BERNALILLO COUNTY AIR QUALITY CONTROL BOARD AIR QUALITY SOURCE REGISTRATION NO. 00442
ATTACHMENT J	NEW MEXICO ENVIRONMENT DEPARTMENT DISCHARGE PLAN APPLICATION AND APPROVAL DP-1184
ATTACHMENT K	CW-1 OPERATION LOG
ATTACHMENT L	SITE SAFETY AND HEALTH PLAN

INTRODUCTION

During 1998 and 1999 Sparton Technology, Inc. installed, tested and began operation of an Off-Site Containment System near the leading edge of an off-site chlorinated solvents groundwater plume thought to be associated with past operations at its Coors Road Facility in Albuquerque, New Mexico. The Off-Site Containment System was installed, tested and is operated in accordance with the "Work Plan for the Off-Site Containment System", February 18, 1999, prepared by S. S. Papadopulos & Associates, Inc., Bethesda, Maryland.

The Off-Site Containment System consists of a containment well (CW-1), a water treatment building, a treated water pipeline, and an infiltration gallery as shown on FIGURE 1. The immediate objective of the Off-Site Containment System is to create a capture zone larger than the containment plume, thereby restricting migration of the plume to avoid additional contamination of groundwater above appropriate levels (see FIGURE 1).

CONTAINMENT SYSTEM DESCRIPTION

The containment well (CW-1) and water treatment facility are located at 9917 Benton Road NW, Albuquerque, New Mexico. The containment well is 367 feet deep and is equipped with 8 5/8 in. o.d. casing and a 25 hp Goulds submersible pump, as shown on FIGURE 2. The submersible pump control panel is located within the water treatment facility. The submersible pump is capable of producing up to 250 gal/min from the containment well. Well, submersible pump and control panel literature are contained in ATTACHMENT A.

As previously mentioned, CW-1 and the water treatment building are located at 9917 Benton Road NW, which is on Lot 9, Block 26 in the Knolls of Paradise Hills subdivision. FIGURE 3 is the utility plan for Lot 9. Underground electric power enters the northwest corner of the lot from the west. Switch gear and a transformer are

FIGURE 2

FIGURE 1

FIGURE 3

located along the north edge of the lot within a 7 ft. utility easement. A 6" PVC treated water pipeline exits Lot 9 at the center of the east property line and continues north along Benton Road.

The water treatment building, shown on FIGURE 3, houses an air stripper and associated equipment which removes chlorinated solvents from the groundwater. The As-Built plans for the water treatment building and the Certificate of Occupancy for the building are contained in ATTACHMENT B.

The air stripper, housed in the water treatment building (see FIGURE 4) is an EPG model STAT 400. It is designed to treat 300 gpm of water containing up to 1000 ppb of trichloroethene to below 5 ppb, or 225 gpm of water containing up to 5000 ppb of trichloroethene to below 5 ppb. Air stripper literature is contained in ATTACHMENT C.

The water treatment system includes a 550 gallon polyethylene chemical feed tank and a chemical metering pump (see FIGURE 4) which injects AQUA MAG (a sodium ortho/polyphosphate blend) into the flow at the inlet to the air stripper. AQUA MAG is injected at a rate of 0.75 ppm phosphate to inhibit precipitation of calcium carbonate in the air stripper, piping and the infiltration gallery. The primary purpose of the AQUA MAG is to lengthen the life of the infiltration gallery. Chemical feed pump literature is contained in ATTACHMENT D.

A 6-inch PVC treated water pipeline conveys the treated groundwater from the water treatment building along public and private rights of way (see FIGURE 1) about 2700 feet to the north to an infiltration gallery constructed in the bottom of the Calabacillas Arroyo. As-Built drawings for the two phases of the pipeline are contained in ATTACHMENT E.

The infiltration gallery has been sized to receive a maximum of 300 gpm of treated groundwater. The water placed in the infiltration gallery travels vertically through the

FIGURE 4

vadose zone back into the aquifer beyond the limits of the plume (see FIGURE 1). The infiltration gallery is anticipated to remain functional for ~~about~~ at least four years and, based on our recent experience with the gallery, it now appears it could last up to 20 years before it clogs and must be excavated and be replaced. When water level measurements in the infiltration gallery piezometer (PZ-G) are approaching 18.61 ft., contact, Gary Richardson, METRIC Corporation, and Jim Rodgers, Rodgers Plumbing and Heating, Inc. (see TABLE 2), to schedule a 6 - 8 week system outage to allow for replacement of the infiltration gallery. As-Built plans for the infiltration gallery are presented in ATTACHMENT F. The gallery will be reconstructed according to the As-Built plans.

The Off-Site Containment System is equipped with numerous safeguards to prevent release (to the surface or to the aquifer) of untreated groundwater. The main air stripper panel in combination with a Sparton 5354 monitoring system will shut off the submersible pump in well CW-1 if any of the following conditions occur:

- Low blower pressure resulting from electrical or mechanical failure of the air stripper blower.

- High air stripper sump level resulting from misadjustment of the discharge valve, or discharge pump failure.

- High building sump level resulting from a large leak in the air stripper or piping within the building. The high building sump level control will shut off the submersible pump when the water level reaches 9 ½ in. above the sump floor, which represents about 1600 gallons. The building sump has a capacity of about 4000 gal. ~~, which is about three times the maximum amount of water contained in the air stripper at any time.~~ If the high building sump level control shuts off the system with 1600 gal in the sump and the air stripper (1300 gal) drains into the sump, there will still be 1100 gal of freeboard.

- High infiltration gallery level caused by clogging of the gallery or saturation of the gallery resulting from a flood flow in the Calabacillas Arroyo where the gallery is located.

- Low chemical feed tank level.

When any of the above described or other conditions shuts off the submersible pump in well CW-1, the air stripper blower will subsequently shut off after a time delay to allow the water in transit in the air stripper to be treated. The submersible pump panel includes a Subtrol-Plus system to protect the submersible pump motor from overheating, high current or low current conditions.

The Sparton 5354 monitoring system will notify maintenance personnel immediately any time the submersible pump shuts off, via a cell phone link. The designated maintenance person will travel to the system location, evaluate the reason for the shutdown, rectify the problem and restart the Off-Site Containment System.

The Main Stripper Panel controls are described in ATTACHMENT C. The Sparton transmitter receiver pair and 5354 monitoring system are described in ATTACHMENT G, and the Subtrol-Plus system is described in ATTACHMENT A.

OPERATING PERMITS AND REPORTING REQUIREMENTS

The Off-Site Containment System is operated within the requirements of three permits.

The operation of containment well CW-1 is conducted under New Mexico State Engineer permit RG-69659. The permit allows diversion of up to 968 acre-feet per annum. No consumptive use is allowed. The permit requires that the amount of water diverted from the well be submitted to the Office of the State Engineer on or before the 10th day of each month for the preceding calendar month. New Mexico State Engineer office permit RG-69659 and supplemental information is contained in ATTACHMENT H.

The operation of the air stripper is conducted under Albuquerque/Bernalillo County Air Quality Control Board Air Quality Source Registration No. 00442 (see ATTACHMENT I). The registration allows operation of containment well CW-1 at a rate of up to 600 gpm. The registration requires quarterly performance testing and quarterly reporting within 30 days of the performance testing. The air emission limits are as follows:

VOC - 0.32 lbs/hr
- 1.37 tpy

Hazardous Air Pollutants
- 1,1,1 Trichloroethene
0.15 mg/m^3

- 1,1 Dichloroethylene
0.59 mg/m^3

Operation of the infiltration gallery is conducted under New Mexico Environment Department Discharge Plan Approval DP-1184 (see ATTACHMENT J) which allows discharge of up to 864,000 gpd of treated groundwater to the infiltration gallery to the infiltration gallery located in the Calabacillas Arroyo (see FIGURE 1).

The discharge plan approval requires monthly sampling and analysis of the air stripper effluent and quarterly monitoring and reporting of three monitoring wells (MW-74, MW-75, and MW-76 at locations shown in ATTACHMENT F) associated with the gallery.

The monitoring well parameter list is described in ATTACHMENT F, and the sampling procedures for the monitoring wells are described in ATTACHMENT A of the March 3, 2000 Consent Decree.

OPERATIONAL RESPONSIBILITIES

Operation and Maintenance of Off-Site Containment System is the responsibility of Richard Mico, General Manager of Sparton Technology, Inc., Rio Rancho, New Mexico. Day to day operation of the system has been assigned to ~~John Rose, Environmental Engineer~~ Don Gutierrez, Sparton Technology, Inc., Rio Rancho, New Mexico. Gary Richardson, METRIC Corporation, Albuquerque, New Mexico is retained to address operation and maintenance problems. Any time Sparton Technology, Inc. changes personnel who are assigned to the operation and maintenance of the system, the New Mexico Environment Department and the U.S. EPA will be notified within 30 days.

NORMAL OPERATION

Normal Startup Procedure

If the system was deliberately shut down, the following procedure should be used to start the system.

Main Air Stripper Panel

- Main Disconnect - On
- Alarm Reset - Press
- Discharge Pump HOA Switch - Auto
- Air Stripper Blower HOA Switch - Auto
- Submersible Pump HOA Switch - Auto

After placing Submersible Pump HOA Switch in Auto position, you have 10 seconds to perform the following:

Submersible Pump Panel

- Main disconnect - On
- HOA Switch - Hand
- Start Switch - Press

Normal Shutdown Procedure

Shut the system down for maintenance or repairs. The following procedure should be used.

Main Air Stripper Panel

- Submersible Pump HOA Switch - Off

The submersible pump in well CW-1 will stop, the stripper blower will continue to run for 1 or 2 minutes and then it will stop, and the discharge pump will continue to run until the

air stripper sump is pumped down to the low level float and then it will stop.

Each time the water treatment building is visited for performance of scheduled or unscheduled tests, the activities performed should be documented on CW-1 Operation Log forms provided in ATTACHMENT K.

Tasks Performed Two Times Per Week

The landscaping around the water treatment building includes 12 plants. These plants should be given 3 gallons of water each. The water used for these plants is hauled from the Coors Road facility or the Rio Rancho facility. Water from the Water Treatment Building shall not be used.

Tasks Performed One Time Per Week

- Sound the water level in infiltration gallery piezometer PZ-G (location shown in ATTACHMENT E). If water level measurement indicates water in the gallery is approaching 18.61 ft, the infiltration gallery is clogging and will need to be replaced.

- Read and record blower air pressure. It should be between 25 and 30 inches of water (Gauge 6). If it is outside these limits, identify and remedy the problem.

- Read and record discharge pump pressure. It should be between 0 and 10 psi (Gauge 7). If it is outside these limits, identify and remedy the problem.
- Red and record the pressure reducing valve inlet and outlet pressures (Gauges 8 and 9). The outlet pressure should be between 5 and 10 psi. If it is outside these limits, identify and remedy the problem.

- Read and record the time and the accumulative water meter (Gauge 10) readings. It is important to record the time at the moment the accumulative water meter is read.

- With a stopwatch, measure the time, in seconds, required for one revolution (100 gal) of flow on the accumulative water meter. Calculate the instantaneous flow using the following equation:

$$\frac{6000}{\text{sec/100 gal}} = \text{flow (gpm)}$$

The flow should be between 222 and 228 gpm. If it is not, adjust the inlet valve located just above the pressure reducing valve.

- Measure and record the time required for the water level in the sight glass on the air stripper to drop one inch with the discharge pump running. The time should be between 2 and 3 minutes. If it is not, adjust the outlet valve located in the vertical piping above the discharge pump.

- Measure and record the volume of AQUA MAG solution remaining in the chemical feed tank by interpolating between 100 gallon increments marked on the tank. If the volume remaining is less than 200 gal, mix more solution. The mixture is as follows:

7.6 gal AQUA MAG/100 gal solution

Water to mix the solution is treated water obtained from the air stripper discharge via the PVC piping which enters the top of the chemical feed tank.

- Calculate and record the volume of AQUA MAG solution consumed per day between the two most recent chemical feed tank volume measurements using the following equation:

- $\frac{\text{(tank volume between consecutive measurements)} \times 24}{\text{(number of hours between measurements)}}$ = volume of solution consumed per day

The system should consume between 15 and 18 gal/day of AQUA MAG solution. If the consumption is not within these limits, identify and remedy the problem. small variations can be remedied by adjusting the chemical feed pump.

- Record the quantity of pure AQUA MAG on hand. If the quantity is less than 110 gal, order additional. AQUA MAG is available from

  KRAFT Enterprises
  1409 Fairground Road, NBU 13
  Socorro, New Mexico 87801
  (505) 835-2948

- Clean the floor and remove any trash in the building.

- Inspect the outside of the building, landscaping and fence. If vandalism or damage has occurred, repair as necessary. The exterior stucco or trompe l'oeil have been vandalized, they can be touched up with Welborn brand Plasterbond exterior paint.

Tasks Performed One Time Per Month

- On the last day of each month (± one day), read and record the accumulative water meter (Gauge 10) for reporting to the New Mexico State Engineer Office.

- Sample air stripper influent and effluent for analysis and reporting to the New Mexico Environment Department, Groundwater Bureau.

- Shut the system down by turning the submersible pump HOA switch on the Main Stripper Panel to off. Wait for the blower and discharge pump to stop (5 min ±). Remove the inspection ports on each of the five trays and the air stripper sump and inspect with a flashlight for calcium carbonate encrustation or other debris. If encrustation is observed in the trays, they should be cleaned with a high pressure washer and a wet/dry vacuum. If cleaning of the trays through the inspection ports is not successful, it will be necessary to disassemble the stripper, using the gantry crane in the building, to clean the trays.

Tasks Performed One Time Per Quarter

- During February, May, August and November, monitor wells MW-74, MW-75, and MW-76 will be sampled and have the water levels measured.

Tasks Performed One Time Per Year

- During February each year, the oil must be changed in the chemical feed pump. The used oil is poured out of the pump and replaced with 750 ml of 30 w non-detergent oil.

SYSTEM TROUBLE SHOOTING, REPAIRS, AND SUPPLIES

Startup After Automatic Shutdown

Anytime the system is shut down by the automatic control system or by a power failure,

it is absolutely important for the responding technician to follow the following sequence:

- Document the status of the system including all alarms on the Main Stripper Panel, submersible pump panel, and the Sparton 5354 Monitoring System (see FIGURES 5, 6 and 7). Document water levels in the air stripper sump, building sump, and chemical feed tank. Document any other potentially relevant or unusual circumstances.

- Determine and document the cause(s) of the shutdown. TABLE 1 may be helpful in determining the cause(s) of the shutdown.

- Remedy the cause of the shutdown and restart the system.

For assistance with any trouble shooting, repairs or supplies, contact the people outlined in TABLE 2.

EQUIPMENT REPLACEMENT SCHEDULE

It is anticipated that mechanical equipment will need to be replaced at the following approximate intervals:

Well - redevelop	10 year
Submersible pump	10 year
Blower motor	10 year
Discharge pump	10 year
Infiltration gallery	4 year

If it is necessary to replace any equipment, contact the people outlined in TABLE 2 who supplied the original equipment.

FIGURE 5

FIGURE 6

FIGURE 7

TABLE 1

AUTOMATIC CONTROL SYSTEM LOGIC SUMMARY

Item	When it Runs	When it Stops
Submersible Pump	Main Stripper Panel HOA-Auto and Blower Pressure >9 H_2O and Submersible Pump Panel HOA - hand and START - press	Main Stripper Panel low blower pressure or high air stripper sump level or high building sump level or high infiltration gallery level or low chemical feed tank level or Submersible Pump Panel high motor temperature or high amps or low amps
Blower	Main Stripper Panel HOA - auto	Submersible Pump Stops (with delay)
Discharge Pump	HOA - auto and water in air stripper sump up to middle float	Water in air stripper sump down to bottom float or high infiltration gallery level
Sump Pumps (2)	High water level in pit and submersible pump on	Low water levels in pit or submersible pump off
Chemical Feed Pump	Submersible pump on	Submersible pump off

TABLE 2

ASSISTANCE WITH TROUBLE SHOOTING, REPAIRS OR SUPPLIES

Problem Area	Company	Phone #	Contact
General System Operation	METRIC Corp.	505-828-2801	Gary L. Richardson
Well Submersible Pump Pump Panel Pressure Reducing Valve Water Meter Chemical Feed Pump Sump Pumps	Rodgers & Co., Inc.	505-877-1030	Clarence Rodgers
Air Stripper	EPA Companies, Inc.	1-800-443-7426	Jim Bailey
Water Treatment Building	Ron Romero, Inc.	505-242-5760	Ron Romero
Electrical	DRB Electric	505-877-8500	Randy Baker
Piping and Treated Water Pipeline	Rodgers Plumbing & Heating, Inc.	505-243-9703	Jim Rodgers
Infiltration Gallery	METRIC Corp.	505-828-2801	Gary L. Richardson
5354 Monitoring System	Sparton Technology, Inc.	505-892-5300	John Hoover
AQUA MAG	KRAFT Enterprises	505-835-2948	Bob Kraft

WASTE MANAGEMENT

Waste generated by the Off-Site Containment System will be handled as follows:

AQUA MAG Drums - These will be cleaned and reused for collection of spent materials at Sparton's Rio Rancho facility.

Trash - This will be placed in the dumpster at Sparton's Coors Road Facility or Rio Rancho facility.

Used Oil - This will be recycled along with used oil generated at Sparton's Rio Rancho and Coors Road facilities.

Calcium Carbonate Encrustation - This material will be accumulated in a plastic bucket (about 1 ½ gal/yr) and analyzed for TCLP - chromium and TCLP - 8260. If the material does not exceed TCLP standards, it will be dried and placed in the dumpster at Sparton's Rio Rancho Facility. If the material exceeds TCLP standards it will be handled by a licensed waste transportation and disposal vendor.

Inoperable Equipment - Any inoperable equipment which has come in contact with untreated groundwater including submersible pumps, discharge pumps, and water piping will be steam cleaned in the air stripper building prior to leaving the site.

Decontamination and Purge Water - Water resulting from decontamination of equipment or purging of monitoring wells is discharged to the building sump and pumped to the inlet side of the air stripper by the sump pump for treatment by the air stripper.

Well Redevelopment Waste Water - This will be decanted and neutralized at the site and treated through the air stripper.

CONTINGENCY PLANS

Should monthly air stripper effluent testing indicate that the stripper effluency is declining, the stripper will be cleaned and repaired as necessary to maintain the treatment efficiency.

Should weekly water level measurements in the infiltration gallery piezometer (PZ-G) indicate the gallery is clogging, provisions will be made to repair or replace the gallery as necessary.

~~Should~~ As unforeseen operational issues or problems arise, these will be defined, solutions will be developed and implemented, and this plan will be revised as necessary.

HEALTH AND SAFETY PLAN

A health and safety plan for operation of the Off-Site Containment System is contained in ATTACHMENT L.

DRAFT REVISED TEXT

SITE
SAFETY AND HEALTH
PLAN

SPARTON TECHNOLOGY, INC.
COORS ROAD PLANT
OFF-SITE CONTAINMENT SYSTEM
OPERATION

~~JUNE 1999~~

SEPTEMBER 2000

Signature Page

By signing below I certify that I have read and understand the contents of this Health and Safety Plan, and that I agree to abide by all requirements contained herein.

Printed Name	Signature	Organization	Date

Signature Page

By signing below I certify that I have read and understand the contents of this Health and Safety Plan, and that I agree to abide by all requirements contained herein.

Printed Name	Signature	Organization	Date

TABLE OF CONTENTS

LIST OF TABLES

APPENDICES

1.0 INTRODUCTION

This section of the site health and safety plan defines general applicability and general responsibilities with respect to compliance with health and safety programs.

1.1 Scope and Applicability of the Site Health and Safety Plan

The purpose of this site health and safety plan is to define the requirements and designate protocols to be followed at the site during operation and maintenance of the off-site containment system, including air stripper influent and effluent sampling and the infiltration gallery monitor well sampling. Applicability extends to all contractors, subcontractors, and visitors.

All personnel performing operation and maintenance on site, contractors and subcontractors included, shall be informed of the site emergency response procedures and any potential fire, explosion, health, or safety hazards of the operation. This health and safety plan summarizes those hazards in TABLE 3.1, and defines protective measures planned for the site.

This plan must be reviewed and an agreement to comply with the requirements must be signed by all personnel prior to collecting waste samples or disassembling any equipment for maintenance.

During development of this plan consideration was given to current safety standards as defined by **EPA/OSHA/NIOSH**, health effects and standards for known contaminants, and procedures designed to account for the potential for exposure to unknown substances. Specifically, the following reference sources have been consulted:

- **OSHA 29 CFR 1910.120 and EPA 40 CFR 311**
- **NIOSH Pocket Guide to Chemical Hazards**

- **(ACGIH) Threshold Limit Values - 1992**
- **OSHA 29 CFR 1910.1001 and 1926.58**
- **PSJA 29 CFR 1910.1200**
- **AIHA Respiratory Protection - A Manual and Guideline 2nd Ed.**
- **NIOSH/OSHA/USCG/EPA Occupational Safety and Health Manual for Hazardous Waste Site Activities**
- **EPA Standard Operating Safety Guides - Office of Emergency and Remedial Response**
- **State of New Mexico - Hazardous Materials Emergency Response Plan Procedures Manual**

1.2 Visitors

All visitors entering the site during performance of maintenance activities (repairing the well or the submersible pump, or cleaning the air stripper) will be required to read and verify compliance with the provisions of this health and safety plan. In addition, visitors will be expected to comply with any applicable **OSHA** requirements. Visitors will also be expected to provide their own protective equipment (if applicable).

In the event that a visitor does not adhere to the provisions of the health and safety plan, he/she will be requested to leave the work area. All non-conformance incidents will be recorded in the site log.

Site security and safety measures for trespassing consist of a 3' high chain link fence posted with signs stating "NO TRESPASSING VIOLATORS WILL BE PROSECUTED". Access gates through the fence are secured with a chain and pad lock. The building's garage door is secured by a bolt which can only be opened from inside the building. The main access door is secured by a deadbolt. Automatic night time exterior lighting is provided.

2.0 KEY PERSONNEL / IDENTIFICATION OF HEALTH AND SAFETY PERSONNEL

2.1 Key Personnel

The following personnel and organizations are critical to the planned activities at the Site. The organizational structure will be reviewed and updated periodically by the Site Supervisor.

SPARTON TECHNOLOGY, INC.

Richard Mico

~~John Rose~~

Don Gutierrez

METRIC Corporation

Gary L. Richardson

Don Briggs ~~Peter Metzner~~

Peter Metzner ~~Don Briggs~~

2.2 Site Specific Health and Safety Personnel

The Site Health and Safety Officer **(HSO)** has total responsibility for ensuring that the provisions of this health and safety plan are adequate and implemented in the field. Changing field conditions may require decisions to be made concerning adequate protection programs. Therefore, it is vital that personnel assigned as **HSO** be experienced and meet the additional training requirements specified by **OSHA** in **29 CFR 1910.120**. The **HSO** is also responsible for conducting site inspections on a regular basis in order to ensure the effectiveness of this plan.

The **HSO** at the site is ~~John Rose~~Gary Richardson

Designated alternates include:

Don Gutierrez

Don Briggs

2.3 Organizational Responsibility

Site Supervisor: The site supervisor is responsible for overall site management and coordination of work performed under this health and safety plan.

SPARTON, either in the capacity as On-Scene Coordinator **(OSC)**, or Site Inspection Officer **(SIO)**, is responsible for overall project administration and contractor oversight. As a part of that oversight function, **SPARTON**, through the **HSO**, will ensure that project plans meet **OSHA** requirements at a minimum, and that the health and safety of all site personnel is a primary concern.

The Site Supervisor is ~~Gary Richardson~~ Don Gutierrez

3.0 TASK/OPERATION SAFETY AND HEALTH RISK ANALYSIS

3.1 Historical Overview of Site

The Sparton facilityCoors Road Plant is sited on an approximate twelve-acre parcel of land located on the northwest side of Albuquerque, on State Highway 448, known locally as Coors Road, approximately 0.75 miles north of the intersection of Coors Road and Paseo del Norte (FIGURE 1, APPENDIX A).

The Sparton facility began operation in 1961. Through 1994, electronic components, including printed circuit boards, were manufactured at the site. Since 1994, Sparton has continued to operate the machine shop at the facility in support of manufacturing conducted at the company's Rio Rancho plant and other locations. Manufacturing process wastes were accumulated on-site originally in a concrete basin and later in lined containment ponds.

From 1983 until 1999, investigation of the nature and extent of the contamination has been on-going. Based on groundwater analysis, the primary constituents of concern appear to include trichloroethylene (TCE) and 1,1,1-trichloroethane (TCA), with lesser amounts of methylene chloride (MeCL), acetone, and 1,1-dichloroethylene (DCE). Various metals have also been detected in both soil and groundwater samples. Historically, chromium has the highest frequency of occurrence at elevated concentrations.

The off-site containment system (Site) (operation and maintenance covered by this plan) is located in the water treatment building located at 9917 Benton Road NW Albuquerque, NM.

3.2 Task by Task Risk Analysis

The evaluation of hazards is based upon the knowledge of site background presented in

Section 3.1, and anticipated risks posed by the specific operation.

The following subsections describe each location/operation in terms of the specific hazards associated with it. In addition, the protective measures to be implemented during completion of those operations are also identified.

The work site consists of the water treatment building location at 9917 Benton Rd. N.W. (FIGURE 2, APPENDIX A) and the infiltration gallery located in the Calabacillas Arroyo. The project consists of operating, monitoring and maintaining the Off-Site Containment System.

TABLE 3.1 provides a summary of chemical hazards and samplingsafety measures planned for each task at the Site.

TABLE 3.1

TASK ANALYSIS

CHEMICAL HAZARDS OF CONCERN

Source	Routes of Exposure	Contaminant	Hazard Minimization Measures
1. Sampling untreated water	Dermal	TCE TCA ~~MeCLCr~~ DCE	Wear protective gloves when sampling (nitrile or other)
2. Repairing well, submersible pump or air stripper	.....Same as Source 1.....		
3. Mixing AQUA MAG	Dermal	AQUA MAG*	Wear protective gloves when handling (nitrile or other)

* See MSDS sheet APPENDIX B. RCRA status of unused material non-hazardous 40 CFR 116-117.

3.3 Task Hazard Descriptions

3.3.1 Sampling Untreated Water

Hazards encountered during water sampling are as follows:

- Contact with chemical contaminants in the PPB range.

- Exposure to TCE, TCA, DCE, or ~~MeCLCr~~ during sampling.

- Short term exposure to noise levels above 85 dBA but below 90 dBA during air stripper sampling.

HAZARD PREVENTION

- Use of protective gloves (nitrile or other) when collecting water samples.

- Use of hearing protection when sampling air stripper influent and effluent

3.3.2 Repairing Well, Submersible Pump, or Air Stripper

Hazards encountered during equipment repair include chemical and physical agents, and are as follow:

- Exposure to TCE, TCA, DCE or ~~MeCLCr~~ while removing the pump from the well or cleaning or repairing the air stripper.

- Back strain, head injuries, falls, foot crushing and other injuries from falling objects associated with submersible pump removal and installation activities.

- Electrical shock from handling electric wiring and equipment.

- Exposure to noise levels above 85 dBA while working near operating air stripper.

- Exposure to extreme temperatures while working outdoors.

HAZARD PREVENTION

- Use of personal protective gloves (nitrile or other) and splash aprons when potentially contaminated water must be touched. An emergency eyewash station is provided in the air stripper building.

- Proper lifting (proper positioning, use of legs, multiple personnel) techniques to prevent back strain.

- Hard hats, steel toed boots and safety glasses will be worn by all personnel within 50 feet of the pump service rig.

- A steel pipe guardrail is provided in the air stripper building to prevent falls into the building sump.

- Use of lockout/tagout procedures to prevent electrical shock.

- Hearing protection is provided in the air stripper building for use when working for extended periods (> 4 hrs.) within 10 feet of operating air stripper.

- Use of protective clothing (coats and gloves) for cold temperatures and use of portable shades for hot temperatures for well sampling operations. Temperatures inside the treatment building are moderated by the flow of water through the air stripper system (cooling) and electric heaters.

3.3.3 Mixing AQUA MAG

While the RCRA status of AQUA MAG is non hazardous, good industrial hygiene suggests wearing protective gloves (nitrile or other) when handling the product.

4.0 PERSONNEL TRAINING REQUIREMENTS

Consistent with **OSHA's 29 CFR 1910.120** regulations, **OSHA** 24 hour and **OSHA** 40 hour training are not required of site personnel. In recognition of potential and perceived risks during this activity, at least one person with **OSHA** 40 hour training shall be on-site when maintenance work is conducted. Also, all personnel are required to be informed about the known hazards on site and shall be required to read this health and safety plan, and sign a statement to that affect, prior to commencing maintenance work on this project.

4.1 Training and Briefing Topics

When maintenance activities are being conducted, the following items will be discussed by a qualified individual at the site pre-entry briefing(s), as well as daily or periodic site briefings.

Training	Frequency
Personnel assignments and duties	Daily
Pump Service Rig	Weekly
Personnel protective equipment Sec. 5.0	WeeklyDaily

5.0 PERSONAL PROTECTIVE EQUIPMENT TO BE USED

This section describes the general requirements of the EPA and OSHA designated Levels of Protection (A-D), and the specific levels of protection required for each task at the Site.

~~All personnel on the work sites within an exclusion zone (i.e. within 50 ft. of the rig) will be required to wear hardhats, eye protection and steel toe shoes.~~

5.1 Levels of Protection

Personnel must wear protective equipment when response activities involve known or suspected atmospheric contamination, when vapors, gases, or particulates may be generated by site activities, or when direct contact with skin-affecting substances may occur. Full facepiece respirators protect lungs, gastrointestinal tract, and eyes against airborne toxicants. Chemical-resistant clothing protects the skin from contact with skin-destructive and absorbable chemicals.

The specific levels of protection and necessary components for each have been divided into four categories according to the degrees of protection afforded:

Level A: Should be worn when the highest level of respiratory, skin, and eye protection is needed.

Level B: Should be worn when the highest level of respiratory protection is needed, but a lesser level of skin protection. Level B is the primary level of choice when encountering unknown environments.

Level C: Should be worn when the criteria for using air-purifying respirators are met, and a lesser level of skin protection is needed.

Level D: Should be worn only as a work uniform and not in any area with respiratory or skin hazards. It provides minimal protection against chemical hazards.

Modifications of these levels are permitted, and routinely employed during site work activities to maximize efficiency. For example, Level C respiratory protection and Level D skin protection may be required for a given task. Likewise the type of chemical protective ensemble (i.e., material, format) will depend upon contaminants and degrees of contact.

The Level of Protection selected is based upon the following:

- Type and measured concentration of the chemical substance in the ambient atmosphere and its toxicity.

- Potential for exposure to substances in air, splashes of liquids, or other direct contact with material due to work being done.

- Knowledge of chemicals on-site along with properties such as toxicity, route of exposure, and contaminant matrix.

In situations where the type of chemical, concentration, and possibilities of contact are not known, the appropriate Level of Protection must be selected based on professional experience and judgment until the hazards can be better identified.

The specific level(s) of protection to be used in this project are described below.

5.2 ~~Level D~~ Personnel Protective Equipment

~~Required~~Level D PPE is required minimum for all personnel within the pump service rig exclusion zone (i.e. within 50 ft. of the rig) when submersible pump maintenance

operations are being performed.

- Boots/shoes, leather or chemical-resistant, steel toe
- Safety glasses
- Hard hat
- Nitrile or equivalent inner gloves. Leather outer gloves.

Level D Modified PPE is required for monitor well sampling operations.

- Boots/shoes, leather or chemical-resistant, steel toe
- Nitrile or equivalent gloves

Level D Modified PPE is required for air stripper maintenance and sampling operations.

- Nitrile or equivalent gloves

5.3 Reassessment of Protection Program

The Level of Protection provided by **PPE** selection shall be upgraded or downgraded by the **HSO** based upon a change in site conditions or findings of investigations. When a significant change occurs, the hazards should be reassessed. Some indicators of the need for reassessment are:

- Commencement of a new work phase~~, such as the start of soil removal, or work that begins on a different portion of the site~~.
- Change in job tasks during a work phase.
- Change of season/weather.

- When temperature extremes or individual medical considerations limit the effectiveness of PPE.

5.4 Work Mission Duration

Before the workers actually begin work in their PPE ensembles, the anticipated duration of the work task should be established. Several factors limit the length, workers can work each day including:

- Ambient temperature and weather conditions (heat stress, cold stress).

- Capacity of personnel to work in PPE.

5.5 Chemical Resistance and Integrity of Protective Material

The following specific clothing materials are recommended for the site:

Monitor Well ~~and vapor probe installation~~ sampling (Level D - Modified)

Gloves - Work: cloth or leather

Sample handling: Nitrile

Boots - Steel Toe

~~Soil~~Air Stripper sampling - (Level D - Modified)

Gloves - Nitrile

~~Boots - Steel Toe~~

~~Level C - Modified PPE will require the items described above with the addition of half-mask air purifying respirator fitted with combination (OV and particulate) cartridges.~~

5.6 Standard Operating Procedures for Personal Protective Clothing

Proper inspection of PPE features several sequences of inspection depending upon specific articles of PPE and its frequency of use. The different levels of inspection are as follows:

Gloves

Before use:

- Visually inspect for:
- imperfect seams
- tears, abrasions
- non-uniform coating

5.7 Specific Levels of Protection Planned for the Site

The following levels of protection will be utilized during activities at the Site.

- Level D - Modified ~~Level D~~
- Level D ~~- Level D - Modified~~

TABLE 5.1 presents the level of protection planned for the completion of individual task assignments and the specific components of each protective ensemble.

TABLE 5.1

SPECIFIC LEVELS OF PROTECTION PLANNED FOR THE TASK ASSIGNMENTS AT THE SITE

Level A Tasks

- No activities

Level B Tasks

- No activities

Level C Tasks

- No activities

Level D - Modified Tasks ~~Level D Tasks~~

- Sampling untreated water ~~No Activities~~
- Repairing containment well pump, air stripper
- Mixing Aqua Mag
- Well sampling

Level D Tasks ~~Level D - Modified Tasks~~

- Pump service rig exclusion zone ~~Sampling untreated water requiring well, submersible pump, air stripper~~

6.0 MEDICAL SURVEILLANCE REQUIREMENTS

Medical monitoring programs are designed to track the physical condition of employees on a regular basis, as well as survey pre-employment or baseline conditions prior to potential exposures.

Because exposure and sampling data do not exceed **OSHA** Permissible Exposure Limits, or action levels (nor are they expected to), a medical surveillance program will not be implemented as part of this project as allowed by **29 CFR 1910,120 (f)(2)**.

6.1 Exposure/Injury/Medical Support

As a follow-up to an injury or possible exposure above established exposure limits, all employees are entitled to and encouraged to seek medical attention and physical testing. Depending upon the type of exposure, it is critical to perform follow-up testing within 24-48 hours. It will be to the employer's medical consultant to advise the type of test required to accurately monitor for exposure effects.

7.0 FREQUENCY AND TYPES OF PERSONAL AIR MONITORING/SAMPLING

This section explains the general concepts of an air monitoring program. No surveillance activities are proposed during maintenance activities at the Site. If, however, in the opinion of the HSO air monitoring becomes warranted, it will be initiated.

The purpose of air monitoring is to identify and quantify airborne contaminants in order to verify and determine the level of worker protection needed. Initial screening for identification is often qualitative, i.e., the contaminant, or the class to which it belongs, is demonstrated to be present but the determination of its concentration (quantification) must await subsequent testing. Two principal approaches are available for identifying and/or quantifying airborne contaminants:

- The on-site use of direct-reading instruments.

- Laboratory analysis of air samples obtained by gas sampling bag, collection media (i.e., filter, sorbent), and/or wet-contaminant collection methods, if needed.

7.1 Direct-Reading Monitoring Instruments

Unlike air sampling devices, which are used to collect samples for subsequent analysis in a laboratory, direct-reading instruments provide information at the time of sampling, enabling rapid decision-making. Data obtained from the real-time monitors are used to assure proper selection of personnel protection equipment, engineering controls, and work practices. Overall, the instruments provide the user the capability to determine if site personnel are being exposed to concentrations which exceed exposure limits or action levels for specific hazardous materials.

Of significance importance, especially during initial entries, is the potential for IDLH conditions or oxygen deficient atmospheres. Real-time monitors can be useful in identifying IDLH conditions, toxic levels of airborne contaminants, flammable atmospheres, or radioactive hazards. Periodic monitoring of conditions is critical, especially if exposures may have increased since initial monitoring or if new site activities have commenced..

TABLE 7.1 excerpted from Occupational Safety and Health Guidelines for Hazardous Waste Site Activities, provides an overview of available monitoring instrumentation and their specific operating parameters.

TABLE 7.1

SOME DIRECT-READING INSTRUMENTS FOR GENERAL SURVEY

Instrument: Ultraviolet (UV) Photoionization Detector (PID) Example: HNU.

Hazard Monitored: Many organic and some inorganic gases and vapors.

Application: Detects total concentration of many organic and some inorganic gases and vapors. Some identification of compounds is possible if more than on eV probe is measured.

Detection Method: Ionizes molecules using UV radiation; produces a current that is proportional to the number of ions.

General Care/Maintenance: Test and recharge or replace weak batteries. Regularly clean lamp window. Regularly clean and maintain the instrument and accessories.

Typical Operating Time: 10 hours. 5 hours with strip chart recorder.

Instrument: Flame Ionization Detector (FID). Example: OVA

Hazard Measured: Same as PID

Application: Detects total concentration of many organic and some inorganic gases and vapors.

Detection Method: The FID uses ionization as the detection method, much the same as in the HNU, except that the ionization is caused by a hydrogen flame, rather than a UV light. This flame has sufficient energy to ionize any organic species with an IP of 15.4 or less. The ions are then passed between two charged plates. The conductivity change is measured and the current charge is displayed on an external meter, and read in parts per million.

General Care/Maintenance: Test and recharge or replace weak batteries. Regularly clean and maintain the instrument and accessories.

Typical Operating Time: 16 hours.

8.0 SITE CONTROL MEASURES

The following section defines measures and procedures for maintaining site control. Site control is an essential component in the implementation of the site health and safety program.

8.1 Site Communications Plan

Successful communications between field teams and contact with personnel in the support zone is essential. The following communications systems will be available during activities at the Site.

- Hand Signals

Signal	Definition
Hands clutching throat	Out of air/cannot breath
Hands on top of head	Need assistance
Thumbs up	OK/I am alright/I understand
Thumbs down	No/negative
Arms waving upright	Send backup support
Grip partners wrist	Exit area immediately

8.2 Work zone Definition

The two general work zones established for this project are the Exclusion Zone, and the Support Zone.

The Exclusion Zone is defined as the area where low level contamination is possible or because of activity, will provide a potential to cause harm to personnel due to safety hazards. Entry into the Exclusion Zone requires familiarity with this Health and Safety Plan

and the use of any required personnel protective equipment. The Exclusion Zone consists of a 50 ft. radius around the pump service rig and the interior of the treatment building..

The Support Zone is situated in clean areas where the chance to encounter hazardous materials or conditions is minimal. Personal protective equipment is not required in the Support Zone.

8.3 Nearest Medical Assistance

FIGURE 2 (APPENDIX A) provides a map of the route to the nearest medical facility which can provide emergency care for individuals who may experience an injury or exposure on-site. The need for medical assistance is determined by the **HSO** and the route to the hospital should be verified by the **HSO**. This route should be familiar to all site personnel.

8.4 Safe Work Practices

TABLE 8.1 provides a list of standing orders for the Exclusion Zone.

TABLE 8.1

STANDING ORDERS FOR EXCLUSION ZONE

- No smoking, eating, or drinking in this zone.
- No horse play.
- Implement the communications system.
- Line of sight must be in position.
- Wear the appropriate level of protection as defined in the Safety Plan.

8.5 Emergency Alarm Procedures

The warning signals described in section 10.4 "Evacuation Routes and Procedures," will be deployed in the event of an emergency. Communication signals will also be used according to Section 8.2.

Peter Metzner

Don Briggs

Don Gutierrez

10.3 Emergency Recognition/Prevention

TABLE 3.1 provides a listing of chemical hazards on-site. Additional hazards as a direct result of site activities are listed in TABLE 10.1, as are prevention and control techniques/mechanisms. Personnel will be familiar with techniques of hazard recognition from pre-assignment training and site specific briefings. The **HSO** is responsible for ensuring that prevention devices or equipment are available to personnel.

10.4 Evacuation Routes/Procedures

In the event of an emergency which necessitates an evacuation of the site, the following alarm procedures will be implemented:

THREE CONSECUTIVE (5 SECOND) BLASTS ON THE AIR HORN

Personnel will be expected to evacuate the area immediately, ~~proceed to the closest exit,~~ and move to the safe distance area associated with the evacuation route. Personnel will remain at that area until the Re-entry alarm **(Three 5 second blasts on an air horn)** is sounded or the **HSO** authorizes or provides further instructions.

~~FIGURE 2 (APPENDIX A) depicts evacuation routes for the site and immediate area.~~

TABLE 10.1

EMERGENCY RECOGNITION/CONTROL MEASURES

Specific Condition/ Hazard	Location	Prevention/Control
Fire/Explosion	All Areas	Fire extinguisher Fire Inspections
Spill	Air Stripper ~~Berms/Dikes~~ ~~Ponds~~	Automatic Controls Building Sump ~~Shovels~~

10.5 Emergency Contact/Notification System

TABLE 10.2 provides names and telephone numbers for emergency contact personnel. In the event of a medical emergency, personnel will take direction from the **HSO** and notify the appropriate emergency organization. In the event of a fire or spill, the site supervisor will notify the appropriate local, state, and federal agencies. See Section 10.8 for emergency equipment and facilities.

TABLE 10.2

EMERGENCY TELEPHONE NUMBERS

Organization	Contact	Telephone
Ambulance:		911
Police:		911
Fire:		911
SS	Don Gutierrez	892-5300
HSO	Gary Richardson	828-2801
Alternate	Don Briggs	828-2801
Alternate	Pete Metzner	828-2801
State Police:	Albuquerque District Office	841-9256
Hospital 1:	St. Joseph West Mesa	~~893-2050~~ 727-2000
Hospital 2:	UNM	~~843-2411~~ 272-2111

Poison Control Center	~~(800) 432-6866~~272-2222
National Response Center	(800) 424-8802
Center for Disease Control	(404) 633-5313
Chemtrec	(800) 424-9555

10.6 Emergency Medical Treatment Procedures

No special decontamination procedures are required for emergency medical treatment at this site. Also, special training is not required for medical emergency response personnel needing access to this site.

10.7 Fire or Explosion

In the event of a fire or explosion, the local fire department should be summoned immediately. Upon fire department arrival, the project manager or designated alternate will advise the fire commander of the location, nature, and identification of the hazardous materials on-site.

If the **HSO** or Site Supervisor deems it safe to do so, site personnel may:

- Use fire fighting equipment (hand-held fire extinguishers) available on-site to control or extinguish the fire; and,
- Remove or isolate flammable or other hazardous materials which may contribute to the fire.

10.8 Emergency Equipment/Facilities

A fire extinguisher ~~is~~, emergency eye wash station, first aid kit and telephone are maintained in the water treatment building.

11.0 DRUM HANDLING PROGRAM

The procedures defined in this section comprise the drum handling program in place for activities at the Site.

- All drums and containers used during the project shall meet the appropriate **DOT**, **OSHA**, and **EPA** regulations for the waste that they will contain.

- Drums and containers shall be inspected and their integrity assured prior to being moved. Drums or containers that cannot be inspected before being moved because of storage conditions, shall be positioned in an accessible location and inspected prior to further handling.

- Operating on site will be organized so as to minimize the amount of drum of container movement.

- Employees involved in the drum or container operations shall be warned of the hazards associated with the containers.

- Drums or containers that cannot be moved without failure, shall be emptied into a sound container.

- Fire extinguishing equipment meeting 29 CFR part 1910. subpart L shall be on hand and ready for use to control fires.

- Drum handling will be conducted using a buddy system or with the use of mechanical assistance.

APPENDIX A
PROJECT MAPS

APPENDIX B

MSDS SHEET FOR AQUA MAG