

New Mexico Environment Department
April 2026

Sparton Technology, Inc.
NMD083212332

SPARTON TECHNOLOGY INC.

**Resource Conservation and Recovery Act
Post-Closure Care Permit
EPA ID No. NMD083212332**

April 2026

**Prepared by the
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East Building 1
Santa Fe, New Mexico, 87505**

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PERMIT PART 1 GENERAL PERMIT CONDITIONS AND REQUIREMENTS

1.1 EFFECT OF PERMIT

The Secretary of the New Mexico Environment Department (Secretary) issues this Post-Closure Care Permit (Permit) to Sparton Technology, Inc. (Sparton or Permittee), the owner and former operator of the Coors Road Plant, Albuquerque, NM (Site) (EPA ID. No. NMD083212332). This Permit is limited in scope to activities related to the capped surface impoundment area (Facility) and the Site as set forth herein. All corrective action activities at the Facility or Site shall be governed and enforced under the Consent Decree, Civil Action No. Civ 97 0206 LH/JHG, filed March 3, 2000.

This Permit also establishes the general and specific standards limited to the capped surface impoundment area, pursuant to the New Mexico Hazardous Waste Act (HWA), NMSA 1978, Sections 74-4-1 et seq., and the New Mexico Hazardous Waste Management Regulations, 20.4.1.100 NMAC (New Mexico Administrative Code) et seq.

This Permit shall be effective for ten years from the date of issuance by the Secretary and comply with 20.4.1.900 NMAC (incorporating 40 CFR 270.50 (a)).

Compliance with this Permit during its term shall constitute compliance, for purposes of enforcement, with Subtitle C of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq., the HWA, and their implementing regulations, except as otherwise specified at 20.4.1.900 NMAC (incorporating 40 CFR 270.4(a)). Compliance with this Permit shall not constitute a defense to any order issued or any action brought under Sections 74-4-10, 74-4-10.1, or 74-4-13 of the HWA; Sections 3008 (a), 3008 (h), 3013, 7002 (a) (1) (B), or 7003 of RCRA; Sections 104, 106 (a), 107, or 196 (a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601 et seq.; or any other law providing for protection of public health or the environment. This Permit does not convey any property rights of any exclusive privilege, nor authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local laws or regulations pursuant to 20.4.1.900 NMAC (incorporating 40 CFR 270.4 and 270.30 (g)).

This Permit consists of Permit Parts 1 through 4 and Attachments A through L. The Permittee shall comply with the post-closure care limited to the capped surface impoundment, and other activities and standards as specified in the Permit.

1.1.1 Citations

Whenever the Permit cites a provision of 20.4.1 NMAC or 40 CFR the Permit shall be deemed to incorporate the citation by reference, including all subordinate provisions of the cited provision, and make binding the full text of the cited provision.

Hazardous waste management regulations are frequently cited throughout this Permit. The federal Hazardous Waste Management Regulations, 40 CFR Parts 260 through 273 are generally cited rather than the New Mexico Hazardous Waste Management Regulations, 20.4.1.100 through 20.4.1.900 NMAC. The federal regulations are cited because only the

federal regulations set forth the detailed regulatory requirements; the State regulations incorporate by reference, with certain exceptions, the federal regulations in their entirety. Citing only the federal regulations also serves to avoid encumbering each citation with reference to two sets of regulations. However, it is the State regulations that are legally applicable and enforceable. Therefore, for the purpose of this Permit and enforcement of its terms and conditions, all references to provisions of federal regulations that have been incorporated into the State regulations shall be deemed to include the State incorporation of those provisions.

1.2 PERMIT ACTIONS

1.2.1 Permit Modification, Revocation and Reissuance, and Termination

This Permit may be modified, suspended, and/or revoked for cause, as specified in Section 74-4-4.2 of the HWA and 40 CFR 270.41, 270.42, and 270.43. If at any time NMED determines that cause for modification, revocation, and reissuance of the Permit exist under 40 CFR 270.41, NMED may initiate a modification to the Permit, revoke and reissue the Permit, in accordance with those sections. The initiation of a modification to the Permit, revocation or reissuance of the Permit does not stay the applicability or enforceability of any Permit Condition. The filing of a request for a Permit modification, suspension, or revocation, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any permit condition pursuant to 40 CFR 270.4 (a) and 270.30 (f).

1.2.1.1 Modification of the Permit by the Permittee

As set forth at 40 CFR 270.42, the Permittee may request a modification of the Permit at any time. The filing of a request for a Permit modification or the notification of planned changes on the part of the Permittee does not stay the applicability or enforceability of any Permit condition. Modifications to the Permit do not constitute a reissuance of the Permit.

1.2.2 Permit Renewal

The Permittee shall renew this Permit by submitting an application for a new permit at least 180 days before the expiration date of this Permit, in accordance with 40 CFR 270.10(h) and 270.30(b) and Permit Condition 1.5.2. In reviewing any application for a permit renewal, the Secretary shall consider improvements in the state of control and measurement technology and changes in applicable regulations.

1.2.3 Property Rights

This Permit does not convey any property rights of any sort, or any exclusive privilege pursuant to 40 CFR 270.30(g).

1.3 SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, such provision(s) will not affect other Permit provisions that are valid. All other provisions of the Permit remain fully effective and enforceable.

1.4 DEFINITIONS

For the purposes of this Permit, terms used herein shall have the same meanings as those in the New Mexico Hazardous Waste Act (HWA), Resource Conservation and Recovery Act (RCRA), and/or their implementing regulations, unless this Permit specifically provides otherwise. Where a term is not defined in HWA, RCRA, pursuant regulations, Environmental Protection Agency (EPA) guidelines or publications, or this Permit, the meaning associated with such a term shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

"Area of Concern (AOC)" for purposes of this Permit includes any area having a probable release of a hazardous waste or hazardous constituent which is not from a Solid Waste Management Unit and is determined by the Secretary to pose a current or potential threat to human health of the environment. Such AOCs may require investigations and remedial action as required under Section 3005(c)(3) of RCRA 40 CFR 270.32(b)(2) in order to ensure adequate protection of human health and the environment.

"Consent Decree" means the final decision filed in the United States District Court for the District of New Mexico and entitled "The City of Albuquerque and the Board of County Commissioners of the County of Bernalillo et al. v. Sparton Technology, Inc.", Civil Action Number CIV 97 0206 LH/JHG consolidated with CIV 97 0208 JC/RLP, CIV 97 0210 M/DJS, and CIV 97 0981 LH/JHG; all attachments to the Consent Decree, including Attached Work Plans; and all items approved by EPA and NMED pursuant to Section X (Review of Submittals).

"Corporate Office" means the Sparton Technology, Inc. Corporate Office located at 5612 Johnson Lake Road, DeLeon Springs, Florida 32130.

"Consultant Office" means third party entities contracted with Sparton Technologies, Inc. to provide services required under this post-closure care permit, including but not limited to environmental monitoring, engineering, and legal services.

"Facility" means the capped surface impoundment area owned by Sparton Technology, Inc., and located at 9621 Coors Road NW, Albuquerque, Bernalillo County, New Mexico. EPA ID. No. NM083212332.

"Foreign Source" means hazardous waste generated outside the United States of America.

"Hazardous Constituent" means any constituent identified in 40 CFR Part 261, Appendix VIII, any constituent identified in 20.4.1.500 NMAC (incorporating 40 CFR Part 264, Appendix IX), any constituent identified in a hazardous waste listed in 40 CFR Part 261, Subpart D, or any constituent identified in a toxicity characteristic waste in 40 CFR 261.21, and Table 1 contained in that part.

"Hazardous Waste" means the definition of hazardous waste pursuant to 40 CFR 261.3, inclusive of New Mexico Hazardous Waste Act NMSA 1978, Section 74-4-3(K).

"HWA" means the New Mexico Hazardous Waste Act, NMSA 1978, §§ 74-4-1 et seq. (Repl. Pam. 2001).

"MCLs" means Maximum Contaminant Levels under the Federal Safe Drinking Water Act, 42 U.S.C. §§ 300f et seq. and regulations promulgated thereunder.

"Off-Site Source" means a generator of hazardous waste located within the United States of America, but outside the Permittee's Facility boundary.

"Permit" means the Secretary approved Post-Closure Care Permit consisting of Permit Parts I through IV and Appendices A.1, and A.2.

"Permit Application" means the RCRA Post-Closure Care Permit Application submitted by Sparton Technology, Inc. on March 29, 2013, and all subsequent modifications or revisions received and approved by the New Mexico Environment Department Hazardous Waste Bureau.

"Permittee" means Sparton Technology, Inc.

"RCRA" means the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901 et seq.

"Regional Administrator" means the Regional Administrator of EPA Region 6, or designee or authorized representative.

"Regulated Unit" means a surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 as defined in 40 CFR 264.90(a)(2).

"Secretary" means the Secretary of the New Mexico Environment Department or designee.

"Site" means the land(including the subsurface and groundwater) consisting of an area including (a) the Facility, (b) the land (including the subsurface and groundwater) in the general vicinity of the Facility where any hazardous wastes, as defined in RCRA Section 1004, 42 U.S.C. § 6903 (5), or hazardous constituents, as defined in 40 CFR 260.10 and 261, App. VIII, originating from the Facility have come to be located and (c) any other land (including the subsurface and groundwater) or improvements in the general vicinity of the Facility where Work is conducted including, but not limited to, land where structures and equipment used to extract, treat, and dispose of extracted groundwater are installed. The currently documented boundaries of this area are depicted generally on the map attached as Attachment G to the 2000 Consent Decree

"Solid Waste Management Unit" (SWMU) means any discernible waste management unit or area at a RCRA facility in which solid waste has been placed at any time, and from which the Secretary determines there may be a risk of a release of hazardous constituents, irrespective of whether the unit is or ever was intended for the management of solid or hazardous waste. Placement of solid waste includes one time and accidental events that were not remediated, as well as any unit or area at which solid waste has been routinely and systematically placed.

1.5 DUTIES AND REQUIREMENTS

1.5.1 Duty to Comply

The Permittee shall comply with all conditions and requirements of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit specified in 40 CFR 270.61. Any noncompliance with any condition or requirement of this Permit, other than under the terms of an emergency permit, constitutes a violation of the HWA and/or RCRA and may subject the Permittee, its successors and assigns, officers, directors, employees, parents, or subsidiaries to an administrative or civil enforcement action, including civil penalties and injunctive relief, under Sections 74-4-10 or 74-4-10.1 of the HWA or Section 3008 (a) and (g) or 3013 of RCRA; to permit modification, termination, suspension, revocation and re-issuance, or denial of a permit application or modification request under Section 74-4-4.2 of HWA; to criminal fines or imprisonment under HWA Section 74-4-11 or Section 3008(d), (e), or (f) of RCRA; or to a combination of the foregoing pursuant to 40 CFR 270.30(a).

1.5.2 Duty to Reapply

If the Permittee wishes to continue an activity allowed or required by this Permit after the expiration date of this Permit, the Permittee shall submit a complete application for a new Permit at least 180 days before the expiration date of this Permit, in accordance with all applicable laws unless an extension is granted by the Secretary pursuant to 40 CFR 270.10(h) and 270.30(b). The Secretary shall not grant permission for applications to be submitted later than the expiration date of the existing Permit.

1.5.3 Permit Expiration

This Permit and all conditions herein will remain in effect beyond the expiration date of this Permit until the effective date of the issuance or denial of the succeeding RCRA permit only if the Permittee has submitted a timely and complete application for renewal of this Permit 180 days prior to the expiration date of this Permit, in accordance with 40 CFR 270.10 (h), 270.13 through 270.29, and 270.51 (d), and through no fault of the Permittee, the Secretary has not issued a new Permit on or before the expiration date of this Permit.

1.5.4 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit in accordance with 40 CFR 270.30 (c).

1.5.5 Duty to Mitigate

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment in accordance with 40 CFR 270.30 (d).

1.5.6 Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of

treatment and control and related appurtenances which are installed or used by the Permittee to achieve compliance with the conditions and requirements of this Permit as related to the capped surface impoundment. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions and requirements of this Permit as required by 40 CFR 270.30(e).

1.5.7 Duty to Provide Information

The Permittee shall furnish to the Secretary, within a reasonable time period specified by the Secretary, any relevant information which the Secretary may request to determine whether cause exists for modifying, revoking and reissuing, suspending, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Secretary, upon request, copies of any records required to be kept by this Permit and pursuant to 40 CFR 270.30(h) and as required by the Consent Decree, 40 CFR 264.100(g) as required by the Consent Decree, and 40 CFR 264.118. Permit Condition I.E.7 shall not be construed to limit, in any manner, the Secretary's authority under HWA Section 74-4-4.3 or RCRA Section 3007(a).

1.5.8 Inspection and Entry

Inspection and entry shall be limited to activities related to the capped surface impoundment.

The Permittee shall allow the Secretary, or authorized representatives, upon the presentation of credentials and other documents as may be required by law in accordance with 40 CFR 270.30(i):

1.5.8.1 Entrance to Premises

The Permittee shall allow the NMED, or authorized representatives, upon the presentation of credentials and other documents as may be required by law, in accordance with 40 CFR 270.30(i) to enter at reasonable times upon the Permittee's premises where the capped surface impoundment is located, or where records must be kept under the conditions of this Permit.

1.5.8.2 Access to Records

The Permittee shall allow the NMED, or authorized representatives, upon the presentation of credentials and other documents as may be required by law, in accordance with 40 CFR 270.30(i) to have access to and copy, at reasonable times, any records as specified in Section 1.5.7 of this Part that must be kept under the conditions of this Permit;

1.5.8.3 Inspection

The Permittee shall allow the NMED, or authorized representatives, upon the presentation of credentials and other documents as may be required by law, in accordance with 40 CFR 270.30(i) to inspect, at reasonable times, any Facility equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit.

1.5.8.4 Sampling

The Permittee shall allow the NMED, or authorized representatives, upon the presentation of credentials and other documents as may be required by law, in accordance with 40 CFR 270.30(i) to sample or monitor, at reasonable times for the purposes of assuring Permit compliance or as otherwise authorized by RCRA and/or HWA, any substances or parameters limited to the soil in the vicinity of the capped surface impoundment.

Permit Condition 1.5.8 shall not be construed to limit in any manner, the Secretary's authority under HWA Section 74-4-4.3, RCRA Section 3007(a), or any other applicable law.

1.5.9 Monitoring and Records

Monitoring and retention of records shall be in accordance with Sections 1.5.7 and 2.8 of this Permit and Permit Application, and pursuant to all provisions of 40 CFR 270.30(g).

1.5.9.1 Monitoring Records Contents

Monitoring shall be conducted in accordance with 40 CFR 270.30(j)(1). All records of monitoring information collected shall be maintained in accordance with 40 CFR 270.30 (g) (3).

1.5.10 Reporting Planned Changes

The Permittee shall give notice to the Secretary, as soon as possible, of any planned physical alterations or additions to the Facility in accordance with 40 CFR 270.30 (1) (1).

1.5.11 Reporting Anticipated Noncompliance

The Permittee shall give a minimum of 60 calendar days advance notice to the Secretary of any planned changes in the permitted Facility or activity, which may result in noncompliance with these Permit conditions or requirements. For modifications to the existing Facility, the Permittee shall not treat, store, or dispose of hazardous waste in the modified portion of the Facility except as provided in 40 CFR 270.42, pursuant to 40 CFR 270.30 (1) (2), until:

- a. The Permittee has submitted to the Secretary by certified mail or hand delivery a letter signed by the Permittee and a registered Professional Engineer stating that the Facility has been constructed or modified in compliance with the Permit and
- b. The Secretary has inspected the modified or newly constructed Facility and finds it is in compliance with the conditions of the Permit.

1.5.12 Certification of Construction or Modification

Should modification of the Facility be conducted, certification of construction or modification of the Facility shall be in accordance with Section 1.5.11 above and 40 CFR 270.30(1) (2).

1.5.13 Transfer of Permits

The Permittee shall not transfer this Permit to any person except after providing notice to the

Secretary and receiving approval from the Secretary for this action. The prospective new owner or operator must file a disclosure statement with the Secretary as specified in HWA Section 74-4-4.7. The Secretary shall require modification or revocation and reissuance of this Permit, as specified by 40 CFR 270.40 (b) and 270.41 (b) (2), and 20.4.1.901 NMAC, to identify the new Permittee and incorporate such other requirements as may be necessary under the HWA and RCRA and their implementing regulations.

Before transferring ownership or operation of the Facility during its post-closure care period, the Permittee shall notify the new owner or operator in writing of all applicable requirements of 40 CFR 270 and this Permit pursuant to 20.4.1.500 and 40 CFR 264.12(c) and 270.30(l)(3).

1.5.14 Twenty-Four Hour Reporting

1.5.14.1 Oral Report

The Permittee shall report orally to the Secretary any noncompliance or incident at the Facility which may endanger human health or safety or the environment. Such report shall be made within 24 hours from the time the Permittee becomes aware of the circumstances pursuant to 40 CFR 270.30(1)(6)(i), and shall include:

1. Information concerning the release of any hazardous waste or hazardous constituents which may endanger public drinking water supplies;
2. Information concerning the release or discharge of any hazardous waste or hazardous constituents, or of a fire or explosion at the Facility, which could threaten the environment or human health outside the Facility in accordance with 40 CFR 270.30 (l)(6)(i);
3. Name, address, and telephone number of the Permittee and the Facility;
4. Date, time, and type of incident;
5. Name and quantity of materials involved;
6. The extent of injuries, if any;
7. An assessment of actual or potential hazards to the environment and human health outside the Facility; and
8. Estimated quantity and disposition of recovered material that resulted from the incident pursuant to 40 CFR 270.30(1)(6)(ii).

1.5.15 Written Report

The Permittee shall also submit a written notice to the Secretary within five (5) calendar days of the time the Permittee becomes aware of the noncompliance as required by 40 CFR 270.30 (l)(6)(iii). The written notice shall contain the following information:

1. A description of the noncompliance or incident and its cause;
2. The period(s) of noncompliance or incident, including exact dates and times, and, if the noncompliance or incident has not been corrected, the anticipated time it is expected to continue; and
3. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, incident, or imminent hazard.

The Secretary may waive the five-day written notice requirement in favor of a written report

within fifteen calendar days in accordance with 40 CFR 264.30(l)(6)(iii).

1.5.16 Other Noncompliance

The Permittee shall report all instances of noncompliance with Permit conditions and requirements not reported under Permit Conditions 1.5.9, 1.5.10, and 1.5.14, at the time monitoring reports are submitted under Permit Condition 4.1.1 as required by 40 CFR 270.30(1)(10). The reports shall contain the information listed in Permit Condition 1.5.14.

1.5.17 Other Information

Whenever the Permittee becomes aware that it failed to submit any relevant facts or submitted incorrect information in a permit application or in any document to the Secretary, the Permittee shall promptly submit the corrected facts or information in writing to the Secretary as required by 40 CFR 270.30(1)(11).

1.6 SIGNATORY REQUIREMENT

The Permittee shall sign and certify, as specified in 40 CFR 270.11 and 40 CFR 270.30(k), all applications, reports required by this Permit, or other information required by the Secretary.

1.7 REPORTS, NOTIFICATIONS, AND SUBMISSIONS TO THE NMED

All reports, notifications, or other submissions which are required by this Permit to be submitted to the Secretary shall be in the form of two paper copies and one electronic copy or other format acceptable to the NMED. The submissions should be sent by certified mail or hand delivered to:

Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Upon the NMED's written approval, all submittals required by this Permit and associated schedules attached to this Permit are incorporated into this Permit and shall be enforceable as part of this Permit in accordance with the terms of the NMED's written approval, and such documents, as approved, shall control over any contrary or conflicting requirements of this Permit. This provision does not affect any public process that is otherwise required by this Permit, the Hazardous Waste Act, or its implementing regulations.

1.8 CONFIDENTIAL INFORMATION

The Permittee may claim confidentiality for any information submitted to or requested by the Secretary, or required by this Permit to the extent authorized by Section 74-4-4.3(D) of the HWA and 40 CFR 270.12.

1.9 ENFORCEMENT

1.9.1 Waiver of Defenses

In any judicial action brought in New Mexico District Court for the First Judicial District under

the HWA, or in the United States District Court for the District of New Mexico under RCRA (or under the HWA asserting supplemental jurisdiction under 28 U.S.C. § 1367), the Permittee waives all objections and defenses it may have to the jurisdiction of either such State or Federal court or to venue in either such State or Federal District courts.

1.9.2 Admissibility of Data

In any administrative or judicial action to enforce a condition of this Permit, the Permittee waives any objection to the admissibility as evidence of any data or information generated pursuant to this Permit.

PERMIT PART 2 GENERAL FACILITY CONDITIONS AND REQUIREMENTS

2.1 DESIGN AND OPERATION OF FACILITY

The Permittee shall maintain, and operate the Facility to minimize the possibility of a fire, explosion, or any unplanned, sudden, or non-sudden release of hazardous waste constituents to air, soil, surface water, or ground water, which could threaten human health or the environment as required by 40 CFR 264.31.

2.2 REQUIRED NOTICES

2.2.1 Hazardous Waste Imports

The Permittee shall not accept, store or dispose hazardous waste at the Facility from any foreign source.

2.2.2 Hazardous Waste from Off-Site Sources

The Permittee shall not accept, store or dispose hazardous waste at the Facility from any off-site source.

2.3 GENERAL WASTE ANALYSIS

The analysis of residual contamination related to the electroplating waste previously generated at the Facility shall be conducted as provided in Attachment C (Waste Analysis Plan) of this Permit, as applicable.

2.4 SECURITY

The Permittee shall comply with the security provisions specified in 40 CFR 264.14(a)(1) and (2), (b)(2) and (c), and in Section H.2 of the Permit Attachment H in order to prevent unknowing or unauthorized entry onto any portions of the capped surface impoundment and the containment systems.

2.5 GENERAL INSPECTION REQUIREMENTS

The Permittee shall inspect the Facility for malfunctions and deterioration, operator errors, and any discharges, which may lead to the release of hazardous waste constituents to the environment or pose a threat to human health as required by 40 CFR 264.15(a), and as specified in Permit Attachment E (Inspection Plan).

The Permittee shall conduct a general inspection of the condition of the Facility on a semi-annual basis. To facilitate this inspection, the Permittee shall restrict vehicular access to the area for a length of time sufficient to complete a thorough inspection. The Permittee shall perform a visual inspection of the entire 3-in-thick asphalt wearing surface during the semi-annual inspection. The location of any gouges, cracks, surface-movement, and/or pavement deterioration (chemical or natural) shall be noted. Any such breaches of the wearing surface which expose (to any extent) the asphalt base shall be repaired and will commence upon discovery. Additionally, the Permittee shall remove undisturbed wearing surface material for a distance of 6 inches in all directions around the breach, and this area shall be resurfaced, as

specified for the initial paving in the Post-Closure Care Plan, Permit Attachment E, Section E.1.

2.5.1 Inspection Schedule

The Permittee shall implement the inspection schedules specified in Permit Section 2.5 and Attachment E of this Permit. The inspection schedule shall be kept locally and at the Corporate Office as required by 40 CFR 264.15(b)(2).

2.5.2 Inspection Frequency

The Permittee shall inspect all items at the frequency specified above in Permit Section 2.5.1 and in Attachment E of this Permit, which includes inspection of the capped surface impoundment, monitoring wells MW-16 and MW-25, and the security fence surrounding the capped surface impoundment in accordance with 40 CFR 264.15(b)(1) through (b)(4).

2.5.3 Remediation of Equipment/Structures

The Permittee shall remedy any deterioration or malfunction of equipment or structures, which the inspection reveals as required 40 CFR 264.15 (c).

2.5.4 Inspection Log and Checklist

The Permittee shall use the inspection checklist contained in Attachment E of this Permit.

The Permittee shall record the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions, as required by 40 CFR 264.15 (d).

2.5.5 Inspection Records

The Permittee shall maintain at the Corporate Office or consultant(s) office, the inspection schedules and results for three years from the date of the inspection in accordance with this Permit pursuant to 40 CFR 264.15(d).

2.6 PERSONNEL TRAINING

The Permittee shall provide for personnel training as specified in Attachment F (Personnel Training Plan) of this Permit and as required by 40 CFR 264.16(a)(1) through (a)(3).

2.7 CONTINGENCY PLAN

In the event of an unforeseen emergency related to the capped surface impoundment, or the off-site containment system, the emergency coordinator listed in Table D, Permit Attachment D (Contingency Plan), shall be notified and procedure specified in 40 CFR 264.56 shall be carried out.

2.8 RECORDKEEPING AND REPORTING

Record keeping and reporting requirements shall be in accordance with this Permit. The Permittee shall maintain at the Corporate Office, or consultant(s) office, records containing information required under this Permit. The Permittee shall also comply with the following

requirements:

2.8.1 Required Records

The following items shall be retained at the Corporate Office, or consultant(s) office:

- a. A copy of this Post-Closure Care Permit
- b. A copy of all approved permit modification requests along with NMED-approved replacement pages to this Post-Closure Care Permit.
- c. Records and results of waste analyses and waste determinations related to the capped surface impoundment;
- d. Summary reports and details of all incidents that require implementation of the Contingency Plan;
- e. Records and results of inspections, retained for a period of three (3) years, and;
- f. Monitoring, testing, or analytical data, and corrective action related to the capped surface impoundment.

2.8.2 Record Retention

The Permittee shall retain all records of all information, including all calibration and maintenance records, copies of all reports and records required by this Permit, including Permit Modification Requests, Permit Attachments, the Permit Application, and records used to complete the Permit Application.

The Permittee shall inform the Secretary in writing of changes in its management personnel and telephone numbers within fifteen (15) calendar days of the changes.

2.9 GENERAL CLOSURE REQUIREMENTS

2.9.1 Chronology of Closure Activities

A summary of the chronology of closure activities at the former operating unit, which is currently undergoing post-closure care, is presented in Permit Attachment G (Closure of the Formerly Active Hazardous Waste Management Unit).

2.10 GENERAL POST-CLOSURE REQUIREMENTS

This Permit implements post-closure care requirements for soil and groundwater contamination left in place after closure of the RCRA regulated unit (surface impoundment) and one Solid Waste Management Unit (sump). Attachments J and K contain unit descriptions of former waste management units at the Facility.

Post-closure use of property at the Facility on or in which hazardous wastes remain after final closure must never be allowed to disturb the integrity of the final cover, or any other components of the containment system, or the function of the capped surface impoundment monitoring systems unless as approved by the Secretary and as required by 40 CFR 264.117 (c).

2.10.1 Post-Closure Care Period

Post-closure care requirements shall remain in place for 60 years after closure of the capped surface impoundment in 1987, unless the post-closure period is shortened or lengthened pursuant to 40 CFR 264.117(a)(1) and (2).

Post-closure care shall be conducted in accordance with 40 CFR Part 264, Subpart G, the Post-Closure Plan (Attachment H) and shall be subject to the terms and conditions of this Permit in accordance with 40 CFR 264.117.

All post-closure care activities implemented by the Permittee must be conducted in accordance with the provisions of the Post-Closure Plan (Attachment H) pursuant to 40 CFR 264.117(d) and 264.118(b).

2.10.2 Post-Closure Security

The Permittee shall implement the security provisions outlined in Section 2.4 and in accordance with 40 CFR 264.14.

2.10.3 Amendment to the Post-Closure Plan

The Permittee shall submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan in accordance with the applicable requirements in 40 CFR 270.42 and 20.4.1.901 NMAC, as applicable. The written notification or request shall include 1. A letter with reason and justification for the permit modification, and page locations of the modification; 2. A copy of the amended post-closure plan as a red-line strike out version; and 3. The edited replacement permit pages for review and approval by the Secretary as required by 40 CFR 264.118(d).

2.10.4 Post-Closure Notices

If the Permittee wishes to move off-site any hazardous waste, hazardous waste residue, or contaminated soils from the Facility, then the Permittee shall request a modification to this Permit in accordance with the applicable requirements at 40 CFR Part 270 and 20.4.1.901 NMAC. The Permittee shall demonstrate that the removal of hazardous waste complies with all applicable HWA and RCRA requirements for generation and transport of hazardous waste pursuant to 40 CFR 264.119 (c).

By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of 40 CFR Part 262 and 264.

2.10.5 Certification of Completion of Post-Closure Care

No later than 60 days after completion of the established post-closure care period, the Permittee shall submit to the Secretary, by registered mail, a certification that post-closure care was performed in accordance with this Permit. This certification shall be signed by the Permittee and an independent New Mexico registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Secretary upon request until the Secretary releases the Permittee from the financial assurance requirements for post-closure care under 40 CFR 264.145 (i) pursuant to 40 CFR 264.120.

2.11 COST ESTIMATE FOR POST-CLOSURE

The cost estimate for the post-closure care period is satisfied by the cost estimate requirements of Section XXIV of the Consent Decree.

2.12 FINANCIAL ASSURANCE FOR FACILITY POST-CLOSURE

Financial assurance for the post-closure care period is satisfied by the financial assurance requirements of Section XXIV of the Consent Decree.

2.13 LIABILITY REQUIREMENTS

Liability requirement is not applicable to this Permit due to the Facility being in post-closure.

2.14 INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

The Permittee shall comply with 40 CFR 264.148, in the event of bankruptcy proceedings naming the owner or operator, or bankruptcy of the financial assurance issuing institution.

PERMIT PART 3 POST-CLOSURE CARE CONDITIONS AND REQUIREMENTS

3.1 POST CLOSURE PROCEDURES AND USE OF PROPERTY

3.1.1 Surface Impoundment

The Permittee shall comply with the applicable requirements of 40 CFR 264 Subpart K, Surface Impoundments, referencing the existing capped surface impoundment and surrounding security fence, pursuant to 40 CFR 264.228(b), and shall do the following:

- a. Maintain the integrity and effectiveness of the final cover, including making repairs to the cover, as necessary, to correct the effects of settling, subsidence, erosion, damage, or other events;
- b. Prevent run-on and run-off from eroding or otherwise damaging the final cover;
- c. Protect and maintain surveyed benchmarks used in complying with the surveying and recordkeeping requirements in accordance with the approved post-closure plan;
- d. Protect and maintain all monitoring wells located within the enclosed area; and
- e. Maintain the integrity of the eight-foot high chain link security fence in place around the perimeter of the capped surface impoundment, as required by 40 CFR 264.14, and as specified in Section H.2 of Permit Attachment H.

3.1.2 Post-Closure Security

The Permittee shall maintain security at the Facility during the post-closure care period, in accordance with the Post-Closure Plan and all security requirements specified in Permit Condition 2.4, the Consent Decree, and in accordance with 40 CFR 264.14 and 40 CFR 264.117(b).

3.1.3 Facility Use

The Permittee shall not allow any use of the Facility which will disturb the integrity of the surface impoundment final cover during the post-closure care period, in accordance with 40 CFR 264.117(c).

3.4.1 Post-Closure Activities

All post-closure care activities shall be conducted in accordance with the provisions of the approved Post-Closure Plan as specified in the Permit and Attachments and as required by 40 CFR 264.117(d).

PERMIT PART 4 CORRECTIVE ACTION CONDITIONS AND REQUIREMENTS

4.1 CORRECTIVE ACTION PROGRAM

In accordance with Section VIII, Paragraph 22 (b), of the Consent Decree, corrective actions related to releases from the Facility and the Site shall be enforced under and in accordance with the Consent Decree.

Pursuant to Section VIII, Paragraph 22 (c) (ii) of the Consent Decree, any corrective action related to the Site, if any, that may be required after the termination of the Consent Decree, including, but is not limited to, monitoring of groundwater for three years after the Performance Standards are achieved as set forth in the applicable regulations and corrective action to address contamination identified by such monitoring, shall be enforced under applicable laws and regulations.

The Permittee shall propose, if deemed necessary by the New Mexico Environment Department (NMED) and in accordance with the New Mexico Water Quality Control Commission Regulations (20.6.2 NMAC), the New Mexico Hazardous Waste Act and associated regulations for corrective action, a groundwater monitoring plan for a three-year period after the termination of the Consent Decree which shall be subject to NMED review and approval. If Performance Standards, as defined in Section III of the Consent Decree, are exceeded during any three-year monitoring period, the Permittee shall propose an appropriate remediation plan for NMED's review and approval. The Permittee shall bear the burden of proof that any Performance Standard exceedances are not the result of the Permittee's actions.

In the event the Permittee decides to clean close the Facility, the Permittee shall propose an appropriate closure plan for the Facility using the current NMED Soil Screening Levels, based upon the EPA Region 6 SSLs, or other applicable guidance and regulation, for NMED's review and approval.

NMED will review the work plans, reports, schedules, and other documents (submittals), which require NMED's approval in accordance with the conditions of this Post-Closure Care Permit. NMED shall notify the Permittee in writing of any submittal that is disapproved, or approved with conditions, and the basis thereof. This condition shall apply only to submittals that have been disapproved or approved with conditions by NMED.

In the event that a dispute arises between the Permittee and NMED about submittals required under this Permit, that is unable to be resolved through informal negotiations Section 4.1.1 of this Permit shall be followed.

4.1.1 Dispute Resolution

The Permittee and NMED shall use good faith efforts to informally resolve all disputes arising out of requirements in this Module. The Permittee shall not invoke dispute resolution for purposes of delay. If, however, the Permittee disagrees, in whole or in part, with NMED's

conditional approval of a submittal or disapproval required by the Permit, the following shall apply:

1. If the Permittee disputes any revisions or disapproves of plans, etc. made by NMED, the Permittee shall notify NMED in writing within 30 calendar days of receipt of NMED's decision. Such notice shall set forth the specific matters in dispute, the work affected by the dispute, including specific compliance dates, all factual data, analysis, opinion and documentation supporting the Permittee's position, and any matters considered necessary for NMED's determination.
2. The Permittee and NMED shall have 30 calendar days to use best efforts to resolve the dispute informally. If the Permittee and NMED are unable to resolve the dispute, the Permittee will have 30 days to request a final decision from the Secretary.
3. In the event agreement is reached, the Permittee shall comply with the terms of such agreement or if appropriate submit the revised submittal and implement the same in accordance with and within the time frame specified in such agreement. The resolution of the dispute shall, as necessary and appropriate, be incorporated as a Permit Condition.
4. If agreement is not reached, the Secretary will notify the Permittee in writing of his/her decision on the dispute within 30 calendar days from receipt of Permittee's request for a final decision. The Secretary's decision is a final agency action and shall be incorporated as an enforceable Permit Condition, however after administrative remedies are exhausted, judicial review shall be as provided by law in section 74-4-14 of the New Mexico Hazardous Waste Act or other applicable laws.

The invocation of dispute resolution shall not stay the requirements of any final decision of the Secretary absent a court order granting a stay.

4.2 APPLICABILITY

The conditions of Part 4 apply to:

1. The groundwater at the Site impacted by the SWMU identified in Attachment K.1.
2. Any SWMUs created by Sparton on the land owned by the Permittee and located at 9621 Coors Road NW, Albuquerque, Bernalillo County, New Mexico.

ATTACHMENTS

ATTACHMENT A, Facility Description
ATTACHMENT B, Authorized Wastes
ATTACHMENT C, Waste Analysis Plan
ATTACHMENT D, Contingency Plan
ATTACHMENT E, Inspection Plan
ATTACHMENT F, Personnel Training Plan
ATTACHMENT G, Closure of the Former Hazardous Waste Management Unit
ATTACHMENT H, Post-Closure Care Plan
ATTACHMENT I, Compliance Schedule
ATTACHMENT J, Hazardous Waste Management Units
ATTACHMENT K, Solid Waste Management Units/Areas of Concern
ATTACHMENT L, Figures

PERMIT ATTACHMENT A FACILITY DESCRIPTION

A.1 INTRODUCTION

Sparton Technologies, Inc. operated an electronics manufacturing plant at the 9621 Coors Boulevard in Albuquerque, New Mexico from 1961 to 1991. During plant operations, the Facility manufactured commercial, industrial, and military electronics, which included printed circuit board assemblies, transducers, sensors, and pressure measurement systems. The Facility also manufactured telecommunications monitoring and alarm systems and associated components, solid state modules, and high reliability switches.

The printed circuit manufacturing process included electroplating and metal plating which generated waste sludges and aqueous plating wastes that were characterized as hazardous due to their heavy metals content and their characteristic of corrosivity. The electronics assembly employed cleaning solvents, which generated spent halogenated and non-halogenated hazardous wastes.

A.2 SITE DESCRIPTION

The Facility (also called Former Coors Road Plant) is located at 9621 Coors Boulevard NW, north of Paseo del Norte and south of Arroyo de las Calabacillas at Latitude (35.1890839436) and Longitude (-106.6614961624). The Site lies within Bernalillo County and the City of Albuquerque zoning jurisdictions. It occupies a 12-acre tract about one-half of a mile northwest of the Rio Grande floodplain. The regional location of the Site is shown on **Figure 1**, Permit Attachment L. **Figure 2** in Attachment L shows the Site Plan, and includes the Facility. The Facility is capped, vacant and is surrounded by a security fence. **Figure 3** is a geologic cross-section of the shallow deposits at the Site. **Figure 4** (Topographic Map) Permit Attachment L shows the location of the Site, its surface topographic features, delineates the 100-year floodplain, indicates the locations of the post-closure onsite and off-site groundwater monitoring wells, and a wind rose diagram for the Albuquerque area. **Figure 5** (Plume Hydrology) Permit Attachment L shows the groundwater flow direction and rate, the water table contours, and the 2024 extent of the plume of contamination. **Figure 6** presents the location of the existing wells at the Facility. **Figure 7** (Land Use Map) in Permit Attachment L illustrates current zoning designations and delineates land uses at and around the Site. The land uses include residential, commercial, agricultural, recreational, and other uses. Adjacent land north of the Site is zoned for manufacturing. To the west and south of the Site, zoning is for commercial development. Lands to the east of the Site are zoned for residential use and agriculture. These current designations for land use adjacent to the Site are supported and recommended to be maintained in the future by the Coors Corridor Plan (a written Plan, developed by the communities along Coors Road, that outlines how to protect and enhance the byway's intrinsic qualities and character).

Locally, the Site area is hilly and slopes in several wide terraces toward the Rio Grande. The Facility is approximately 60 feet above the river elevation, and about 60 feet lower than the lowest end of the Paradise Hills residential area, which is located about 0.75 mile to the west of the Facility. Elevations within the property boundaries range from 5,040 to 5,055 feet above mean sea level, but the elevations within the capped surface impoundment and former sump located at Latitude (35.1892943799) and Longitude (-106.6611099243) do not vary from each

other by more than two feet. About 200 feet southeast of the facility across Coors Road, is the Corrales Canal, an irrigation waterway. The Calabacillas Arroyo is located about one quarter mile north of the Site. The depth to the groundwater table is approximately 65 feet below the ground surface at the Facility, and regionally is moving in a west-southwesterly direction. In the immediate former manufacturing plant area, the regional aquifer is separated from the water table by a confining unit (known as the 4970-foot silt/clay). Groundwater in the regional aquifer below the confining unit and in the offsite areas is moving in a northwesterly direction. **Figure 5** in Permit Attachment L shows the locations of on-site and off-site monitoring and containment wells. In the permitted unit area, the groundwater is moving in a northwesterly direction.

A.3 WASTE MANAGEMENT HISTORY

The manufacturing processes at the Former Coors Road Plant generated two waste streams that were managed as hazardous wastes: a solvent waste stream and an aqueous metal-plating waste stream. Waste solvents were manually emptied in an on-site sump and allowed to evaporate. In October 1980, the plant operations discontinued using the sump and closed it by removing the remaining wastes and filling it with sand. After that date, the plant operations began to accumulate the waste solvents in drums prior to transport off site for disposal.

The plating waste was stored in a lined surface impoundment, and wastewater that accumulated in the impoundment was periodically removed by a vacuum truck for off-site disposal at a permitted facility. NMED's approval of the closure of the surface impoundment and sump area occurred in May 1987. The impoundment was backfilled, and an asphaltic concrete cap was placed over the entire area to divert rainfall and surface water run-on to minimize infiltration of water into the subsurface.

A.4 HYDROGEOLOGIC SETTING

The Site lies in the northern part of the Albuquerque Basin, one of the largest sedimentary basins of the Rio Grande rift, a chain of linked basins that extend south from central Colorado into northern Mexico. Fill deposits in the basin are as much as 15,000 feet thick. The geologic cross-section showing shallow deposits beneath

The fill deposits in the upper 1,500 feet of the subsurface consist primarily of sand and gravel with lesser amounts of silt and clay. The near-surface deposits consist of less than 200 feet of Quaternary alluvium associated with terrace, arroyo fan, and channel and floodplain deposits. These deposits are saturated beneath the Facility and to the east of the Facility towards the Rio Grande but are unsaturated to the west of the Facility. **Figure 3** in Permit Attachment L is a geologic cross-section illustrating the stratigraphy at and around the Site.

The water table beneath the Facility and between the Facility and the Rio Grande lies within the Quaternary deposits; however, to the west and downgradient from the Facility, the water table is within the Upper Santa Fe Formation. Water-level data indicate that the general direction of groundwater flow is to the northwest with gradients that generally range from 0.0025 to 0.006 ft/ft; however, within the deposits that lie above the 4970-foot silt/clay unit at the Facility, the direction of groundwater flow is to the west-southwest and the water table has a steeper gradient ranging from 0.010 to 0.016 ft/ft.

A.5 GROUNDWATER CONTAMINATION

Investigations that the Permittee conducted between 1983 and 1987 at and around the permitted Facility revealed that on-site soils and groundwater were contaminated by plating waste solvents, which consisted mainly of the volatile organic compounds (VOCs), primarily trichloroethene (TCE), 1,1,1-trichloroethane (TCA), lesser amounts of methylene chloride, acetone, and 1,1-dichloroethene (DCE), and chromium, and that contaminated groundwater had migrated beyond the boundaries of the Facility to downgradient, off-site areas. The stabilizer used in 1,1,1-TCA 1,4-dioxane is also present in groundwater beneath the Facility. The predominant contaminants at the off-site areas are VOCs, TCE, DCE, TCA and 1,4 dioxane.

In 1998 and 1999, during settlement negotiations associated with lawsuits brought by the United States, the State of New Mexico, the County of Bernalillo, and the City of Albuquerque, the Permittee was required, and agreed, to implement the following actions:

1. The installation, testing, and continuous operation of an off-site extraction well designed to contain the contaminant plume;
2. the replacement of the on-site groundwater recovery system by a source containment well designed to address the release of contaminants from potential on-site source areas;
3. the operation of a 400 cubic feet per minute (cfm) capacity on-site soil vapor extraction (SVE) system for a total operating time of twelve months;
4. the implementation of a groundwater monitoring plan;
5. the assessment of aquifer restoration; and
6. the implementation of a public involvement plan.

Work Plans for the implementation of the measures and actions agreed upon by the parties were developed and included in a Consent Decree entered into by the parties on March 3, 2000. The Consent Decree set the terms for addressing the soil and groundwater contamination.

Under the terms of the Consent Decree, the Permittee is currently operating an off-site and source containment pump and treat systems to address the groundwater contamination. Under the terms of the same Consent Decree, the Permittee also previously operated a Soil Vapor Extraction (SVE) system to address on-site soil contamination. This system was operated for a total of about 372 days between April 10, 2000 and June 15, 2001 and was dismantled in May of 2002 after analytical data indicated that the requirements and performance goals of the Consent Decree had been met. A map of the monitoring well locations is shown in **Figure 5** of Permit Attachment L.

A.6 FACILITY GROUNDWATER REMEDIATION SYSTEMS

A.6.1 On-Site or Source Containment Pump and Treat System

The On-Site or Source Containment Pump and Treat System comprises of a containment well CW-2 located immediately downgradient from the site, an on-site pump and treat system, two

on-site infiltration ponds (ponds 2 and 3), and associated conveyance and monitoring components. Water from the extraction well is metered, treated with AquaMag (a high-grade magnesium hydroxide slurry), goes through the air stripper to remove chlorinated solvents, and then is discharged to one of two infiltration ponds. Layout of the source containment system components is shown in **Figure 8** of Permit Attachment L.

The containment well CW-2 has a 15-foot screen across the upper part of the sand unit, an on-site treatment building with an air stripper and chromium removal unit to pump and treat the pumped water, and associated pipelines to two on-site ponds 2 and 3 shown in **Figure 8** for returning the treated water to the aquifer. The ponds are rotated monthly so that a different one is dry each month.

The original treatment system consisted only of the air stripper. A chromium removal unit was installed at the on-site area in 2014 to address increased chromium concentrations in the effluent. The original design consisted of six infiltration ponds. Based on performance data from the six ponds, two ponds were backfilled in late 2005 and another two in early 2014. The chromium removal unit at the source containment system (CW-2) was removed in 2020; therefore, there has been no chromium mass removal since.

The source containment well, CW-2, removed approximately 250 kg of VOCs throughout its operating life. Mass removal ranged from 71 kg during the first year of operation (2002) to less than 1 kg during the 2023 and 2024 monitoring periods. After reviewing CW-2 performance in 2025, EPA and NMED jointly agreed to pause the operations of CW-2 for three years beginning November 3, 2025 by letter dated October 17, 2025. Sparton will sample the on-site monitoring wells and report to the EPA and NMED on a quarterly basis. If increased contaminant concentrations in the groundwater are observed, Sparton shall notify the Agencies within five (5) business days and shall convene with the Agencies to discuss findings and appropriate next steps.

A.6.2 Off-Site Containment Pump and Treat System

The off-site containment well was installed and tested in late 1998. The main objective of the off-site pump and treat system is to contain and capture contaminated groundwater migrating from the Facility, treat the captured water, and return it to the aquifer. Water from one extraction well is metered, treated with AquaMag, goes through the air stripper to remove chlorinated solvents and an ion exchange unit to remove chromium, and then is discharged to the infiltration gallery located beneath the Calabacillas Arroyo. The layout of the off-site containment system components is shown in **Figure 9** of Permit Attachment L.

The off-site pump and treat system consists of a containment well CW-1, which fully penetrates the saturated portion of the sand unit above a clay confining layer, a treatment building with an air stripper to treat the pumped water, and a pipeline to the nearby Arroyo de las Calabacillas, and an infiltration gallery in the arroyo for returning the treated water to the aquifer. The system began operating on December 31, 1998. An air stripper for treating the pumped water and an infiltration gallery for returning the treated water to the aquifer were constructed in the spring of 1999. The pump and treat well was connected to these facilities in

New Mexico Environment Department
April 2026

Sparton Technology, Inc.
NMD083212332

late April 1999.

PERMIT ATTACHMENT B AUTHORIZED WASTES

B.1 AUTHORIZED WASTES

The hazardous waste process codes and estimated annual quantities that the Permittee was authorized to manage, treat and store at the facility are no longer required since the Facility is undergoing post-closure care. NMED collectively approved the closure of the surface impoundment (inclusive of the sump), old and new container storage areas in May 1987. However, NMED has included the Part A Permit Application in this Attachment (B), irrespective of the fact that the Facility is not actively managing hazardous waste. This is because the Part A still contains relevant information on Site Identification, Facility Contact person(s), and additional information on the Hazardous Waste Permit Information Forms.

New Mexico Environment Department
April 2026

Sparton Technology, Inc.
NMD083212332

B.2 PART A APPLICATION

The following updated RCRA Part A Application was submitted April 3, 2026.

United States Environmental Protection Agency
RCRA SUBTITLE C SITE IDENTIFICATION FORM



1. Reason for Submittal (Select only one.)

☐	Obtaining or updating an EPA ID number for on-going regulated activities (Items 10-17 below) that will continue for a period of time.
☐	Submitting as a component of the Hazardous Waste Report for _____ (Reporting Year)
☐	Site was a TSD facility, a reverse distributor, and/or generator of $\geq 1,000$ kg of non-acute hazardous waste, > 1 kg of acute hazardous waste, or > 100 kg of acute hazardous waste spill cleanup in one or more months of the reporting year (or State equivalent LQG regulations)
☐	Notifying that regulated activity is no longer occurring at this Site
☐	Obtaining or updating an EPA ID number for conducting Electronic Manifest Broker activities
☒	Submitting a new or revised Part A (permit) Form

2. Site EPA ID Number

N	M	D	0	8	3	2	1	2	3	3	2
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3. Site Name

Sparton Technology, Inc.

4. Site Location Address

Street Address 9621 Coors Road NW		
City, Town, or Village Albuquerque	County Bernalillo	
State New Mexico	Country USA	Zip Code 87114
Latitude	Longitude	☐ Use Lat/Long as Primary Address

5. Site Mailing Address

☐ Same as Location Street Address

Street Address 4612 Johnson Lake Rd		
City, Town, or Village De Leon Springs		
State Florida	Country USA	Zip Code 32130-3657

6. Site Land Type

☒ Private	☐ County	☐ District	☐ Federal	☐ Tribal	☐ Municipal	☐ State	☐ Other
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7. North American Industry Classification System (NAICS) Code(s) for the Site (at least 5-digit codes)

A. (Primary)	C.
B.	D.

8. Site Contact Person

Enter the primary site contact here and additional contacts in Appendix A.

First Name Joseph	MI S	Last Name Lerczak
Title Project Coordinator		
Email joe.lerczak@sparton.com		
Phone 517-262-8195	Ext	Fax
Preferred Language English		

A. Site Contact Address☐ Same as Location Address

Street Address 2944 Sheridan Circle		
City, Town, or Village Jackson		
State MI	Country USA	Zip Code 49201

9. Legal Owner and Operator of the Site**A. Name of Site's Legal Owner**☐ Same as Location Address

Full Name Sparton Corporation	Date Became Owner (mm/dd/yyyy) 07/01/1961
Owner Type ☒ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other	
Street Address 4612 Johnson Lake Rd	
City, Town, or Village De Leon Springs	
State Florida	Country USA Zip Code 32130-3657
Email	
Phone 800-772-7866	Ext Fax
Comments	

B. Name of Site's Legal Operator☒ Same as Location Address

Full Name Sparton Corporation	Date Became Operator (mm/dd/yyyy) 07/01/1961
Operator Type ☒ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other	
Street Address	
City, Town, or Village	
State	Country Zip Code
Email	
Phone	Ext Fax
Comments	

10. Type of Regulated Waste Activity (at your site)

Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities

☐ Y ☒ N	1. Generator of Hazardous Waste—If "Yes", mark only one of the following—a, b, c	
☐	a. LQG	-Generates, in any calendar month, 1,000 kg/mo (2,200 lb/mo) or more of non-acute hazardous waste (includes quantities imported by importer site); or - Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lb/mo) of acute hazardous waste; or - Generates, in any calendar month or accumulates at any time, more than 100 kg/mo (220 lb/mo) of acute hazardous spill cleanup material.
☐	b. SQG	100 to 1,000 kg/mo (220-2,200 lb/mo) of non-acute hazardous waste and no more than 1 kg (2.2 lb) of acute hazardous waste and no more than 100 kg (220 lb) of any acute hazardous spill cleanup material.
☐	c. VSQG	Less than or equal to 100 kg/mo (220 lb/mo) of non-acute hazardous waste.
☒ Y ☐ N	Is State Generator of Hazardous Waste the same as Federal— If "No", indicate State Generator Category in the space provided.	
☐ Y ☒ N	2. Short-Term Generator (generates from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section. <i>Note: If "Yes", you MUST indicate that you are a Generator of Hazardous Waste in Item 10.A.1 above.</i>	
☐ Y ☒ N	3. Treater, Storer or Disposer of Hazardous Waste—Note: Part B of a hazardous waste permit is required for these activities.	
☐ Y ☒ N	4. Receives Hazardous Waste from Off-site	
☐ Y ☒ N	5 Recycler of Hazardous Waste	
☐	a. Recycler who stores prior to recycling	
☐	b. Recycler who does not store prior to recycling	
☐ Y ☒ N	6. Exempt Boiler and/or Industrial Furnace—If "Yes", mark all that apply.	
☐	a. Small Quantity On-site Burner Exemption	
☐	b. Smelting, Melting, and Refining Furnace Exemption	

B. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g. D001, D003, F007, U112). Use an additional page if more spaces are needed.

C. Waste Codes for State Regulated (non-Federal) Hazardous Wastes. Please list the waste codes of the State hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

--	--	--	--	--	--	--

11. Additional Regulated Waste Activities (NOTE: Refer to your State regulations to determine if a separate permit is required.)**A. Other Waste Activities**

☐ Y ☒ N	1. Transporter of Hazardous Waste—If “Yes”, mark all that apply.
☐	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☒ N	2. Underground Injection Control
☐ Y ☒ N	3. United States Importer of Hazardous Waste
☐ Y ☒ N	4. Recognized Trader—If “Yes”, mark all that apply.
☐	a. Importer
☐	b. Exporter
☐ Y ☒ N	5. Importer/Exporter of Spent Lead-Acid Batteries (SLABs) under 40 CFR 266 Subpart G—If “Yes”, mark all that apply.
☐	a. Importer
☐	b. Exporter

B. Universal Waste Activities

☐ Y ☒ N	1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) - If “Yes” mark all that apply. Note: Refer to your State regulations to determine what is regulated.
☐	a. Batteries
☐	b. Pesticides
☐	c. Mercury containing equipment
☐	d. Lamps
☐	e. Aerosol Cans
☐	f. Other (specify) _____
☐	g. Other (specify) _____
☐ Y ☒ N	2. Destination Facility for Universal Waste Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities

☐ Y ☒ N	1. Used Oil Transporter—If “Yes”, mark all that apply.
☐	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☒ N	2. Used Oil Processor and/or Re-refiner—If “Yes”, mark all that apply.
☐	a. Processor
☐	b. Re-refiner
☐ Y ☒ N	3. Off-Specification Used Oil Burner
☐ Y ☒ N	4. Used Oil Fuel Marketer—If “Yes”, mark all that apply.
☐	a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
☐	b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Pharmaceutical Activities

☐ Y ☒ N	1. Operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals—if “Yes”, mark only one. Note: See the item-by-item instructions for definitions of healthcare facility and reverse distributor.
☐	a. Healthcare Facility
☐	b. Reverse Distributor
☐ Y ☒ N	2. Withdrawing from operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals. Note: You may only withdraw if you are a healthcare facility that is a VSQG for all of your hazardous waste, including hazardous waste pharmaceuticals.

12. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262, Subpart K.

☐ Y ☒ N	A. Opting into or currently operating under 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories— If “Yes”, mark all that apply. Note: See the item-by-item instructions for definitions of types of eligible academic entities.
☐	1. College or University
☐	2. Teaching Hospital that is owned by or has a formal written affiliation with a college or university
☐	3. Non-profit Institute that is owned by or has a formal written affiliation with a college or university
☐ Y ☒ N	B. Withdrawing from 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories.

13. Episodic Generation

☐ Y ☒ N	Are you an SQG or VSQG generating hazardous waste from a planned or unplanned episodic event, lasting no more than 60 days, that moves you to a higher generator category. If “Yes”, you must fill out the Addendum for Episodic Generator.
--	---

14. LQG Consolidation of VSQG Hazardous Waste

☐ Y ☒ N	Are you an LQG notifying of consolidating VSQG Hazardous Waste Under the Control of the Same Person pursuant to 40 CFR 262.17(f)? If “Yes”, you must fill out the Addendum for LQG Consolidation of VSQG hazardous waste.
--	---

15. Notification of LQG Site Closure for a Central Accumulation Area (CAA) (optional) OR Entire Facility (required)

☐ Y ☒ N	LQG Site Closure of a Central Accumulation Area (CAA) or Entire Facility.
A. ☐ Central Accumulation Area (CAA) or ☐ Entire Facility	
B. Expected closure date: _____ mm/dd/yyyy	
C. Requesting new closure date: _____ mm/dd/yyyy	
D. Date closed : _____ mm/dd/yyyy	
☐	1. In compliance with the closure performance standards 40 CFR 262.17(a)(8)
☐	2. Not in compliance with the closure performance standards 40 CFR 262.17(a)(8)

16. Notification of Hazardous Secondary Material (HSM) Activity

☐ Y ☒ N	Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 260.30, 40 CFR 261.4(a)(23), (24), (25), or (27)? If "Yes", you must fill out the Addendum to the Site Identification Form for Managing Hazardous Secondary Material.
--	---

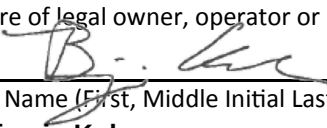
17. Electronic Manifest Broker

☐ Y ☒ N	Are you notifying as a person, as defined in 40 CFR 260.10, electing to use the EPA electronic manifest system to obtain, complete, and transmit an electronic manifest under a contractual relationship with a hazardous waste generator?
--	--

18. Comments (include item number for each comment)

It is unclear what code to enter in Section #7. The current activity at the facility is a car dealership (NAICS 441110). The immediate preceeding activity was a machine shop (NAICS 332710). When the surface impoundment was in operation, the facility was a printed circuit electronic assembly manufacturing facility (NAICS 334418).

19. Certification I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. **Note: For the RCRA Hazardous Waste Part A permit Application, all owners and operators must sign (see 40 CFR 270.10(b) and 270.11).**

Signature of legal owner, operator or authorized representative 	Date (mm/dd/yyyy) 4/2/2026
Printed Name (First, Middle Initial Last) Benjamin Kohr	Title Corporate Secretary, Sparton Corp.
Email Benjamin.Kohr@elbitsystems-us.com	
Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy)
Printed Name (First, Middle Initial Last)	Title
Email	

Appendix A: Additional Contacts

1. Contact Name

Contact Type	Preferred Language	
First Name Joseph	MI S	Last Name Lerczak
Title Project Coordinator		
Email joe.lerczak@sparton.com		
Phone 517-262-8195	Ext	Fax

A. Contact Address

☐ Same as Location Address

Street Address		
City, Town, or Village		
State	Country	Zip Code

2. Contact Name

Contact Type	Preferred Language	
First Name	MI	Last Name
Title		
Email		
Phone	Ext	Fax

A. Contact Address

☐ Same as Location Address

Street Address		
City, Town, or Village		
State	Country	Zip Code

3. Contact Name

Contact Type	Preferred Language	
First Name	MI	Last Name
Title		
Email		
Phone	Ext	Fax

A. Contact Address

☐ Same as Location Address

Street Address		
City, Town, or Village		
State	Country	Zip Code

United States Environmental Protection Agency

HAZARDOUS WASTE PERMIT PART A FORM



1. Facility Permit Contact

First Name	Joseph	MI	S	Last Name	Lerczak
Title	Project Coordinator				
Email	joe.lerczak@sparton.com				
Phone	517-262-8195	Ext		Fax	

2. Facility Permit Contact Mailing Address

Street Address	2944 Sheridan Circle				
City, Town, or Village	Jackson				
State	MI	Country	USA	Zip Code	49201

3. Facility Existence Date (mm/dd/yyyy)

7/1/1961

4. Other Environmental Permits

A. Permit Type	B. Permit Number												C. Description
N	N	M	R	0	0	A	4	5	3				NPDES Storm Water Permit
E	1	2	0	3									City of Albuquerque Authority-to-Construct
E	0	0	4	4	2								City of Albuquerque Air Quality Source Re
E	D	P	1	1	8	4							New Mexico Environment Department Dis

5. Nature of Business

When the surface impoundment was in operation, the facility was a printed circuit electronic assembly manufacturing facility (NAICS-334418). Currently, corrective action is being performed under a Consent Decree dated March 3, 2000.

6. Process Codes and Design Capacities

Line Number		A. Process Code			B. Process Design Capacity		C. Process Total Number of Units	D. Unit Name
					(1) Amount	(2) Unit of Measure		
					N/A			

7. Description of Hazardous Wastes (Enter codes for Items 7.A, 7.C and 7.D(1))

Line No.		A. EPA Hazardous Waste No.				B. Estimated Annual Qty of Waste	C. Unit of Measure	D. Processes											
								(1) Process Codes								(2) Process Description (if code is not entered in 7.D1))			
						N/A													

8. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

9. Facility Drawing

All existing facilities must include a scale drawing of the facility. See instructions for more detail.

10. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas. See instructions for more detail.

11. Comments

Sparton Pictures taken on March 6, 2026



CW-1 Pump house Exterior Front/Back



CW-1 wellhead in front of CW-1 pump house



CW-1 Pump house interior with aquamag drums

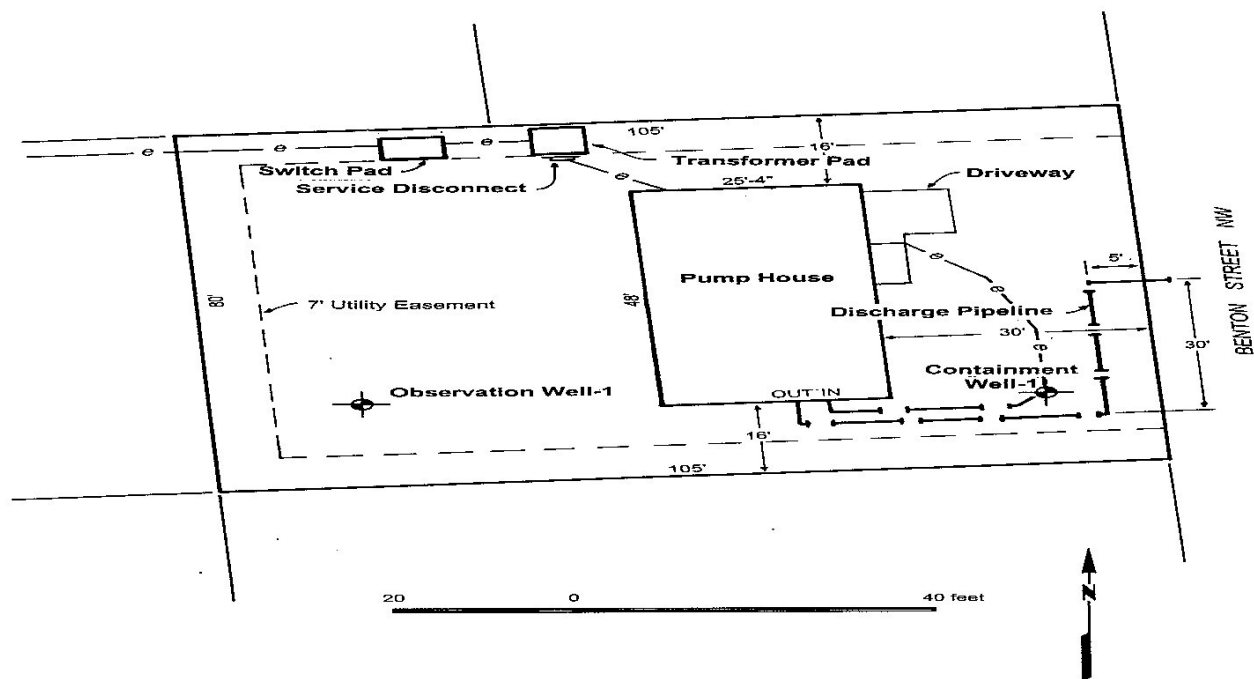
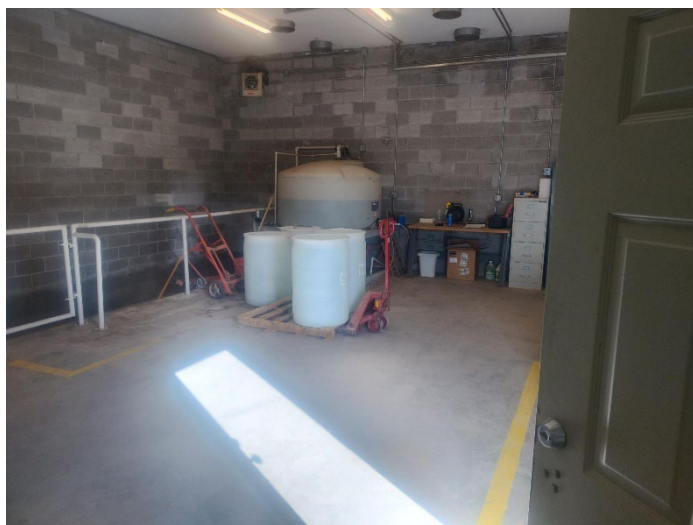


FIGURE 3
UTILITY PLAN
LOT 9, BLOCK 2, THE KNOLLS OF PARADISE HILLS, UNIT 2
SPARTON TECHNOLOGY, INC.



CW-1 aquamag tank



CW-1 Air Stripper



CW-1 Sump



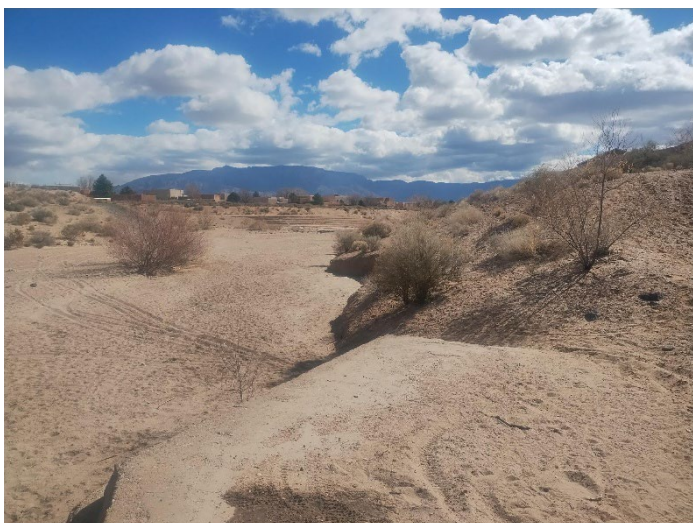
CW-1 Air Stripper



PZG-1 gauged monthly



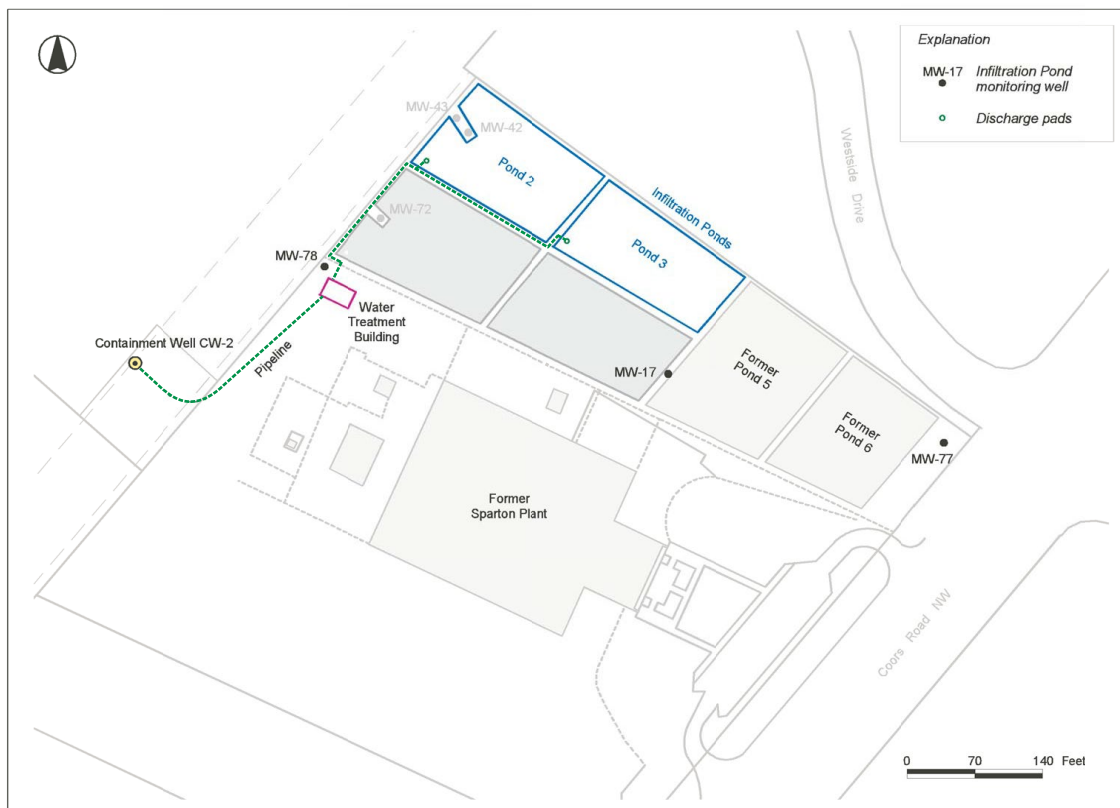
CW-1 Infiltration Gallery Looking South



CW-1 Infiltration Gallery looking East



CW-1 Infiltration Gallery looking West



CW-2 Site Map



CW-2 Pump house and storage building



CW-2 settling ponds



CW-2 pump house and storage



CW-2 Aquamag tank, sump and air stripper

CW-2 Air Stripper



CW-2 Aquamag Tank

CW-2 Storage building



CW-2 Storage Building



CW-2 Well vault



CW-2 Wellhead



CW-2 Pond 3



CW-2 Pond 3 with Pond 2 in the background



CW-2 Former Pond 1

Sparton Pictures taken on February 2, 2026



Looking Northwest



Looking East

Source Containment Cap after pouring 25 gallons of water to test the drainage



Looking Northeast



Looking South

Source Containment Cap after pouring 25 gallons of water to test the drainage

PERMIT ATTACHMENT C WASTE ANALYSIS PLAN

C.1 WASTE ANALYSIS PLAN

Sparton Technology, Inc. is currently conducting data acquisition, analysis and groundwater monitoring under the Consent Decree. Therefore, the list of the wastes and the maximum annual quantities of wastes that the Permittee was previously allowed to manage, treat and/or store at the Facility is not required.

PERMIT ATTACHMENT D CONTINGENCY PLAN

D.1 CONTINGENCY PLAN

It is anticipated that the surface impoundment will not present a current or future threat to human health or the environment due to the design of the cap. If deterioration of the cap, monitoring wells, or security fence is found by the Facility personnel during inspection, then the repair of the damaged equipment or material shall be initiated in a timely manner.

In the event of an unforeseen emergency related to the surface impoundment, the Emergency Coordinators listed below in Table D shall be notified and the applicable regulatory procedures carried out, as specified in Permit Part 2, Section 2.10.

TABLE D

EMERGENCY COORDINATOR LIST

Emergency Coordinator	Name & Title	Office Address	Telephone Number
Primary	Joseph Lerczak: Project Coordinator	2944 Sheridan Circle, Jackson, MI 49201	Office: (517) 262-8195 Office: (517) 262-8195
Alternate	Scott Miles, Program Manager	320 Gold Avenue SW, Suite 1300, Albuquerque, NM 87102	Office: (505) 224-9013 Cell: (505) 303-6561

PERMIT ATTACHMENT E INSPECTION PLAN

E.1 Inspection Plan

The Permittee shall inspect the general condition of the cap on a semi-annual basis. To facilitate this inspection, vehicular access to the area shall be restricted for a length of time sufficient to complete a thorough inspection. This inspection will include the drainage swale on the north and west sides of the cap to ensure that it is clear of debris and that the sides are intact. A visual inspection of the entire 3-inch-thick asphaltic wearing surface shall also be performed. The location of any gouges, cracks, surface-movement, and/or pavement deterioration (chemical or natural) shall be noted. Any breaches of the wearing surfaces which expose (however slightly) the asphalt base shall be repaired, and the repair will commence immediately. Undisturbed wearing surface material shall be removed for a distance of 6 inches in all directions around the breach, and this area shall be resurfaced as specified for the initial paving in the Post- Closure Care Plan (Permit Attachment H). If, at any time between inspections, any sort of breach of the wearing surface is reported, there shall be an immediate inspection to determine if repair is necessary.

The Permittee shall conduct inspection of the ground-water monitoring wells at MW-16 and MW-25, which penetrate the cap, to confirm the integrity of the cap. This will include the working order of the security caps and physical damage to the protective casing or surface grouting. If one or both wells are no longer needed as part of corrective action, they will be plugged and abandoned as necessary to ensure the integrity of the cap. The Permittee shall also inspect the pump-and-treat system components, building, infiltration gallery, and infiltration ponds.

E.2 Inspection Schedule

The Permittee shall conduct a semi-annual inspection of the cap for maintenance, inspection of the monitoring wells, subsidence, and for security to prevent the unknowing, and to minimize the possibility for the unauthorized, entry of persons or vehicles into the active portion of the Facility monitoring sites. In addition to the inspection requirements specified in this Attachment (E), an inspection checklist component for monitoring wells and the items to be inspected are listed below in Table E-1 of this Attachment.

The schedule of each semi-annual inspection shall be kept at the Corporate Office or consultant(s) office for a minimum of three years from the date of each inspection.

TABLE E-1

Post-Closure Semi-Annual Inspection Checklist for the Sparton Technologies, Inc. Facility

Date of Inspection: ____

Name of Inspector: ____

Name of Surveyor: ____

Item	Description of What to Inspect for	Problem (Y/N)	Remarks	Action Taken	Date
Maintenance	Wearing surface				
	Gouges				
	Deterioration				
	Subsidence				
General	Ponding on Cap				
	Rainfall Run-on				
Subsidence	Benchmark Survey				
Monitor Wells M-16 & M-25	Surface Leakage to wells				
	Rusting or broken well covers				
	Integrity of locks				
Security	Integrity of fences and gates				
	Integrity of locks				
	Integrity and status of signs				
	Evidence of vandalism				
	Integrity of benchmarks				

Inspector's Signature: _____ Date: ____

Owner/Operator's Signature: _____ Date: ____

PERMIT ATTACHMENT F PERSONNEL TRAINING PLAN

F.1 INTRODUCTION

Although personnel training is no longer required for post-closure permits there is still the need for minimal personnel training with regard to maintenance of the cap for protection of human health and the environment.

F.2 PERSONNEL TRAINING PLAN FOR THE FACILITY

Personnel training shall be part of the post-closure plan for the cap. The program shall ensure that the personnel involved in the post-closure activities are properly trained to inspect the security measures, condition of cap, and groundwater monitoring wells which penetrate the cap. Such personnel will have received training in environmental field procedures through a combination of academic training and work experience.

PERMIT ATTACHMENT G CLOSURE OF THE FORMER HAZARDOUS WASTE MANAGEMENT UNIT

G.1 INTRODUCTION

Sparton Technology, Inc. operated an electronics manufacturing plant at 9621 Coors Boulevard NW, Albuquerque, New Mexico, from 1961 through 1991. The waste generated from manufacturing activities were spent solvents and metal-plating wastes. The following section provides a brief chronology of the hazardous waste management activities at the Facility, and closure activities of the former waste management units. The approved Closure Plan is provided in Section G.4. The Closure Plan was implemented in late 1986 through early 1987. NMED approved the certifications of closure on by letter dated May 18, 1987. The deed Notice of Restriction is presented in Section G.5.

G.2 CLOSURE OF THE HAZARDOUS WASTE MANAGEMENT UNIT

Prior to the effective date of the Federal Resource Conservation and Recovery Act (RCRA) on November 19, 1980, plant operations disposed spent solvents in an unlined 5-foot x 5-foot sump approximately two feet deep made of concrete blocks and allowed to evaporate. It is unclear exactly when this sump was constructed or how spent solvents were handled before construction of the sump. Plant operations stopped using the sump for storage of hazardous waste spent solvents in October 1980. After October of 1980, spent solvents were placed in drums that were accumulated in the Old Drum Storage Area. After May of 1981, the spent solvents were placed in drums and accumulated in a New Drum Storage Area (HLA, December 19, 1985; Martinez, January 16, 1981).

The plating wastes were placed in a lined surface impoundment for accumulation and then shipped offsite for disposal during the manufacturing process. Available records suggest that the now closed surface impoundment was initially constructed in 1975 and expanded in 1977 (HDR, May 1, 1992). There are unconfirmed reports that before the closed surface impoundment was built, an earlier pond existed in the area that is capped. The now closed surface impoundment received waste until August 1983, when it was taken out of service (HLA, May 7, 1985 and December 17, 1985). After that date, plating wastes were drummed and accumulated on-site for less than 90 days.

In December of 1985, Sparton submitted a plan to formally close the surface impoundment under RCRA (HLA, December 19, 1985) because the surface impoundment and two drum storage areas had not been used since August 1983. The "closure in place" of the surface impoundment was certified on December 18, 1986 (Mico, December 18, 1986). The new drum storage area was certified closed on October, 15 1986. The old drum storage area was later certified clean-closed on December 31, 2001.

G.3 REFERENCES

Bernalillo County. 1988: Bernalillo County Zoning Atlas, Volume 1.

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Bryan, Kirk. 1938. Geology and Groundwater Conditions of the Rio Grande Depression in Colorado and New Mexico. Regional Planning, Pt. 6, Rio Grande Joint Investigation Upper Rio Grande Basin, Natural Resources Commission, Vol.1, Part 2, Section 1.

Environmental Protection Agency. July 1993. Code of Federal Regulations, 40 CFR Parts 260 to 299.

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Harding Lawson Associates. December 29, 1982. Environmental Risk Assessment Survey, Sparton Southwest, Inc. Albuquerque, New Mexico.

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Harding Lawson Associates. December 17, 1985. Hazardous Waste Facility Post Closure Care Plan, Coors Road Plant. Albuquerque, New Mexico.

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HDR Engineering, Inc. Revised May 1, 1992. RCRA Facility Investigation, Sparton Technology, Inc. Coors Road Facility, Albuquerque, New Mexico. (Prepared by Harding Lawson Associates. December 14, 1990).

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Lambert, P. W. 1968. Quaternary Stratigraphy of the Albuquerque Area, New Mexico. Ph.D. Dissertation, University of New Mexico.

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METRIC Corporation. May 2000. Sparton Technology, Inc. Final Off-Site Containment System Operation and Maintenance Manual

METRIC Corporation. May 2000. Design Plans and Specifications and Permits for the Source Containment System at the Sparton Coors Road Plant

Mico, Richard D. July 21, 1983. Letter to Regional Administrator, USEPA Region VI, Dallas, Texas.

Mico, Richard D. December 18, 1986. Letter to Peter Pache, State of New Mexico Environmental Improvement Division, Hazardous Waste Section, Santa Fe, New Mexico.

Mico, Richard D. February 18, 1987. Letter to Jack Elvinger, State of New Mexico Environmental Improvement Division, Hazardous Waste Section, Santa Fe, New Mexico.

New Mexico Environmental Improvement Board. June 14, 2000 (A, October 1, 2003; A, March 1, 2009). Environmental Protection Title 20, Hazardous Waste Chapter 4, Part 1, Hazardous Waste Management Regulations (20.4.1 NMAC).

New Mexico Office of the State Engineer, 2013. New Mexico Water Rights Reporting System (NMWRRS) On the Web. nmwrrs.ose.state.nm.us/nmwrrs/index.html

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U.S. Department of Agriculture, Soil Conservation Service. June 1977. Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico.

U.S. Department of Commerce, Weather Bureau. 1958. Wind Summary and Annual Wind Rose, 1949- 1958.

G.4 CLOSURE PLAN & APPROVAL

Pursuant to 40 CFR 270.28, and 270.14(b)(13) referenced therein, the following sections are for informational purposes only.

The 1985 closure plan (G.4.1) was public noticed on February 20, 1986 (G.4.2). The closure plan was subsequently approval by the NMED (formerly the Environmental Improvement Division) on June 16, 1986 (G.4.3). By letter dated May 18, 1987, NMED approved the certifications of closure for the new drum storage area, old drum storage area, and surface impoundment (G.4.4).

New Mexico Environment Department
April 2026

Sparton Technology, Inc.
NMD083212332

G.4.1 Sparton Closure Plan (December 19, 1985)

SPARTON TECHNOLOGY, INC.

4901 Rockaway Blvd., SE
Rio Rancho, New Mexico 87124
P.O. Box 1784
Albuquerque, New Mexico 87103
Phone (505) 892-5300
TWX 910-989-1657

December 19, 1985

Mr. Peter H. Pache
Program Manager
Hazardous Waste Section
State of New Mexico
Environmental Improvement Division
P.O. Box 968
Santa Fe, NM 87504-0968

Dear Mr. Pache:

Our consultants, Harding Lawson Associates (HLA), have prepared and are submitting directly to you a revised Closure Plan and Post-Closure Care Plan.

The Closure Plan and Post-Closure Care Plan have been revised to address only those aspects of closure relating directly to the pond and sump areas and the drum storage areas. Remedial investigations will be addressed in later reports which will be made available to you.

HLA has provided comments addressing specific questions raised in your "Notice of Incompleteness" dated September 26, 1985 (copy of letter attached). These comments are as follows:

Closure/Post-Closure

- Page 19, Paragraph 2:

An impervious cover will be provided (Section V of Closure Plan).
Post-closure care is provided for in the Post-Closure Care Plan
in accordance with 206.D.10.f. Ground-water monitoring is provided
in accordance with 206.D.1 in Section F of the Post-Closure Plan.

Mr. Peter H. Pache
State of New Mexico
December 19, 1985
Page Two

- Page 19, Paragraph 2:

All existing soils will be retained beneath the impervious cover. Those soils which, due to location or appearance, are most likely to be contaminated are to be placed within the lined ponds (Section V.A. of the Closure Plan).

- Page 19, Paragraph 3:

The underground discharge pipes have already been cut off and plugged at the building. They will be left in place except in areas of excavation. All piping will be overlain by the impervious cover (Appendix B, Plate B-1 of the Closure Plan).

- Page B-5, Appendix B, Paragraph 3:

The drilling spoils and demolition waste will be retained inside the lined pond. All area soils will be under the impervious cover (Section V.A. of the Closure Plan).

- Page B-6, Paragraphs 1 and 2:

Material excavated from the sump and surrounding soils will be placed in the lined ponds under the impervious cover (Section V.A. of the Closure Plan).

- Page D-2, Appendix D - Documentation:

The Chain-of-Custody document will be revised to include soil sample depth (see Appendix C of the Closure Plan).

- Page 5, Appendix E - Analytical Methodology:

Both methods for determination of TOX were included in the draft Closure Plan, because Rocky Mountain Analytical Laboratory had not yet completed validation procedure for either method. The laboratory has now completed validation for the methanol extraction. The detection limit for this method has been significantly reduced to 2 mg/Cl⁻kg (see Appendix D, page 5a).

Mr. Peter H. Pache
State of New Mexico
December 19, 1985
Page Three

- Page N-1, Appendix N., Paragraph 2:

All drilling spoils, demolition materials, and soil in the pond and sump area will be retained in that area and will be covered with an impervious cap (Section V.A. of the Closure Plan).

- Page N-1, Paragraph 2:

Excavation and removal is no longer proposed; therefore, this comment is no longer applicable.

- Page N-2:

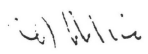
Excavation and removal is no longer proposed; therefore, additional soil testing is not needed. The cost for installation and maintenance of the impervious cover has been included in closure and post-closure cost estimates.

Comments on remedial activities are not addressed here because the Closure and Post-Closure Plans no longer include these items. The comments will be addressed in any future reports related to these issues.

We anticipate your review of the Closure Plan and Post-Closure Care Plan, and will appreciate your comments and/or approval of those documents. Informal comments and questions may be directed to HLA's Mr. Thomas Burger. Formal response should be addressed to the undersigned.

Very truly yours,

SPARTON TECHNOLOGY, INC.


Richard D. Mico
Vice President and General Manager

RDM:mds
Enc.

cc: Mr. Blair Thompson, Sparton Corporation
Mr. Cleoves Martinez, Sparton Technology
Mr. Tom Burger, Harding Lawson Associates
Mr. Jon DeWitt, Varnum, Riddering, Schmidt & Howlett

SPARTON TECHNOLOGY, INC.
subsidiary of **SPARTON CORPORATION**

003828

A Report Prepared For

Sparton Corporation
2400 East Ganson Street
Jackson, Michigan 49402

POND AND DRUM STORAGE AREAS
CLOSURE PLAN
SPARTON TECHNOLOGY, INC.
COORS ROAD PLANT
ALBUQUERQUE, NEW MEXICO

HLA Job. No. 6310,012.12

MASTER

Prepared by

Howard Gustafson
Howard Gustafson, P.E. *by UFA*
Senior Engineer

Thomas S. Burger
Thomas S. Burger, R.P.S.
Associate Environmental Scientist

Harding Lawson Associates
6220 Westpark, Suite #100
Houston, Texas 77057
Telephone: (713) 789-8050

December 19, 1985

RECEIVED
DEC 20 1985
HAZARDOUS WASTE SECTION

CC4348

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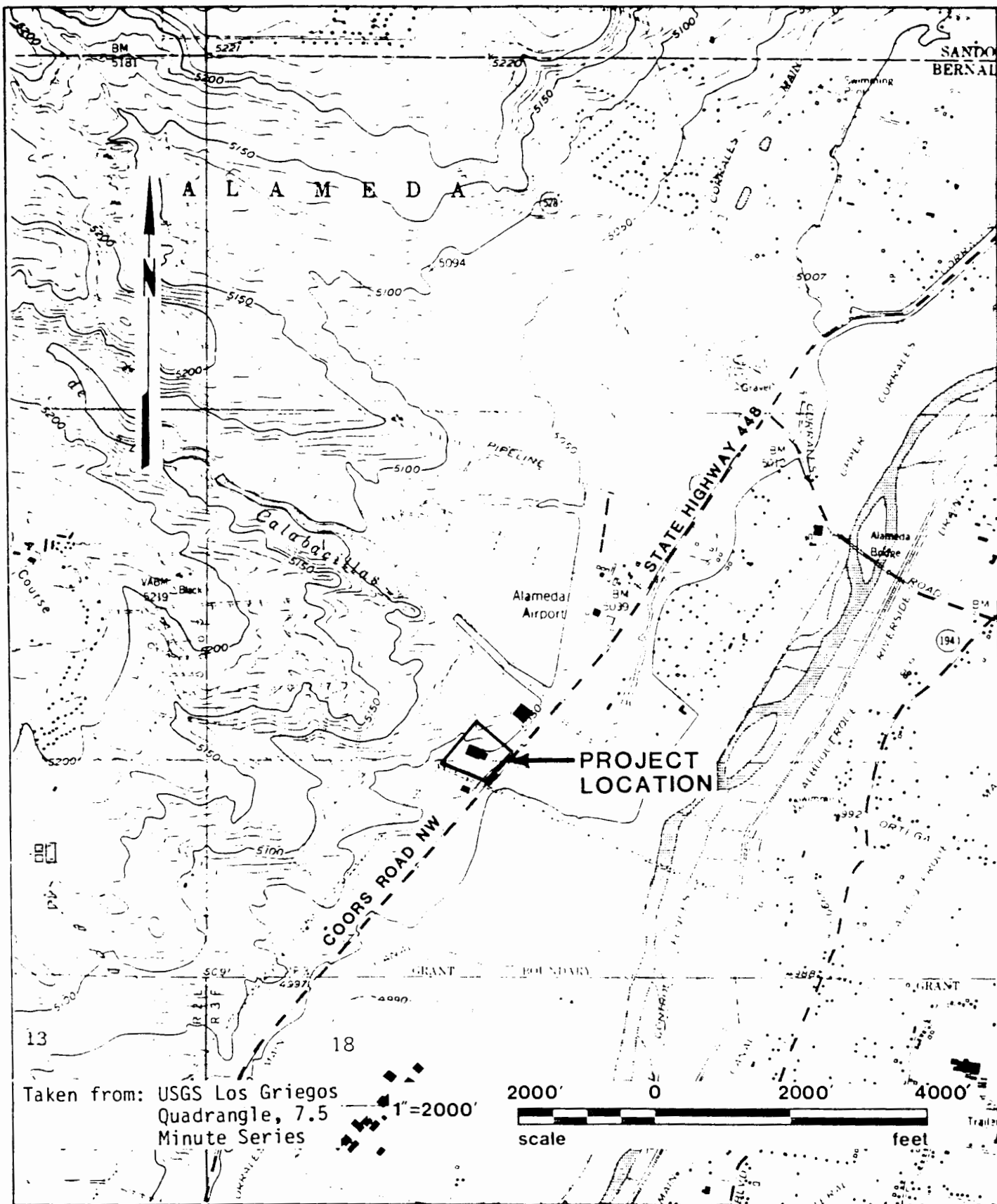
I GENERAL FACILITY INFORMATION

- A. Owner and Operator: Sparton Technology, Inc.
- B. EPA ID No.: NMD083212332
- C. Mailing Address: Post Office Box 1784
Albuquerque, New Mexico 87103
- D. Facility Location: 9621 Coors Road, N.W.
Albuquerque, New Mexico 87114
- E. Telephone: (505) 892-5300
- F. Type of Facility: Hazardous Waste Storage

II INTRODUCTION

Sparton Technology, Inc. (Sparton) has operated four hazardous waste storage units, at its Coors Road facility, which have received wastes since November 19, 1980. The facility location is shown in Plate 1. These units include two lined surface impoundments (ponds) and two drum storage areas, as shown in Plate 2. Sparton has submitted a Part A Application for a Hazardous Waste Permit to operate these units. The operation and subsequent closure of the ponds and the drum storage areas is subject to the New Mexico Hazardous Waste Management (HWM) Regulations.

Sparton also operated a waste solvent storage sump, which was closed in October 1980. Since this date is prior to the effective date of 40 CFR 265, Subtitle C, this sump is not regulated under New Mexico's HWM regulations.



Harding Lawson Associates
Engineers, Geologists
& Geophysicists

LOCATION MAP
Sparton Technology, Inc.
Albuquerque, New Mexico

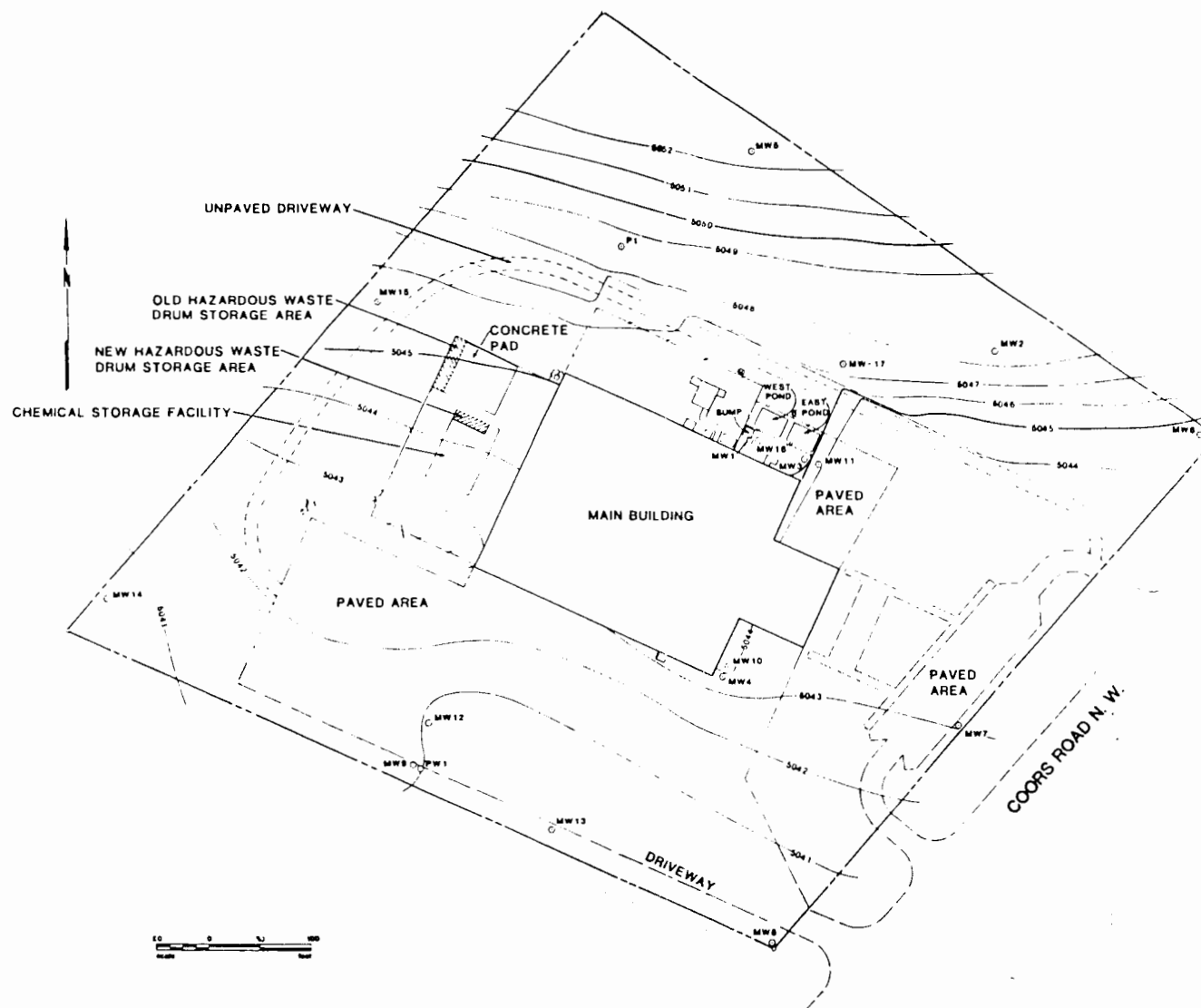
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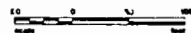
6310,012.12

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12-17-85



- LEGEND**
- MONITOR WELL LOCATION
 - ⊙ WATER METER
 - ⊙ GAS METER
 - - - CHAIN LINK FENCE
 - - - LIMITS OF PAVEMENT
 - - - UNPAVED DRIVEWAY
 - 5045 ELEVATION CONTOURS (MSL)
 - - - PROPERTY LINE



Harding Lawson Associates
Engineers, Geologists,
& Geophysicists

PLOT PLAN
SPARTON TECHNOLOGY, INC.
ALBUQUERQUE, NEW MEXICO

2

DATE: 03.10.01	BY: MK	DATE: 12.17.86	BY: H.G.
----------------	--------	----------------	----------

The planned closure of the ponds, the drum storage areas, and the sump are subject to the New Mexico Water Quality Control Commission Regulations.

This closure plan will describe how Sparton plans to close each unit at this facility in a manner which is environmentally sound and which meets the legal requirements of both sets of regulations.

III BACKGROUND

A. Drum Storage Area

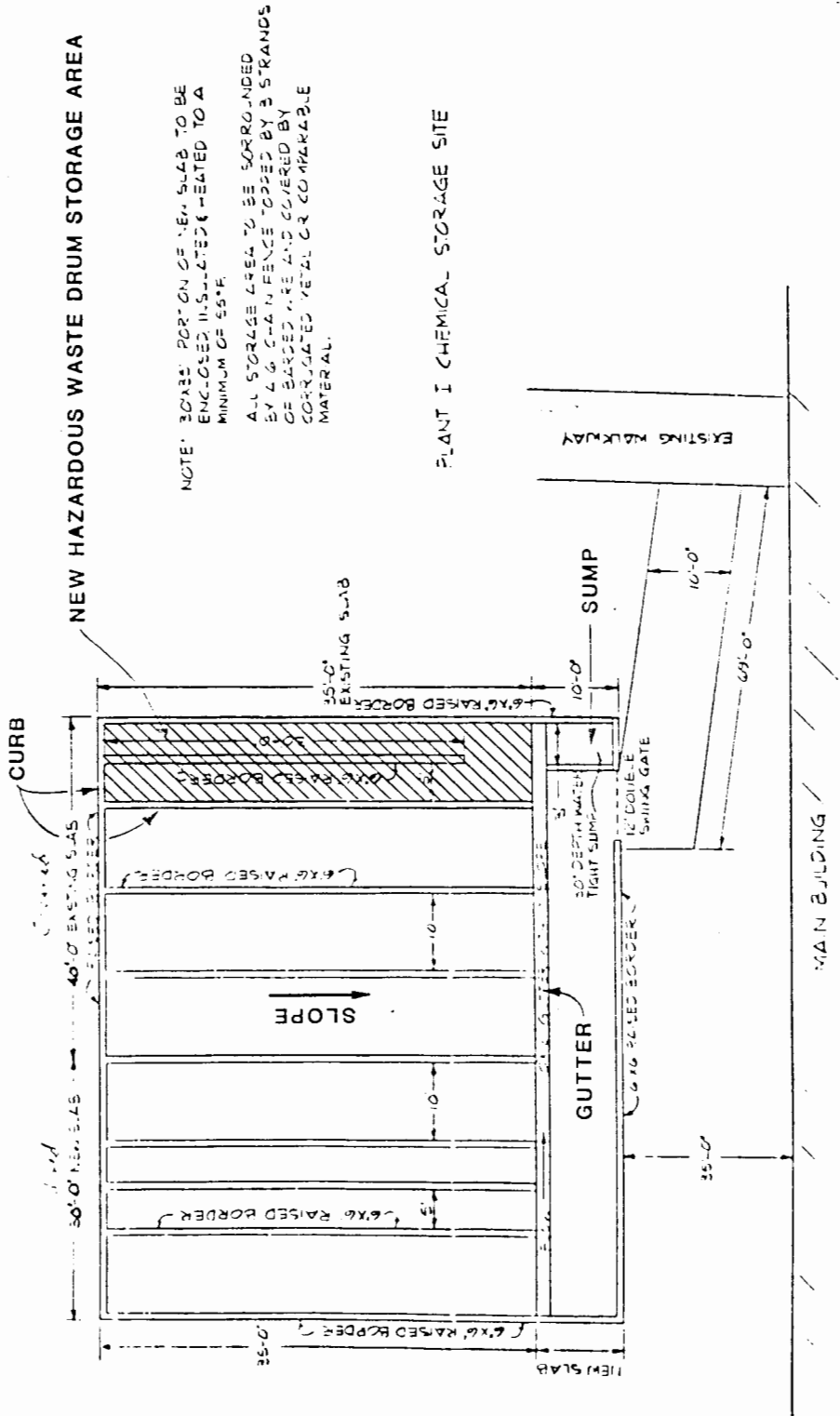
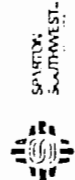
The old hazardous waste drum storage area (old drum area) was used to store hazardous wastes prior to May 1981, when the present hazardous waste drum storage area (new drum area) became operational. The old drum area was located adjacent to the west edge of a concrete pad north of the new drum area.

The new drum area occupies the northern portion of a covered chemical storage facility which is fenced and completely underlain by a curbed concrete pad (see Plate 3). The concrete pad is sloped to drain any spills toward a concrete gutter which, in turn, leads to an open-top concrete sump. Segregation of incompatible materials is maintained by a series of spill containment curbs which control any drainage toward the gutter.



REVISIONS			DESCRIPTION
NO.	DATE	BY	

FOR THE RECORD, THE DESIGNER HAS REVIEWED THE SITE AND THE EXISTING CONDITIONS AND HAS FOUND NO EVIDENCE OF CONTAMINATION OF THE GROUNDWATER OR SOILS. THE DESIGNER HAS NOT CONDUCTED A FIELD SURVEY OF THE SITE AND HAS NOT CONDUCTED A FIELD SURVEY OF THE GROUNDWATER OR SOILS.



NOTE: 30' x 40' PORTION OF NEW SLAB TO BE ENCLOSED INSULATED & HEATED TO A MINIMUM OF 55°F.

ALL STORAGE AREA TO BE SURROUNDED BY 4\"/>

PLANT I CHEMICAL STORAGE SITE



Harding Lawson Associates
Engineers, Geologists
& Geophysicists

CHEMICAL STORAGE FACILITY
Sparton Technology, Inc.
Albuquerque, New Mexico

Sparton has notified the New Mexico Environmental Improvement Division (EID) of its intention to cease storage of containerized hazardous waste for periods of longer than 90 days and to withdraw its Part A Application. To convert to short term storage, the drum storage areas must be closed in accordance with the HWM regulations. Therefore, this closure plan presents the steps necessary to close the old and new drum areas in a manner which provides for their subsequent reuse.

B. Pond and Sump Area

The two ponds (East Pond and West Pond) and the closed sump are located on the north side of the manufacturing plant. The ponds were used exclusively for storage of aqueous plating wastes, on a regular basis, until August 1983, when Sparton ceased discharging to either pond and removed the remaining plating wastes. At that time, the liners were visually inspected and appeared to be intact.

The sump was used exclusively for the storage of waste solvents until its closure in October 1980. Sump closure consisted of removing residual wastes from the sump and filling the sump with sand. The removed wastes were containerized and disposed as a hazardous waste at an appropriate off-site disposal facility.

C. Additional Background Information

The site is located about 2,500 feet northwest of the Rio Grande River on the west side of Coors Road, NW. Locally, the area is hilly and slopes in several wide terraces toward the river. The site is approximately 60 feet above the Rio Grande River, and 40 to 60 feet lower than the Paradise Park residential area, which is located approximately 4,000 feet west of the site. Approximately 200 feet southeast of the site, and across Coors Road, is the Coralles Canal. The Calabacilla Arroyo is located about 1,000 feet north of the site.

The site is underlain by the massive sand and gravel aquifer of the Rio Grande River Valley Basin. Surface elevations are approximately 65 feet above the water table. This is a discharge region for the river, and regional ground-water flows in a southward direction consistent with the flow of the river and slightly divergent from the river. Soils in the area are generally sand and gravel with lenses of finer grained materials ranging from silty sands to clay. A locally extensive finer grained unit underneath the subject site separates a thin upper aquifer (0- to 10-feet thick) from a lower aquifer estimated to be 50- to 60-feet-thick. The finer-grained unit consists of silty sands to clay, is 5- to 10-feet thick, and has been characterized as a semi-confining unit.

Ground-water monitoring has detected metallic hazardous waste constituents and a number of volatile organic constituents in ground water of the upper and lower aquifers. Although contamination is believed to be much higher in the upper aquifer, an investigation is underway to determine the vertical and lateral extent of the contamination. A vadose zone investigation is presently underway to evaluate the extent of contamination in the soils of the unsaturated zone. Previous studies and preliminary results from the present investigations indicate that extensive spreading of contaminants has occurred in the vadose zone. Soil moisture values are generally low and are believed to represent evaporation from the water table.

The Albuquerque climate is semi-arid, with annual rainfall measuring approximately 10 inches per year and annual evapotranspiration in excess of 60 inches per year. Record rainfalls are on the order of 1 inch in 24 hours. Rain at the facility generally enters the top layer of soil and is held by capillary action until removed by a wicking action caused by evaporation at the surface. This phenomenon results in practically no local recharge of the aquifer. Preliminary results from the vadose zone investigation indicate that, although metallic and organic constituents are detectable in soils at most depths, no concentrated reservoirs of contamination appear to exist above the water table. Some metals in soil samples are detected in the low parts per million range, and halogenated organic chemicals

have been either not detected or have been in the low parts per billion.

In contrast to the above, HNU meter readings of soil samples at the time of collection indicated organic contaminants in the vapor phase, possibly resulting from vaporization of contaminants in the upper aquifer. This suggests that a useful remedial technology may involve air venting within the vadose zone to drive off volatile constituents. This alternative has not been fully evaluated as yet; however, we feel that any cap design must be compatible with this type of technology. Air venting would only be feasible if the cap were designed to a minimal size, leaving surrounding soils exposed to the atmosphere to provide for the escape of organic vapors.

Sparton has undertaken an extensive site investigation to characterize the site's geology and hydrogeology and to determine the extent of contamination and the dynamics of contaminant migration. Reports of the first three phases of investigation include the following:

- MONITORING WELL INSTALLATION REPORT, SPARTON SOUTHWEST, INC., COORS ROAD FACILITY, Harding Lawson Associates, June 29, 1983
- INVESTIGATION OF SOIL AND GROUND-WATER CONTAMINATION, SPARTON TECHNOLOGY, COORS ROAD FACILITY, ALBUQUERQUE, NEW MEXICO, Harding Lawson Associates, March 19, 1984

- HYDROGEOLOGIC CHARACTERIZATION AND REMEDIAL INVESTIGATION, SPARTON TECHNOLOGY, INC., 9261 COORS ROAD, NORTHWEST, ALBUQUERQUE, NEW MEXICO, Harding Lawson Associates, March 13, 1985

A final phase of investigation is underway which includes studies of vadose zone contamination, ground-water mass transport modeling, and soil gas studies. These studies will be discussed in future reports.

D. Proposed Asphaltic Concrete Cap

As shown in this closure plan, the pond and sump area will be closed and subsequently covered with an asphaltic concrete cap to prevent surface water infiltration and subsequent leaching of contaminants from the vadose zone into the ground water. Asphaltic concrete has, according to EPA-600/Z-76-255, proven to be relatively impervious with coefficients of permeability of 1×10^{-8} cm/sec or less.

IV GENERAL INFORMATION

A. Facility Size and Type

The Coors Road facility is located on an approximately 12-acre parcel and consists of an approximately 64,000-square-foot building constructed in 1961. The company manufactures commercial, industrial, and military electronics which include circuit board

assemblies, transducers, sensors, and pressure systems. Facility operations include machine and model shops, printed circuit board manufacturing facilities, assembly areas, testing laboratory, engineering, and drafting.

B. Hazardous Wastes

The printed circuit manufacturing process at the Coors Road plant employs the use of metal plating which generates an aqueous plating waste which is classified as hazardous due to heavy metals and low pH. Waste solvents (chlorinated and nonchlorinated) are generated primarily from cold solvent cleaning of electronic components. The waste solvents, which are listed hazardous wastes, have always been managed separately from the plating wastes.

C. Hazardous Waste Management Units

1. Surface Impoundments

The two ponds are located in a fenced area on the north side of the main building. They are each approximately 20 by 30 feet in plan dimension by 5 feet deep. The ponds and the area between the ponds are lined with a 30-mil, two-ply hypalon liner with a polyester scrim. The East pond has concrete block walls, and the West Pond has cast concrete walls. In each, the walls contain a sloped sand backfill to support the liner. The pond area is enclosed by a security fence.

The surface impoundments were used for temporary storage of aqueous plating wastes. The ponds were alternately filled and emptied, providing regular opportunities to visually inspect for evidence of liner failure.

Any hazardous wastes or hazardous waste constituents which may have emanated from the ponds would have originated from aqueous plating wastes only. Waste solvents have never been stored in the ponds.

2. Old Solvent Sump

The sump is located in the same general area as the surface impoundments, constructed of concrete blocks, and measures approximately 5 feet by 5 feet in plan dimension by 2 feet deep. At one time, the sump was used for the storage of waste chlorinated and non-chlorinated solvents, which were emptied into the sump manually. Sparton closed the sump in October 1980 by removing the remaining waste and then filling the sump with sand. Since that time, no wastes have been managed in the sump. The sump is believed to be the source of organic contamination in the soils and ground water under the site.

a. Old Drum Area

The old drum area is an area where drums of hazardous waste were stored upon the ground surface prior to May 1981,

when containerized hazardous waste storage was transferred to the new chemical storage facility. The old drum area is immediately west of a concrete pad. The old drum area was not lined or paved with an impervious surface and did not have spill containment structures.

b. New Drum Area

The present hazardous waste drum storage area is the northern portion of a chemical storage facility which was specifically designed for this purpose (see Plate 3). The chemical storage facility is constructed over a curbed concrete pad which slopes to a concrete gutter which, in turn, drains to a concrete spill collection sump. Storage areas are segregated by 6-inch high curbs which serve to direct any spills towards the gutter. The entire facility is covered and enclosed by a fence which is equipped with a windbreak. The chemical storage facility fully meets regulatory requirements and contemporary standards for a hazardous waste and hazardous chemical drum storage area.

V POND AND SUMP CLOSURE

Pond and sump closure will consist of some excavation of potentially contaminated surface soils prior to placement of a relatively impervious asphaltic concrete cap. The soils thus removed will be disposed as fill in the ponds. The cap will divert surface

water and rainfall from the pond and sump area, thus minimizing infiltration of surface water into the ground.

A. Basis of Cap Design

An asphaltic concrete cap is proposed in lieu of the standard 2-1-2 cap described in EPA's Draft RCRA Guidance Document, LANDFILL DESIGN LINER SYSTEMS AND FINAL COVER, July 1982. The basis of this choice is related to site-specific characteristics.

Additional borings may become necessary in the future to further evaluate contamination or to install additional monitoring wells. The cap design should provide for easy repair in the event of additional borings or excavations. It is also possible that the final site remedial design would call for an extension of the capped area. Therefore, any cap installed over the pond and sump area should be designed to provide for a technically feasible enlargement. An asphaltic concrete cap can be easily repaired or extended as needed. A 2-1-2 cap (which includes a membrane component) will be difficult or impossible to repair, should additional borings be required. In addition, a clay/membrane cap is not amenable to areal enlargement.

A 2-1-2 cap (which includes a recompacted clay layer) will be subject to dehydration damage (shrinkage) in the semi-arid climate of Albuquerque, New Mexico.

We believe the most notable functions of a cap in this area will be to prevent surface water infiltration and to efficiently shed rainfall away from the closure area. HLA feels a properly engineered and constructed pavement-quality asphalt concrete cap will meet this requirement and, at the same time, avoid the disadvantages of a compacted clay membrane cap. Asphaltic concrete has, according to EPA-600/Z-76-255, proven to be relatively impervious with coefficients of permeability of 1×10^{-8} cm/sec or less.

The asphaltic concrete cap proposed in this plan has been designed using the AASHTO design method with a California Bearing Ratio of 10 for sandy soil, and a load bearing capacity of 100,000 pounds. The cap will consist of a six inch asphaltic base course overlain by a tack coat and a three inch asphaltic concrete surface course.

B. Closure Process

1. Site Preparation

Monitoring Wells MW1, MW3, and MW11, located in the vicinity of construction activity, will be abandoned and plugged prior to closure of the pond and sump area. The methods for plugging monitoring wells are included in Appendix E of this plan. The underground piping from the plant to the ponds has already been disconnected and plugged at the building. The abandoned piping will

be left in place except where encountered during excavation. Piping which is excavated will be placed in the ponds.

Existing fencing and gates, as shown on Plate A-1 (see Appendix A), will be removed from the construction area, and temporary construction barricades will be set up around the perimeter.

2. Pond Alteration

The walls of the ponds presently extend above the proposed elevation of the asphaltic concrete cap. Therefore, removal of the upper portions of the walls will be required before installation of the asphaltic concrete cap.

A 30-mil-thick hypalon liner that extends over the walls of the ponds is anchored near the ground surface on all sides of the ponds (see Plate A-2). The soils around the upper portion of the walls will be excavated so that the liner may be temporarily folded inward, thus exposing the pond walls. Soils excavated during this process will be placed inside the ponds. (The West Pond is presently about 10 to 25 percent filled with drill cuttings from area borings.)

The upper portions of the pond walls will be removed to an elevation of approximately 5043.5 feet MSL or about one to one and one half feet below existing ground surface. The top edge of the

walls will be capped with a sand mortar to provide a smooth surface, and the liner will be replaced over the walls and reanchored by burying the edges approximately one and one half feet below grade. Details on Plate A-2 in Appendix A illustrate this procedure.

Demolition wastes, including broken concrete, concrete blocks, and excess liner will be placed inside the lined ponds. Care will be taken to prevent demolition wastes from damaging the liner. Demolition materials will be placed on a bedding of drill cuttings or excavated soil.

3. Sump Removal

The old solvent sump, including concrete block walls and bottom slab and sand backfill, will be excavated and placed in the ponds. Again, care will be taken to prevent possible damage to the liner.

4. Subgrade Preparation

The surface soils in the cap area will be excavated to the bottom elevation of the asphaltic base course. These soils, consisting of sand and gravel, will be used for backfill in the ponds and sump. Backfill above the pond walls will consist of cement stabilized sand for a distance of approximately four feet on either

side of the wall to minimize differential settling which could possibly damage the liner that is draped over the pond walls.

As the ponds are backfilled, material will generally be hand tamped or vibrated to provide the required degree of compaction and to eliminate large void spaces without damaging the liner.

5. Paved Cap

When the areas within the two ponds and sump have been brought to the proposed grade, a 6-inch-thick asphaltic base course will be placed over the area as shown on Plate A-3 in Appendix A. The area to be paved will extend from the plant to approximately 10 feet beyond the north wall of the ponds, and from the existing paved parking lot to approximately 10 feet beyond the former sump location.

After the asphalt base has been placed, an asphaltic tack coat will then be applied. A 3-inch-thick asphaltic concrete surface course will be placed above the asphaltic base course. The final paved surface will sloped at 1- to 1-1/2 percent to promote drainage into the swale located on the north side of the cap and onto the existing paved area east of the cap.

6. Construction Specifications

Specifications for construction materials and procedures involved in the closure of the pond and sump area are included in Appendix C of this report.

7. Safety Plan

The proposed construction activities present some potential safety and health risks for construction workers and plant employees. Any construction activity creates potential safety hazards due to the movement and operation of machinery and from unnatural or unstable conditions due to excavation and other work. In addition, this construction site involves exposure of some potentially contaminated materials. Therefore, the construction area must be clearly posted and barricaded to prevent entry by unauthorized personnel.

The contractor will be responsible for the safety and health of his personnel. He will be required to develop and follow a written safety plan setting forth procedures and safeguards for all construction activities. A model safety plan is provided in Appendix F.

B. Closure Standard

The method of closure will minimize the need for future maintenance. The asphalt surface should require very little repair since only light weight vehicles will be allowed to use it. Effects of freezing and thawing should be minimal since the sub-grade consists of a well-graded, granular soil.

The asphaltic concrete surface will prevent infiltration of surface water or rainfall so that leaching of any contaminated material existing in the vadose zone should be minimized, thus keeping it out of the upper ground water.

C. Closure Certification

Following the above procedures, Sparton will obtain certification of closure from a registered professional engineer and submit this to EID.

VI CLOSURE OF DRUM STORAGE AREAS

A. Old Drum Area

The old drum area is an earthen plot located to the west of a concrete pad at the west end of the building. This area is shown in Plate 2. Since the old drum area contained no barriers to prevent migration of any spilled hazardous waste, an assessment will be made to determine if any hazardous wastes or hazardous waste constituents

have entered the soil. Sample collection methods for the assessment are discussed in Appendix G. Chain-of-custody procedures and analytical methods are described in Appendices C and D, respectively. If results of the assessment indicate that the soils are uncontaminated, no further closure activity will be required.

If it is determined that hazardous wastes or hazardous waste constituents have entered the soil, a more extensive investigation will be undertaken to determine the areal and vertical extent of vadose zone contamination. In this case, an amendment to this closure plan will be submitted to the EID.

A certificate of closure, indicating the results of the soil investigation, will be obtained from a registered professional engineer and submitted to the EID.

B. New Drum Area

Prior to closure of the New Drum Area, all hazardous waste currently in storage will be removed and disposed at an appropriate disposal facility. The concrete pad, curbs, drainage gutter, and collection sump will be visually inspected to determine that they are still intact, and that there is no evidence of past spills or leaks which may have escaped the storage facility. If any contamination is discovered within the storage facility, the facility will be

thoroughly cleaned with a portable steam cleaner. Contaminated wash water will drain to the integral sump and then be removed for disposal as a hazardous waste.

Following the above procedures, Sparton will obtain certification of closure from a registered professional engineer and submit this to EID. Following closure of the drum storage facility, Sparton will utilize the area for temporary storage of hazardous waste for periods not to exceed 90 days.

VII GROUND-WATER MONITORING

A. Alternative Ground-Water Monitoring Program

Long-term site ground-water monitoring is provided in Sparton's Alternative Ground-Water Monitoring Program (AGMP). The AGMP also provides an assessment of the extent of contamination and rate and direction of contaminant migration. The AGMP is discussed more fully in Appendix C of the Post-Closure Care Plan.

VIII SECURITY REQUIREMENTS

The drum storage area and the pond and sump area are currently surrounded by barriers comprised of the plant building and chain-link fences. Warning signs have been posted at both HWM units. These measures will provide adequate security for all remedial site activities which do not require removal of any fence.

During the planned pond and sump area closure, sections of the chain-link fence will be removed to provide access to work crews and equipment. If surface removal is required in the drum storage area, some of the adjacent fence may likewise have to be removed. During periods when the subject areas are not completely surrounded by the fence or building barriers, barricades will be erected which will clearly establish the work area. Warning signs will be posted indicating that the work site poses a danger due to the presence of hazardous substances, and that unauthorized entry is not allowed.

During periods when the work crews are not actively engaged in closure of the site, normal building security inspections will be modified to include the barricaded areas.

IX CLOSURE CERTIFICATION

Following each major element of the closure activities described herein, a statement will be provided by both Sparton and an independent registered professional engineer verifying that the closure activity has conformed to the closure plan. These individual closure elements include the following:

- A. Closure of the old hazardous waste drum storage area;
- B. Closure of the new hazardous waste drum storage area; and
- C. Construction of impervious cap over the ponds and sump area.

X NOTICE OF CLOSURE

Following the completion of closure of the drum storage area and the pond and sump area, Sparton will submit to the local land authority and to the EID Director a survey plat indicating the location of the closed hazardous waste management units.

Sparton will also record a notation on the deed to the Coors Road facility property that portions of the property have been used to manage hazardous waste.

XI FINAL CLOSURE SCHEDULE

A schedule of major closure activities is presented in Appendix H. This schedule may have to be amended periodically based upon new information. EID will be promptly notified upon any amendment to the schedule.

XII CLOSURE COST ESTIMATES

The closure cost estimates are presented in Appendix I. These cost estimates may have to be revised periodically. EID will be promptly notified of any revisions to the cost estimates.

DISTRIBUTION

1 copy to:

Sparton Corporation
2400 East Ganson Street
Jackson, Michigan 49202

Attention:

Mr. Blair Thompson

2 copies to:

Sparton Technology, Inc.
4901 Rockaway Boulevard, S.E.
Rio Rancho, New Mexico 87124

Attention:

Mr. Richard Mico

2 copies to:

Varnum, Riddering, Schmidt &
Howlett
171 Monroe Avenue, N.W.
Grand Rapids, Michigan 49503

Attention:

Mr. Jon F. DeWitt

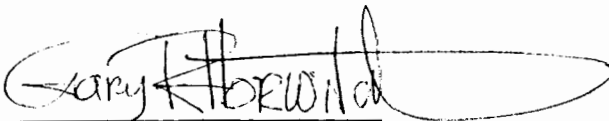
5 copies to:

Environmental Improvement
Division
Ground Water and Hazardous
Waste Bureau
Harold Reynolds Building
1190 St. Francis Drive
Santa Fe, New Mexico
87504-0968

Attention:

Mr. Peter H. Pache

QUALITY CONTROL REVIEW:

A handwritten signature in dark ink, appearing to read "Gary R. Horwitch", is written over a horizontal line.

Gary R. Horwitch, P.E.
Associate Engineer

APPENDIX A
POND AND SUMP AREA CLOSURE

APPENDIX B
SPECIFICATIONS

Technical Specifications
For
Pond and Sump Closure

Sparton Technology, Inc.
Albuquerque, New Mexico

SECTION 00010
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SECTION 01010
SUMMARY OF WORK

PART I - GENERAL

1.01 Scope

This specification provides general direction and technical requirements for closure of the two ponds and one sump at the Sparton Technology, Inc., Albuquerque, New Mexico facility.

The Contractor shall provide all labor, materials, products, accessories, tools, equipment, transportation, supervision, and other items which are necessary for completion of the work.

The work covered under this specification includes:

- Removal and replacement of fences.
- Demolition of portion of reinforced concrete walls in West pond.
- Demolition of portion of concrete block walls in East pond.
- Removal of sump.
- Construction of asphaltic concrete pavement system (cap).

1.02 Additional Contractor Responsibilities

Contractor's additional responsibilities are, in general, those which are contained in these Contract Documents including, but not limited to, the following:

- Provide a Health and Safety Plan covering all aspects of health and safety for personnel as approved by the Owner.
- Furnish all required insurance for projects.
- Receive, unload, convey, store, and protect all materials, tools, and equipment at the job site.
- Clean and remove all surplus material and debris generated from the work.
- Furnish potable water, ice, and coolers necessary during the project.
- Furnish Owner-approved hard hats, safety glasses, safety shoes, and any other safety equipment. Comply with Owner's safety rules.

- Provide the Owner at least 24 hour prior notice for construction inspection, field testing, engineering, or surveying, as required under this contract.
- Set up temporary barricades with warning signs restricting access to the site.
- Comply with all applicable OSHA regulations.
- Furnish sanitary facilities.

PART II - PRODUCTS

Not Applicable.

PART III - EXECUTION

Not Applicable.

END OF SECTION

SECTION 01400

STANDARDS

PART I - GENERAL

The following standards are applicable to construction of the pond and sump area closure for Sparton Technology, Inc., Albuquerque, New Mexico. In cases where a referenced standard specification has been revised or replaced, the new version shall apply.

ASTM A-48	Grey Iron Castings
ASTM A-120	Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless, for Ordinary Uses
ASTM A-123	Zinc Coatings or Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars, and Strip
ASTM A-153	Zinc Coating on Iron and Steel Hardware
ASTM A-392	Zinc Coated Steel Chain-Link Fence Fabric
ASTM A-491	Aluminum Coated Steel Chain-Link Fence Fabric
ASTM C-270	Mortar for Unit Masonry
ASTM D-422	Particle Size Analysis of Soils
ASTM D-698	Moisture-Density Relations of Soils and Soil Aggregate Mixtures, Using 5.5 lb. (2.5 kg) Rammer and 12-Inch (304.8 mm) Drop
ASTM D-1556	Density of Soil in Place by the Sand-Cone Method
ASTM D-1560	Resistance to Deformation and Cohesion of Bituminous Mixtures by Means of Hveem Apparatus

ASTM D-977	Emulsified Asphalt
ASTM D-995	Requirements for Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
ASTM D-3381	Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D-3515	Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
ASTM D-2922	Density of Soil and Soil Aggregate in Place by Nuclear Methods

AMERICAN ASSOCIATION OF STATE HIGHWAY TESTING OFFICIALS

AASHTO M-240	Type IS Portland Blast Furnace Cement
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PART II - PRODUCTS

Not Applicable

PART III - EXECUTION

Specific items of the plans and specifications not referenced to applicable specifications shall be governed by applicable ASTM specifications.

END OF SECTION

SECTION 01450

DEFINITIONS

PART I - GENERAL

The following definitions are applicable to the construction specifications:

Work: Performance of tasks necessary to complete each item described by the drawings in accordance with requirements of the specifications.

Engineer: The Registered Professional Engineer (Engineer), or designated firm employed by Owner, to undertake testing and inspection of the work.

Contractor: The person, partnership, or corporation which has entered into agreement with the Owner to perform all work included in these specifications.

Owner: Sparton Technology, Inc.

Fill Material: Soils, aggregates, or other fill materials as approved by the Engineer for use as fill.

Approved or

Permitted: Approved or Permitted by the Owner or Engineer.

Required: Required by Contract Documents.

Submitted: Submitted to the Owner or Engineer for review.

PART II - PRODUCTS

Not Applicable.

PART III - EXECUTION

Non Applicable.

END OF SECTION

SECTION 01460

DRAWINGS

PART I - GENERAL

1.01 Description of Drawings

The following drawings are applicable to the closure of the pond and sump area for Sparton Technology, Inc., Albuquerque, New Mexico:

<u>Plate Number</u>	<u>Title</u>
A-1	Pond and Sump Area Existing Facilities - Base Map
A-2	Pond and Sump Area Existing Cross-Sections and Details
A-3	Pond and Sump Area Final Plan and Cross-Sections
A-4	Fencing Details

PART II - PRODUCTS

Not Applicable.

PART III - EXECUTION

Not Applicable.

END OF SECTION

SECTION 02200
EXCAVATION OF SOILS

PART I - GENERAL

1.01 Description of Work

The Contractor shall furnish all labor, materials, tools, and equipment to perform all work for excavating soil and extraneous material as shown on the drawings and as specified.

All work shall be observed by the Owner or Engineer for conformance with the plans and specifications.

PART II - PRODUCTS

2.01 Potentially Contaminated Soils

Soils excavated during removal of the upper section of pond walls and soils excavated from the old solvent sump (including contents of the sump and soil adjacent to the sump as defined on the plans) shall be considered potentially contaminated. All other excavated soil shall be considered uncontaminated.

2.02 Uncontaminated Soils

Uncontaminated soils are soils within the area to be capped which are not potentially contaminated as defined above.

PART III - EXECUTION

3.01 Protection of Utilities

The Contractor shall identify and locate utility lines prior to construction work. Underground utilities shall be protected from damage during excavation. Any damage to known utility lines as a result of the work performed by the Contractor shall be repaired by the Contractor at no additional cost.

3.02 Protection of Liner

The Contractor shall exercise caution to prevent damage to the existing 30-mil Hypalon liners in the ponds. Any damage to the liner, as a result of the construction activities, will be repaired at the Contractor's expense.

3.03 Excavation of Potentially Contaminated Soil

Soils defined as potentially contaminated shall be excavated to the lines and grades shown on the plans. Excavated material shall be placed in the ponds in accordance with provisions of Section 02400 of this specification.

The contractor shall provide protective clothing and equipment as specified in the Health and Safety Plan required by Section 01010 of this specification.

Equipment used for this excavation shall be decontaminated by the Contractor, in accordance with provisions of Section 03000 of this specification, before it is used for excavation of uncontaminated soil.

3.04 Other Excavation

The Contractor shall excavate all materials to the lines, grades, and elevations shown on the drawings or as specified. Excavated soils shall be used to backfill the sump excavation and the excavated area around and above the ponds. Backfill shall be in accordance with Section 02400 of this specification.

3.05 Drainage During Construction

All rainfall runoff, shallow ground water, water from rinsing or decontamination procedures, or any other water which is potentially contaminated on the site shall be retained and disposed of in accordance with Section 03010, "Disposal of Potentially Contaminated Waste."

3.06 Environmental Compliance

The Contractor is responsible for compliance with all environmental laws and regulations.

END OF SECTION

SECTION 02300

DEMOLITION

PART I - GENERAL

1.01 Description of Work

The Contractor shall furnish all labor, materials, tools, and equipment necessary to perform all work and services for demolition of the upper portion of pond walls and the sump, as shown on the drawings and as specified.

PART II - PRODUCTS

2.01 Mortar

Sand mortar shall be in accordance with ASTM C-270.

PART III - EXECUTION

3.01 Procedure

The Contractor shall excavate soil around the outside of the walls as necessary to uncover the edges of the 30-mil Hypalon liner and to access the outside of the walls for demolition. Excavation shall be in accordance with Section 02200 of this specification.

The exposed edge of the liner shall be laid back over the interior of the pond to expose the pond wall as shown in the drawings. The upper portion of the walls shall be removed to

the elevation shown on the plans. Use of a pneumatic hammer will be permitted. Use of explosives is NOT permitted.

The top of the remaining walls shall be capped using a sand mortar with smooth finish. The liner will then be returned to its original position and buried as shown. Excess liner may be trimmed to make it more manageable.

3.02 Disposal of Debris

Debris from the demolition of the walls, including concrete pieces, concrete block, and excess liner shall be placed into the ponds in accordance with Section 02400 of this specification. Pieces of concrete shall be reduced to a maximum of 3 feet in any dimension and shall not be placed within 3 feet of the asphaltic base course.

END OF SECTION

SECTION 02400
BACKFILL AND COMPACTION

PART I - GENERAL

1.01 Description of Work

The Contractor shall furnish all labor, materials, tools, and equipment to perform all work and services for backfilling and compacting as shown on the drawings and as specified. All work shall be observed by the Engineer for conformance with the plans and specifications.

PART II - PRODUCTS

2.01 Soils

Soils used for backfilling shall be those excavated from the site.

2.02 Cement Stabilized Sand

a. Cement

Cement for stabilization of soil above pond walls shall meet the requirements of AASHTO Designation M-240, "Type IS Portland Blast Furnace Cement."

b. Sand

Sand shall be sandy soil from the site area.

PART III - EXECUTION

3.01 Job Conditions

Earthwork shall not be performed during unfavorable weather conditions. When work is interrupted by rain, fill operations shall not be resumed until the field density tests performed by the Engineer indicate that the moisture-content and density of the fill are as specified. Proper drainage shall be maintained at all times.

3.02 Backfilling and Compacting in Ponds

Existing material in the ponds shall be compacted in place using manually operated tamping and compacting equipment. Potentially contaminated soil, as defined in Section 02200, shall be placed in 8-inch-loose lifts and compacted with hand operated equipment.

Demolition material shall be placed in the ponds with a minimum of 12 inches of soil material separating it from the pond liner, and at least 3 feet below the asphaltic base.

All materials shall be placed in the ponds and compacted in a manner which will not damage the pond liner. Material shall be allowed to free fall no more than 24 inches during placement.

If damage of the liner occurs, the Contractor shall repair the liner in a manner satisfactory to the Owner and Engineer at the Contractor's sole expense.

Soils within the ponds shall be compacted using hand operated equipment. Soils 3 feet below the asphaltic base shall be compacted to at least 90 percent of the standard Proctor test method (ASTM D-698). Soils within 3 feet of the asphaltic base shall be compacted to at least 95 percent of ASTM D-698.

The Contractor shall provide protective equipment and clothing as specified in the Health and Safety Plan required by Section 01010 of this specification.

Equipment used for backfill and compaction in ponds shall be decontaminated by the Contractor in accordance with provisions of Section 03000 after pond backfilling is complete.

3.03 Backfilling and Compacting

The soils used for backfill within the upper 3 feet of the asphaltic base course shall be moisture-conditioned to within 3 percent of optimum moisture content (OMC) of the fill soils to facilitate compaction. If the moisture-content of the fill soil is

less than 3 percent below OMC, water shall be added until the moisture content is raised as required. If the moisture content of the fill soils is greater than 3 percent above OMC, the fill soil shall be aerated by blading, discing or other satisfactory methods until the moisture content is lowered as required. The wet soils may be mixed with approved drier materials to achieve an acceptable moisture content.

All fill soils within the upper 3 feet at the ponds shall be spread and leveled in layers not to exceed 8 inches in thickness before compaction. Compaction shall be accomplished with appropriate equipment to at least 95 percent of the standard Proctor test method (ASTM D-698). All fill soils shall be compacted at a moisture content within 3 percent of the optimum moisture content as determined by ASTM D-698.

Soil required for fill or embankment in excess of that obtained by excavation within the grading limits shall be excavated from borrow areas as directed by the Engineer.

3.03 Cement Stabilization

Sandy soils shall be cement stabilized where shown on the plans. A mixture of 5 percent cement by dry weight of the soil shall

be mixed in such a manner that all materials are thoroughly blended to a uniform gradation and color. Mixing water shall be added in a manner that will provide uniform blending with the materials being mixed. Cement stabilized sands shall be compacted to at least 95 percent of the standard Proctor test method (ASTM D-698).

END OF SECTION

SECTION 02450

PROOFROLLING

PART I - GENERAL

1.01 Description of Work

Contractor shall furnish all labor, material, and equipment to perform all work and services in conjunction with proofrolling of areas outside the pond walls at the site. All work under this section shall be observed by the Engineer for conformance with the plans and specifications.

PART II - PRODUCTS

2.01 Proofrolling Equipment

Proofrolling shall be performed utilizing a 10-ton rubber-tired compactor, or similar construction vehicle, approved by the Owner or Engineer.

2.02 Soft, Organic, or Excessively Wet Soil (Unsuitable Material)

Soft, organic, or excessively wet soil (unsuitable material) encountered during the proofrolling operation shall be excavated and replaced with select fill, as specified in Sections 02200 and 02400 of this specification.

PART III - EXECUTION

3.01 Proofrolling

- a. The proofrolling equipment shall make at least four passes over each area, with the last two passes perpendicular to the first two passes.
- b. Soft or unstable soils that fail to compact shall be cement stabilized or placed inside the ponds.
- c. Proofrolling shall be performed just prior to placement of asphaltic base course.

3.02 Stabilization

Soft or unstable areas that fail to proofroll may be stabilized, as specified in Section 02400, to facilitate compaction. Use of cement stabilization to facilitate compaction must be approved by the Engineer prior to accomplishing the work. Stabilization to facilitate compaction shall be performed at the sole expense of the Contractor.

END OF SECTION

SECTION 02500
ASPHALTIC PAVEMENT SYSTEM

PART I - GENERAL

1.01 Description of Work

The Contractor shall furnish all labor, materials, tools, and equipment necessary to install the asphaltic pavement system over the pond and sump area as shown on the drawings and as specified.

All work shall be observed by the Owner or Engineer for conformance to plans and specifications.

1.02 Primary Objectives

The primary objective of the asphalt pavement is to minimize passage of water to the subgrade. The Contractor shall construct the pavement in a manner that will provide a tightly sealed surface with no open joints or cracks.

PART II - PRODUCTS

2.01 Asphalt Base Course

The asphaltic base course shall be Composition 1A or 2A as specified in ASTM D-3515 using at least 3-1/2 percent asphaltic cement Grade AC-10 as specified in ASTM D-3381.

2.02 Tack Coat

The tack coat shall be Emulsified Asphalt Grade SS-1 or SS-1h as specified in ASTM D-977.

2.03 Wearing Surface

The asphaltic concrete wearing surface shall be Composition 6A as specified in ASTM D-3515 using 8 percent asphaltic cement Grade AC-10 as specified in ASTM D-3381.

PART III - EXECUTION

3.01 Sub-Grade Preparation

Sub-grade shall be graded to proper lines and grades and compacted in accordance with Section 02400. Subgrade shall be proofrolled in accordance with Section 02450.

3.02 Asphalt Base Course Construction

Asphalt base course shall be placed and compacted to the lines and grades shown on the plans. The Contractor shall provide suitable equipment of sufficient size to allow continuous, uninterrupted movement of the spreader.

The mixing plant shall conform to ASTM Specification D-995.

As soon as the mixture has been spread and has set sufficiently to prevent cracking, compaction shall begin. A delay in the initial rolling will not be allowed. Asphaltic base course shall be compacted to 95 percent Hveem stability as specified in ASTM D-1560.

3.03 Tack Coat Application

Tack coat material shall be applied as directed by the Engineer up to a maximum of 0.1 gallon per square yard. It shall be spread in advance to permit construction to progress continuously after the curing period. As soon as the tack coat has become "tacky" or sticky, covering may proceed. If the tack coat has lost its viscous quality, it shall be reapplied before the surface course is placed.

3.04 Asphaltic Surface Course Application

The asphaltic concrete wearing surface shall be installed in accordance with Paragraph 3.02 of this section.

Placing of paving layers shall be continuous. All joints shall be made in a manner which will provide a smooth, well bonded and sealed joint. All joints between alternatively paved areas shall be feathered at a slope of 6 horizontal to 1 vertical. The intersection of alternatively paved areas shall be covered with a tack coat, as

specified in Section 3.03 of this section, before additional asphaltic surface course is applied. Asphaltic concrete surface course shall be compacted to 95 percent Hveem stability as specified in ASTM D-1560.

3.05 Testing

Asphaltic concrete mixtures shall be sampled and tested in accordance with ASTM D-3515. The Contractor shall furnish certified test results to the Owner for each mixture used.

END OF SECTION

SECTION 02600
CHAIN-LINK FENCE AND GATES

PART I - GENERAL

1.01 Description of Work

The Contractor shall furnish all labor, materials, tools, and equipment to remove the existing fence and to install and complete all chain-link fences and gates as shown on drawings and as specified. The Contractor shall furnish and install all fenceposts, supplementary or miscellaneous items, appurtenances and devices incidental to, or necessary for, a sound, secure, and complete installation. The Contractor shall salvage and re-install fence fabric and gates as shown on the drawings. New posts and materials shall be compatible with the existing fence.

All work shall be observed by the Engineer for conformance to plans and specifications.

1.02 Product, Storage, and Handling

Store fence fabric, posts, and other items off ground and protected from damage.

PART II - PRODUCTS

2.01 Fencing Materials

a. General

Use only new materials. Pipe sizes indicated are commercial pipe sizes. Tube sizes are nominal flange dimensions. Rolled form section sizes are nominal outside dimensions.

Iron or steel components shall be hot-dip galvanized after fabrication. Use galvanized and aluminized finish complying with the following minimum requirements:

Pipe:	2.0 oz. zinc/square foot (s.f.)
Square Tubing:	ASTM A-123, 2.0 oz. zinc/s.f.
Roll Form:	ASTM A-120
Hardware and Accessories:	ASTM A-153
Fabric:	ASTM A-392, Class II, 1.4 oz. zinc/s.f. or ASTM A-491, Class II, .4 oz. aluminum/s.f.
Miscellaneous items:	ASTM-A-120, 1.0 oz. zinc/s.f.

b. Chain-Link Fabric

Chain-link fabric shall be woven 2-inch mesh of No. 9 galvanized copper-bearing steel wire, galvanized after fabrication in accordance with ASTM A-392 for zinc coating.

c. Steel Line Posts

Line posts shall be 2-1/2 inch O.D. steel pipe weighing at least 3.65 pounds per lineal foot.

d. Steel Top and Bottom Rails

Rails shall be 1-5/8 inch O.D. steel pipe weighing at least 2.27 pounds per lineal foot or 1-5/8 inch rolled form section. Fit rails with expansion couplings of outside sleeve type. Rails shall be continuous for outside sleeve type for full length of fence.

e. Steel Terminal, End, Corner, and Pull Posts (Terminal Posts)

Terminal posts shall be 3-inch O.D. steel pipe weighing at least 5.79 pounds per lineal foot. Provide posts of sufficient length to permit 36 inches to be set in concrete footing.

f. Bracing for Use Between Terminal, End, Corner, Gate, Pull Posts, and First Adjacent Line Posts

Bracing shall be 1-5/8 inch O.D. steel pipe weighing at least 2.27 pounds per lineal foot. Space no lower than 1/2 of fabric width from top of posts and trussed

back to base of terminal, end, corner, or pull post with 3/8-inch truss rod with turn-buckles.

g. Gate Posts

Gate posts shall be round steel pipe not less than size and weight given below:

- Double gate, total width 24 feet; 4-inch O.D. weighing not less than 9.11 pounds per lineal foot.
- Provide posts of sufficient length to permit bottom 26 inches to be set in concrete.

h. Tension Bars

Tension bars shall be 3/16 inch x 3/4 inch minimum steel, one piece for full height of fabric.

i. Stretcher Bars and Bands

Stretcher bars shall be 1/8 inch x 1 inch, threaded through fabric and secured to posts with metal bands spaced not greater than 14 inches O.D.

j. Wire Ties

Ties shall be No. 6 gauge steel wire for securing fabric to posts and rails. Space bands not greater than 14 inches O.C.

k. Gate Frames

Gate frames shall be not less than 2 inch O.D. steel pipe weighing at least 2.72 pounds per lineal foot.

l. Gate Hardware

1. Hinges: Pressed or forged steel or malleable iron to suit gate size, of non-lift-off heavy duty type, offset to permit 180 degree gate opening. Provide 1-1/2 pair for each leaf over 6 feet nominal height.
2. Latches for Single and Double Gates: Heavy duty, automatically engaging, lockable latch. Furnish drop rod complete with suitable casting set in concrete to hold gate leaf in place when drop rod is engaged.
3. Keepers: Provide keepers for all gates to automatically engage gate leaf and hold it in open position until manually released.

m. Post Tops

Post tops shall be steel, wrought iron or malleable iron, designed as a weather-tight closure cap, one cap per post.

n. Barbed Wire

Barbed wire shall consist of two strands of No. 9 steel wire twisted with four point barbs of No. 9 wire at 15 inch O.C. maximum. Wire shall be galvanized after fabrication in accordance with ASTM A-392 for zinc coating.

o. Miscellaneous Items and Materials

Provide as required to complete fence installation. Items and materials shall be consistent in quality with materials listed above.

2.02 Concrete

Concrete for embedment of terminal posts shall obtain a compressive strength of 2500 psi.

PART III - EXECUTION

3.01 General

The Contractor shall remove existing fence and gates, store materials to be reused, and dispose of other material off site.

The Contractor shall furnish and erect fence and gates, along the lines and grades and at locations specified on plans or established by the Engineer. Provide a rigid, taut fence. Install fence in true and correct alignment with vertical posts.

3.02 Installation

Drill holes in firm, undisturbed or compacted soil extending not less than six inches below bottom of posts (36 inches deep).

Set all posts in concrete footings as shown on the drawings. Fence post footings shall have the following minimum dimensions, be

crowned one inch minimum and steel troweled, except as otherwise detailed:

Line Posts = 10 inch diameter and 3 feet deep.

Other Posts = 16 inch diameter and 3 feet deep.

Wait at least seven days after posts are set in concrete before placing fabric in tension. Install fence tight, free of sags and bulges. Construct fence such that bottom edge of fabric is about one inch above grade. Correct minor irregularities in ground surface so that maximum clearance beneath fabric does not exceed 2 inches.

Space line posts at equal intervals not exceeding 10 feet. Install terminal posts at gates, corners, and any other points of strain. Fit terminal posts with bracing assembled between terminal posts and brace posts (first line post adjacent to terminal posts).

Provide top rails with expansion couplings at not more than 20 foot intervals. Use couplings which provide rigid connection and allow for expansion and contraction. Anchor top rails to line posts with appropriate wrought or malleable fittings.

Install bracing assemblies at all line posts and at both sides of corner and pull posts. Locate compression members at mid-height of

fabric. Extend diagonal tension members from compression members to bases of line posts. Use tension members not less than 3/8 inch diameter and fitted with tension take-up device. Install braces so that posts are plumb when diagonal rod is under correct tension.

Pull fabric taut and secure to posts and rails. Install fabric on security side of fence and secure to framework so that fabric remains in tension after pulling force is released. Secure fabric to line posts at not over 12 inches O.C. Use U-shaped wire conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least two full turns. Bend ends of wire to minimize hazards to persons or clothing.

Thread stretcher bars through fabric and secure to terminal posts with metal bands spaced not greater than 14 inches O.D. Pull each strand of barbed wire taut individually and secure to posts with wire ties. Space strands of barbed wire 4 inches apart with the bottom strand 4 inches above top rail.

Construct gate frames with malleable fittings at joints. Bracing and details of construction provide a rigid, non-sagging, non-twisting gate. Use fabric same as fence fabric and similarly attached. Do not weld fabric to frame. Furnish gate frames with three rows of barbed wire at top.

3.03 Acceptance

Remove and replace all damaged or improperly installed fencing components to satisfaction of Engineer at no additional expense to Owner.

END OF SECTION

SECTION 03000
DECONTAMINATION

PART I - GENERAL

1.01 Description of Work

The Contractor shall provide all labor, materials, tools, and equipment necessary for decontamination of equipment and personnel which have been directly involved in relocation and handling of potentially contaminated material.

PART II - PRODUCTS

2.01 Decontamination Facilities

Equipment capable of supplying high pressure spray of water and steam shall be provided by the Contractor for cleaning of excavation equipment. The Contractor shall provide all sheeting (polyethelene), tubs, buckets, brushes, hoses, and cleaning compounds necessary for decontamination of personnel and equipment. Throw-away garbage containers shall be provided for disposable protective clothing.

PART III - EXECUTION

3.01 Procedure

The decontamination area shall be adjacent to the area to be capped. Polyethylene or equivalent sheeting and sandbags or formwork

shall be used to form a sump to contain any materials generated from the decontamination process.

All equipment used for relocation of potentially contaminated materials shall be thoroughly cleaned with the high pressure steam cleaner. Decontamination shall be accomplished after the contaminated material has been placed in the ponds and compacted, but before backfilling with uncontaminated soil.

Personnel who have worked within the potentially contaminated area shall decontaminate before leaving the site. Specific procedures are as follows:

Personnel

At the end of each work period (before eating, drinking, smoking, or leaving the site), each person will pass through the designated decontamination area. Each of the following stations will be used as appropriate:

- Equipment/tool drop station.
- Boot Wash - Soiled boots will be washed in a tub containing a low-sudsing detergent solution.
- Boot Rinse - Personnel will step into a tub containing rinse water after washing boots.

- Glove Wash - Intact gloves will be wiped clean over a glove wash bucket containing low-sudsing detergent and water.
- Glove Rinse - Washed gloves will be rinsed with water or wiped with a water wetted towel.
- Contaminated Clothing - Used tyvek suits will be dropped into a bag lined garbage can for approved disposal.
- Showers - Personnel will shower as soon as possible at the end of the work day.

Equipment

1. Prior to equipment demobilization, loose mud will be removed using brushes and scrapers, as necessary, and equipment will be steam cleaned over polyethylene sheets. The perimeter of the sheeting will be bermed to prevent movement of liquids or solids away from the decontamination area.

END OF SECTION

SECTION 03010

DISPOSAL OF POTENTIALLY CONTAMINATED WASTE

PART I - GENERAL

1.01 Description of Work

The Contractor shall furnish all labor, materials, tools, and equipment necessary to dispose of contaminated and potentially contaminated solid and liquid waste generated during the work.

PART II - PRODUCTS

2.01 Potentially Contaminated Waste

Potentially contaminated waste includes all disposable items which have been used within the area to be capped and those used in the decontamination process.

2.02 Potentially Contaminated Water

Potentially contaminated water is any rainfall runoff, washwater, or other water which may have had direct contact with potentially contaminated soil as defined in Section 02400 of this specification. This generally includes all rainfall runoff from the area to be capped and all water used for decontamination.

PART III - EXECUTION

3.01 Disposal Method

Potentially contaminated waste shall be placed in polyethelene bags which shall be placed in approved lined steel drums for removal to an approved hazardous waste disposal site.

Potentially contaminated water shall be placed in approved lined steel drums (or polyethylene drums) for removal to an approved hazardous waste disposal site.

Drums shall be properly marked and labelled for hazardous waste disposal and shall conform to DOT 17-H for open top steel drums, or to DOT 34 for polyethylene drums (Exemption DOT-E6637).

Removal of drums for disposal shall be under the direction of the Owner or Engineer.

END OF SECTION

SECTION 04000
INSPECTION AND TESTING

PART I - GENERAL

1.01 Description of Work

Furnish all labor, materials, tools, and equipment to perform all work and services in conjunction with the earthwork construction operations specified in other sections. Replace or rework items which are not approved by the Engineer based upon testing described in this section, at the sole expense of the Contractor. The sampling and testing described in this section will be performed by the Engineer in checking the Contractor's work, at no cost to the Contractor.

PART II - PRODUCTS

Not Applicable.

PART III - EXECUTION

3.01 General Backfilling and Compaction

All compacted fill must be tested and approved by the Engineer.

The Contractor shall notify the Engineer at least 48 hours before requiring testing services and shall cooperate with the Engineer to facilitate all sampling and testing.

3.02 Replacement of Unapproved Work

Any earthwork which does not conform to the requirements of this section, as determined by the Engineer, shall be removed and replaced, or re-worked until approved by the Engineer. The Contractor shall replace or re-work unacceptable sections at no cost to the Owner.

3.03 Soil Compaction Testing

All fill shall be compacted according to the moisture and density requirements described in Section 02400.

In-place density tests shall be in accordance with ASTM D-1556 or ASTM D-2922, at the discretion of the Engineer.

At least one in-place field density test shall be performed for each lift placed.

There shall be a minimum of one in-place density test on any day of compaction activity. Additional in-place field density tests may be performed at the discretion of the Engineer.

Initially, one standard Proctor test shall be performed for each new fill material and for each 10 in-place field density tests performed. The frequency of standard Proctor tests may be increased or decreased at the discretion of the Engineer as the job progresses.

END OF SECTION

APPENDIX C
CHAIN-OF-CUSTODY PROCEDURES

APPENDIX C
CHAIN-OF-CUSTODY PROCEDURES

I Custodianship

A custodian will maintain custody and control of each sample under his care until it is relinquished, analyzed, or disposed. Normal security measures such as locked containers; evidence tape; or personal, physical possession will be utilized by the custodian.

The person actually collecting the sample becomes the first custodian. His duties include sealing the sample container with evidence tape, or locking the sample containers, if he does not maintain continuous personal, physical possession.

If the sample is to be split into subsamples, or if anyone else will have possession of the samples prior to laboratory delivery, the first custodian will also initiate Chain-of-Custody documentation. If the sample collector personally delivers the samples to the laboratory, he may obtain an itemized and dated receipt from an authorized laboratory representative in lieu of the Chain-of-Custody documents.

As the sample moves from the initial custodian through the Chain-of-Custody, subsequent custodians will sign when receiving the sample, and upon relinquishing same. (NOTE: Custodians will handle each sample in their possession in such a manner so as to be able to testify that it was continuously under their control and not subject to any tampering.)

II Documentation

A. Chain of Custody Document Contents

1. Facility name and location:

Sparton Technology, Inc.
9621 Coors Road, NW
Albuquerque, New Mexico 87103

2. For each sample:

- a. Sample location and depth;
- b. Date and time of collection; and
- c. Number of sample containers.

3. Name of sample collector

4. Special security features used, such as locked containers or evidence tape.

B. Multiple Samples

A single Chain-of-Custody document may be used for more than one sample, provided that all requirements specified in Item B.1 are met. If multiple samples are identified in one document, they nor-

mally will be packaged together and the package sealed with evidence tape.

C. Acceptance/Release Format

Each transfer of possession of a sample will be recorded on the document with the following items:

1. Signature of person relinquishing sample control;
2. Signature of person receiving sample control;
3. Date and time of transfer; and
4. Stipulation that the sample has/has not been visibly tampered with.

Remarks should include any exceptions or deviations from normal routine involved with the sample.

If the samples are to be mailed, the Chain-of-Custody document is to be enclosed within the shipping container. In this case, the date and time will be recorded separately to indicate when the package was sealed and when it was opened at the receiving end.

APPENDIX D
ANALYTICAL METHODS

**LABORATORY SUPPORT FOR
ALTERNATIVE GROUND WATER MONITORING PROGRAM
AT SPARTON TECHNOLOGY, INC.**

Prepared For:

Harding Lawson Associates

Prepared By:

**Rocky Mountain Analytical Laboratory
5530 Marshall Street
Arvada, Colorado 80002**

May 6, 1985

INTRODUCTION

Rocky Mountain Analytical Laboratory will continue to provide support for the Alternative Ground Water Monitoring Program at Sparton Technology, Inc. The analytical methodologies, sample containers, and preservation techniques used for this program are attached. They represent the current guidelines contained in Federal Register, 40 CFR Part 136, October 26, 1984.

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Inorganic Analytical Methodology

Parameter	Units	Nominal Detection Limit ^a	Methodology	Reference	Preservation Bottle No.	Maximum Holding Time ^b
MAJOR IONS						
Sodium	mg/l	0.5	ICP Emission Spectroscopy	3	4	6 months
Potassium	mg/l	0.3	ICP Emission Spectroscopy	3	4	6 months
Calcium	mg/l	0.1	ICP Emission Spectroscopy	3	4	6 months
Magnesium	mg/l	0.1	ICP Emission Spectroscopy	3	4	6 months
Chloride	mg/l	3	Manual Titrimetric, Hg (NO ₃) ₂ Automated Colorimetric	1-325.3/2-407B	1	28 days
			Ferricyanide	1-325.2	1	28 days
Fluoride	mg/l	0.1	Electrode	1-340.2/2-413B	1	28 days
Sulfate	mg/l	5	Manual Turbidimetric	1-375.4/2-426C	1	28 days
			Automated Colorimetric MTB	1-375.2	1	28 days
Total Alkalinity as CaCO ₃ at pH 4.5	mg/l	5	Titrimetric	1-310.1/2-403	1	14 days
Carbonate Alkalinity as CaCO ₃ at pH 8.3	mg/l	5	Titrimetric	1-310.1/2-403	1	14 days
Bicarbonate Alkalinity as CaCO ₃ at pH 4.5	mg/l	5	Titrimetric	1-310.1/2-403	1	14 days
Hydroxide Alkalinity as CaCO ₃	mg/l	5	Calculation	2-403	-	-
Nitrate+Nitrite as N	mg/l	0.1	Manual Cd Reduction - Colorimetric	1-353.3/2-418C	2	28 days
		0.1	Automated Cd Reduction - Colorimetric	1-353.2	2	28 days
Total Cations	meq/l	0.1	Calculation	2-104C	-	-
Total Anions	meq/l	0.1	Calculation	2-104C	-	-
Difference	%	0.1	Calculation	2-104C	-	-

RADIOCHEMISTRY

Gross Alpha	pCi/l	0.1	Proportional Counter	2-703	5	6 months
Gross Beta	pCi/l	0.1	Proportional Counter	2-703	5	6 months
Radium 226	pCi/l	0.1	Separation - Counter	2-705	5	6 months
Radium 228	pCi/l	0.1	Separation - Counter	2-707	5	6 months
Uranium	mg/l	0.005	Fluorimetric	4-D2907-75	5	6 months

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Inorganic Analytical Methodology (Continued)

<u>Parameter</u>	<u>Units</u>	<u>Nominal Detection Limit^a</u>	<u>Methodology</u>	<u>Reference</u>	<u>Preservation Bottle No.</u>	<u>Maximum Holding Time^b</u>
TRACE METALS^c						
Aluminum	mg/l	0.05	ICP Emission Spectroscopy	3	4	6 months
Antimony	mg/l	0.002	Furnace Atomic Absorption	1-204.2	4	6 months
Arsenic	mg/l	0.002	Furnace Atomic Absorption	1-206.2	4	6 months
Barium	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Beryllium	mg/l	0.001	ICP Emission Spectroscopy	3	4	6 months
Boron	mg/l	0.004	ICP Emission Spectroscopy	3	4	6 months
Cadmium	mg/l	0.002	ICP Emission Spectroscopy	3	4	6 months
Chromium	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Cobalt	mg/l	0.003	ICP Emission Spectroscopy	3	4	6 months
Copper	mg/l	0.002	ICP Emission Spectroscopy	3	4	6 months
Iron	mg/l	0.05	ICP Emission Spectroscopy	3	4	6 months
Lead	mg/l	0.025	ICP Emission Spectroscopy	3	4	6 months
		0.001	Furnace Atomic Absorption	1-239.2	4	6 months
Manganese	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Mercury	mg/l	0.0002	Cold Vapor Atomic Absorption	1-245.1	4	6 months
Molybdenum	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Nickel	mg/l	0.01	ICP Emission Spectroscopy	3	4	6 months
Selenium	mg/l	0.002	Furnace Atomic Absorption	1-270.2	4	6 months
Silver	mg/l	0.003	ICP Emission Spectroscopy	3	4	6 months
Strontium	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Thallium	mg/l	0.002	Furnace Atomic Absorption	1-279.2	4	6 months
Tin	mg/l	0.03	ICP Emission Spectroscopy	3	4	6 months
Titanium	mg/l	0.002	ICP Emission Spectroscopy	3	4	6 months
Vanadium	mg/l	0.002	ICP Emission Spectroscopy	3	4	6 months
Zinc	mg/l	0.004	ICP Emission Spectroscopy	3	4	6 months
INORGANIC PARAMETERS						
pH	units	0.01	Meter	1-150.1; 2-423	1	ASAP
Specific Conductance at 25°C	umhos/cm	1	Bridge	1-120.1; 2-205	1	28 days
Total Dissolved Solids	mg/l	10	Gravimetric, 180°C	1-160.1; 2-209B	1	7 days
Total Suspended Solids	mg/l	2	Gravimetric, 105°C	1-160.2	1	7 days
Total Solids	mg/l	10	Gravimetric, 105°C	1-160.3	1	7 days
Total Volatile Solids	mg/l	10	Gravimetric, 550°C	1-160.4	1	7 days
Ortho-Phosphate as P	mg/l	0.01	Single Reagent Colorimetric	1-365.2; 2-424F	1	48 hours

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Inorganic Analytical Methodology (Continued)

Parameter	Units	Nominal Detection Limit ^a	Methodology	Reference	Preservation Bottle No.	Maximum Holding Time ^b
INORGANIC PARAMETERS (Continued)						
Total Phosphorus as P	mg/l	0.06	Digestion; ICP Emission Spectroscopy	1-4.1.4; 3	4	28 days
		0.01	Digestion - Colorimetric	1-365.2; 1-424C,F	2	28 days
Silica as SiO ₂	mg/l	0.1	ICP Emission Spectroscopy	3	4	28 days
	mg/l	1	Colorimetric	1-370.1; 2-425C	1	28 days
Biological Oxygen Demand	mg/l	2	Dilution Bottle - D.O. Probe	1-405.1; 2-507	1	48 hours
Chemical Oxygen Demand	mg/l	5	Micro Colorimetric	1-410.4; 2-508A	2	28 days
Total Organic Carbon	mg/l	0.1	Oxidation-Infrared Absorption	1-415.1; 2-505	2	28 days
Ammonia as N	mg/l	0.1	Electrode	1-350.3; 2-417E	2	28 days
		0.1	Automated Colorimetric	1-350.1	2	28 days
Total Kjeldahl Nitrogen as N	mg/l	0.1	Digestion - Electrode	1-351.4; 2-420B	2	28 days
		0.1	Digestion - Colorimetric	1-351.2	2	28 days
Total Organic Nitrogen as N	mg/l	0.1	Calculation (TKN - NH ₃)	-	-	-
Oil and Grease	mg/l	1	Freon Extraction-Gravimetric	1-413.1; 2-503A	3	28 days
Free Cyanide	mg/l	0.01	Chlorination-Distillation-Colorimetric	1-335.1; 2-412F,D	6	14 days
Total Cyanide	mg/l	0.01	Distillation - Colorimetric	1-335.2; 2-412B,D	6	14 days
Phenolics	mg/l	0.01	Distillation - Colorimetric	1-420.1; 2-510A,B	2	28 days
Fecal Coliform	Colonies/100 ml	1	Membrane Filter	2-909C	8	ASAP
Total Coliform	Colonies/100 ml	1	Membrane Filter	2-909A	8	ASAP
Bromide	mg/l	0.1	Colorimetric	2-405	1	28 days
Residual Chlorine	mg/l	0.05	Amperometric	1-330.2; 2-408C	1	ASAP
Hexavalent Chromium	mg/l	0.01	Colorimetric	1-218.4; 2-312B	1	24 hours
Color	units	5	Pt-Co Colorimetric	1-110.2; 2-204A	1	48 hours
Hardness as CaCO ₃	mg/l	5	Calculation	2-314A	4	6 months
Nitrite as N	mg/l	0.01	Colorimetric	1-354.1; 2-419	1	48 hours
Sulfide	mg/l	0.05	Titrimetric - Electrode	1-376.1; 2-427B,D	7	7 days
Sulfite	mg/l	2	Titrimetric	1-377.1; 2-428	1	ASAP
MBAS (Surfactants)	mg/l	0.1	Colorimetric	1-425.1; 2-512A	1	48 hours
Turbidity	NTU	0.1	Turbidimeter	1-180.1; 2-214A	1	48 hours

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Inorganic Analytical Methodology (Continued)

References

- (1) "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, EMSL, Cincinnati, 1979.
- (2) "Standard Methods for the Examination of Water and Wastewater", 15th Edition, APHA, 1980.
- (3) Federal Register, 40 CFR 136, December 3, 1979; USEPA EMSL-Cincinnati, OH 45268.
- (4) "Annual Book of ASTM Standards", Part 31, Water, 1980.

Notes

^a Nominal values are the best achievable with the listed analytical method. Interferences in specific samples may result in a higher detection limit.

^b Applicable to NPDES wastes as updated by Robert C. Booth, Director, EMSL-Cincinnati, September 22, 1981.

^c Digestion procedure 1-4.1.4 used for elements determined by ICP Emission Spectroscopy when determining total metals. Digestion procedures for graphite furnace elements included with reference listed.

11/10/82

GUIDELINES FOR SAMPLE BOTTLES AND PRESERVATIVES^a

<u>Bottle No.</u>	<u>Parameters</u>	<u>Container</u>	<u>Preservative</u>	<u>Notes</u>
1	Cl ⁻ , F ⁻ , SO ₄ ⁼ , Tot. Alk., CO ₃ ⁼ Alk., HCO ₃ ⁻ Alk., OH ⁻ Alk., pH, spec. cond., TDS, TSS, TS, TVS, <u>o</u> -PO ₄ , SiO ₂ , BOD, Br ⁻ , res. Cl ₂ , Cr ⁺⁶ , color, NO ₂ ⁻ , SO ₃ ⁼ , MBAS, Turbidity.	1 liter poly	4° C	Provide unfiltered sample for solids and turbidity.
2	Tot. P, COD, TOC, NH ₃ , TKN, TON, Phenolics NO ₃ + NO ₂ .	500 ml poly	2 ml 50% H ₂ SO ₄ , 4°C	
3	O & G	1 liter glass	4 ml 50% H ₂ SO ₄ , 4°C	Do not filter, collect directly in bottle.
4	Na, K, Ca, Mg, Al, Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Sr, Tl, Sn, Ti, V, Zn, ICP, Hardness.	500 ml poly	5 ml 50% HNO ₃	Provide separate samples for total and dissolved sample (filter before adding to bottle.)
5	Alpha, Beta, Ra ²²⁶ , Ra ²²⁸ , U	1 liter poly (no Ra ²²⁸) ½ gallon poly (with Ra ²²⁸)	10 ml 50% HNO ₃ 20 ml 50% HNO ₃	
6	Free CN, Tot. CN	500 ml poly	2 ml 50% NaOH, 4°C	
7	Sulfide	250 ml poly	1 ml 1 N Zn acetate, 1 ml 50% NaOH, 4°C	
8	Fecal coli., total coli.	8 oz. sterile	4° C	Collect directly in sterile bottle
11	VOA, purgeable organics, THM	2 - 40 ml glass vial	4° C	Completely fill bottle, leave no air bubbles.
12	B/NA	1 liter glass	4° C	
13	Pest./PCB	1 liter glass	4° C	
14	Herbicides	1 liter glass	4° C	
15	TOX	1 liter glass	4° C	

^aFederal Register, 40 CFR 136, December 3, 1979, as updated by EPA, EMSL-Cincinnati, September 22, 1981.

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Organic Analytical Methodology

Parameter	Units	Nominal Detection Limit ^(a)	Methodology	Reference ⁽¹⁾	Preservation Bottle No.	Maximum Holding Time ^(b)
Purgeables	ug/l	1	Purge & Trap GC/MS	624	11	14 days
Base/Neutrals	ug/l	10	Extraction/GC/MS	625	12	7 days/40 days
Acids	ug/l	10	Extraction/GC/MS	625	12	7 days/40 days
Organochlorine Pesticides/PCB's	ug/l	0.01	Extraction/GC/ECD	608	13	7 days/40 days
		10	Extraction/GC/MS	625	12	7 days/40 days
Phenoxy Herbicides	ug/l	0.01	Extraction/GC/ECD	(2)	14	7 days/40 days
Total Organic Halogen (TOX)	ug/l	5	Adsorbition/Coulometric	450.1 (3)	15	-
Trihalomethanes (THM)	ug/l	1	Extraction/GC/ECD	(4)	11	14 days
		1	Purge & Trap GC/MS	(4)	11	14 days
Dioxin	ug/l	0.005	Extraction/GC/MS/ECD	613	16	7 days/40 days
Purgeable Halocarbons	ug/l	0.01	Purge & Trap/GC/Hall	601	11	14 days
Purgeable Aromatics	ug/l	1	Purge & Trap/GC/PID	602	17	14 days
Acrolein & Acrylonitrile	ug/l	100	Purge & Trap/GC/FID	603	18	14 days
Phenols by GC	ug/l	10	Extraction/GC/FID	604	16	7 days/40 days
Benzidines	ug/l	0.1	Extraction/HPLC	605	19	7 days/40 days
Phthalate Esters	ug/l	10	Extraction/GC/FID	606	12	7 days/40 days
Nitrosamines	ug/l	1	Extraction/GC/NPD	607	20	7 days/40 days
Nitroaromatics/isophorone	ug/l	1	Extraction/GC/FID & GC/ECD	609	12	7 days/40 days
Polynuclear Aromatics	ug/l	0.5	Extraction/HPLC	610	20	7 days/40 days
Haloethers	ug/l	1	Extraction/GC/Hall	611	17	7 days/40 days
Chlorinated Hydrocarbons	ug/l	0.02	Extraction/GC/ECD	612	12	7 days/40 days
Organophosphorus Pesticides	ug/l	0.1	Extraction/GC/NPD	622 (5)	12	7 days/40 days
Triazine Pesticides	ug/l	0.1	Extraction/GC/NPD	(6)	12	7 days/40 days

References

- (1) Federal Register, Vol. 44, No. 233, Monday, December 3, 1979.
- (2) "Method for Chlorinated Phenoxy Acid Herbicides in Industrial Effluents," Federal Register, Vol. 38, No. 75, Part II.
- (3) "Total Organic Halide," US EPA-EMSL, Cincinnati, November, 1980.
- (4) Federal Register, Vol. 44, No. 231, Thursday, November 29, 1979, Appendix, Part I.
- (5) "Method 622- Organophosphorus Pesticides," Proposed EPA Method, 304 (h) Committee.
- (6) Federal Register, Vol. 38, No. 75, 1973.

Notes

^a Nominal values are the best achievable with the listed analytical method for a typical component. Interferences in specific samples may result in a higher detection limit.

^b Applicable to NPDES Wastes as updated by Robert C. Booth, Director, EMSL-Cincinnati, September 22, 1981. Where two times are given, the first refers to the time to extraction, the second to the time of instrumental analysis.

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Organic Analytical Methodology (continued)

<u>Preservation Bottle No.</u>	<u>Parameter Group</u>	<u>Bottle</u>	<u>Preservation</u>
11	Purgeables	40 ml glass with teflon lined silicone septum cap	4°C (thiosulfate if Cl ₂ present)
17	Purgeables	40 ml glass with teflon lined silicone septum cap	4°C, HCl to pH less than 2 (thiosulfate if Cl ₂ present)
18	Purgeables	40 ml glass with teflon lined silicone septum cap	4°C, adjust pH to 4 - 5 (thiosulfate if Cl ₂ present)
16	Extractables	1 liter glass with teflon lined cap	4°C (thiosulfate if Cl ₂ present)
19	Extractables	1 liter glass with teflon lined cap	4°C, adjust pH to 2 - 7 (thiosulfate if Cl ₂ present)
12, 13, 14	Extractables	1 liter glass with teflon lined cap	4°C
20	Extractables	1 liter glass with teflon lined cap	4°C, store in dark (thiosulfate is Cl ₂ present)
15	TOX	250 ml glass with teflon lined cap, single 1 liter glass with teflon lined cap, quad.	4°C, store in dark (thiosulfate if Cl ₂ present)

**LABORATORY SUPPORT FOR
VADOSE ZONE STUDIES
AT SPARTON TECHNOLOGY, INC.**

Prepared For:

Harding Lawson Associates

Prepared By:

**Rocky Mountain Analytical Laboratory
5530 Marshall Street
Arvada, Colorado 80002**

May 6, 1985

INTRODUCTION

As part of a closure plan at Sparton Technologies' Albuquerque, New Mexico facility, an extensive analytical program will be conducted to accomplish the following:

- o Task 1, provide detailed characterization of soil samples obtained from a series of soil borings for selected metal and volatile organic compounds, and
- o Task 2, determine the amount of water required to remove the contaminants from the vadose zone by performing a column leaching study.

Characterization of the soil cores in Task 1 will be to analyze the samples for total metals, EP Toxicity metals, volatile organics, and total organic halogen (TOX). The total metals analyses will be for chromium, cadmium, lead, and nickel. The EP toxicity tests will be for metals detected as total metals. Analysis for EP chromium will always include trivalent chromium and hexavalent chromium. Samples with detectable TOX will be analyzed for the following four organic compounds: 1,1-Dichloroethylene, Methylene chloride, 1,1,1-Trichloroethane and Trichloroethylene. One sample per boring will be analyzed for the volatile priority pollutants plus acetone as shown in Table 1. The column leaching studies in Task 2 will be oriented to the same list of parameters in Task 1.

Subsequent sections of this document provide additional information concerning the analytical methods as well as supporting information.

TABLE I - SOIL DETECTION LIMITS FOR VOLATILE ORGANICS GC/MS

<u>Parameter</u>	<u>Units</u>	<u>Detection</u>	
		<u>Limit</u>	
1V Acrolein	ug/kg	100	
2V Acrylonitrile	ug/kg	100	
3V Benzene	ug/kg	5	
5V Bromoform	ug/kg	5	
6V Carbon tetrachloride	ug/kg	5	
7V Chlorobenzene	ug/kg	5	
8V Chlorodibromomethane	ug/kg	5	
9V Chloroethane	ug/kg	10	
10V 2-Chloroethylvinyl ether	ug/kg	5	
11V Chloroform	ug/kg	5	
12V Dichlorobromomethane	ug/kg	5	
14V 1,1-Dichloroethane	ug/kg	5	
15V 1,2-Dichloroethane	ug/kg	5	
16V 1,1-Dichloroethylene	ug/kg	5	
17V 1,2-Dichloropropane	ug/kg	5	
18V 1,3-Dichloropropylene(c&t)	ug/kg	5	
19V Ethylbenzene	ug/kg	5	
20V Methylbromide	ug/kg	10	
21V Methylchloride	ug/kg	10	
22V Methylene chloride	ug/kg	10	
23V 1,1,2,2-Tetrachloroethane	ug/kg	5	
24V Tetrachloroethylene	ug/kg	5	
25V Toluene	ug/kg	5	
26V 1,2-trans-Dichloroethylene	ug/kg	5	
27V 1,1,1-Trichloroethane	ug/kg	5	
28V 1,1,2-Trichloroethane	ug/kg	5	
29V Trichloroethylene	ug/kg	5	
31V Vinyl chloride	ug/kg	10	
Acetone	ug/kg	10	

BDL = Below detection limit.

TECHNICAL APPROACH

This section describes in detail the specific technical approach which will be utilized, especially for Tasks 2 and 3. Information about the analytical methodology will be presented in a subsequent section.

Task 1 - Soil Core Characterization

This task is to analyze soil cores for specific contaminants. All analyses will be in accordance with standard EPA Methodology referenced in SW-846 as shown below:

Total Metals	- EPA Method 6010
EP Toxicity Metals	- EPA Method 1310
Hexavalent Chromium	- EPA Method 7196
Volatile Organics	- EPA Method 8240
Total Organic Halogen	- EPA Method 9020
Volatile Halocarbons	- EPA Method 8010

Task 2 - Column Leaching Study

For this study, two 12" x 3" columns will be packed with contaminated soil. One column will be for inorganic constituents and one for organic constituents. Local source water will be used to leach the contaminants from the soil. Gravity head pressure will be used to elute each column. If required, the columns will be pressurized to generate a minimum column flow of 20 ml/hour. The column pore volume is estimated to be 500 ml. During the initial phase of the study, samples will be collected every 200-250 ml. Once breakthrough has occurred, the sampling frequency will decrease.

For the inorganic column study, 100 ml samples will be collected and analyzed for chromium, lead and hexavalent chromium.

The collection of column leachates for volatile organics represents a significant analytical challenge. RMAL proposes to collect the samples with in-line charcoal filters. Back up samples would be collected in collapsed Tedlar bags and then transferred to standard VOA glass vials for longer storage. The charcoal samples will be analyzed for TOX and/or specific chlorinated species.

The TOX measurement would be according to standard practice with the charcoal analyzed directly. For the detailed organic speciation, a sample preparation step would be required prior to analysis. Specific organic compounds would be determined on a benzene extract of the charcoal using the GC/HECD conditions in EPA Method 601 as described previously.

Approximately 30-50 ml of sample will be required for each analysis. Two charcoal tubes would be collected sequentially, one for the TOX analysis and one reserved for organic compound speciation.

The metals and TOX analyses will be performed on a daily basis to establish breakthrough curves. After breakthrough has been established for the organics, but prior to completion of the test, selected samples will be analyzed for specific organics to verify the TOX results.

ANALYTICAL METHODOLOGY

All samples analyses will be in accordance with standard EPA Methodology as published in SW-846. The discussion below highlights the application of these methods.

Total Metals

The samples (soils and batch/column leachates) will be digested using SW-846 Method 3050. The digestate will then be analyzed by inductively coupled argon plasma spectrometry (ICP) using SW-846 Method 6010. A Jarrell-Ash Model 9000 ICP will be used for the determinations.

EP Toxicity Metals

SW-846 Method 1310 will be used to generate a leachate. The leachate will be analyzed for metals by SW-846 Method 6010 as described above and for hexavalent chromium using SW-846 Method 9030.

Total Organic Halogen

Total organic halogen (TOX) determinations of column leachate samples will be analyzed as specified in SW-846 Method 9020. This method does not address the analysis of soil samples for TOX. RMAL has developed a procedure in which an aliquot of the soil sample is extracted with methanol. The methanol extract is then injected into the TOX instrument. The detection limit for this procedure is 50 mgCl⁻/kg.

An alternative approach involves extracting a 10 g aliquot of soil with 10 ml hexane. One milliliter of this extract is then combusted in an oxygen atmosphere in a combustion bomb. The combustion products are collected in a weak carbonate/bicarbonate trapping solution. This solution is then analyzed using ion chromatography as outlined in EPA Method 300.0.¹ The detection limit for this procedure after optimization will be 1 mgCl⁻/kg.

Note: Since this printing, the methanol extract method has been demonstrated to be most reliable. Detection limit is 2 mgCl⁻/kg.

¹"Methods for Chemical Analysis of Water and Waste", EPA-600/4-79-020, EMSL, Cincinnati, 1979.

Hexavalent Chromium

Hexavalent chromium in leachate samples will be measured by a colorimetric method in SW-846, Method 7196.

Volatile Organics Scan

Soil and selected batch leachate samples will be analyzed for the complete list of volatile priority pollutants and acetone using a purge and trap GC/MS method in SW-846, Method 8240. Aqueous samples can be purged directly as specified in SW-846 Method 5030. Soil samples will require a preliminary extraction with tetraglyme, as specified in Method 8240, prior to analysis.

Volatile Halocarbons

Batch and column leachate samples will be analyzed for selected chlorinated volatile species using SW-846 Method 8010. This method is a purge and trap GC method similar to Method 8240, but uses a chlorine specific detector, the Hall electroconductivity detector (HECD), rather than a mass spectrometer for identification and quantification of the organic species.

SAMPLE COLLECTION AND PRESERVATION

The procedures for the collection, field preparation, containerization, preservation and shipment of samples will be discussed below. The sample collection procedures are as important as the analytical procedures in producing meaningful data.

For soil and sludges with no free water, a 1-quart glass bottle (Teflon-lined cap) is adequate for all organic and inorganic tests except VOA's. One separate VOA vial should be also collected per sample. These samples are best composited in a stainless steel bucket using a stainless trowel for mixing. Compositing should be done expeditiously to minimize loss of volatiles. After compositing samples with no free oil, the bucket is best wiped out between samples with clean paper towels. Samples with free oil may coat the bucket with oil. Hexane followed by methanol can remove oil. The use of solvents should be considered only as a last resort.

Two special samples will be required for the batch and column leaching studies. A one to two gallon sample of contaminated soil will be collected by compositing appropriate core samples in a stainless steel bucket as described previously. This composite will be stored in clean metal cans which will be sealed with a Teflon liner. The containers should be filled completely to minimize headspace and resulting loss of volatiles. In addition to this bulk soil sample, a large quantity (15 to 20 gallons) of uncontaminated groundwater will be needed. This water will be collected in one gallon bottles and stored in RMAL's 4°C storage area.

RMAL will provide all sample bottles packed in coolers with foam wrapping. A packing list and chain-of-custody form will accompany each cooler. The bottles will be shipped out by UPS in advance of the sampling start date. Extra bottles will be sent to cover breakage during shipping or handling in the field.

The coolers will be sealed with nylon filament tape. The coolers should be sealed with tape in the field after sample collection. All samples should be shipped by air express next day delivery to RMAL. The coolers will be opened, the custody verified and the samples logged into the RMAL computer for sample tracking. The RMAL facility is always locked and has a 24 hour-a-day monitored security system. All windows and doors have intrusion detection bugs.

In addition to the sample bottles for the field samples, some column leachate samples will be collected in Tedlar bags. Tedlar is a polyvinylfluoride film with very low permeability for organic species.

APPENDIX E

MONITORING WELL PLUGGING AND ABANDONMENT PROCEDURES

APPENDIX E

MONITORING WELL PLUGGING AND ABANDONMENT PROCEDURES

I Introduction

Three monitoring wells (MW1, MW3, and MW11) will be plugged and abandoned prior to initiation of closure of the pond and sump area.

II Abandonment Methodology

Two well abandonment methodologies are being considered. The final choice will be based on the equipment and capabilities of the drilling contractor selected.

A. Method A

Prior to excavation of the surface impoundment, the steel protector pipes and concrete collars of the three monitoring wells will be removed and discarded. A drilling rig will be located over the existing monitoring well, and the casing and screen will be filled with a bentonite slurry. A mills knife, or a pneumatic or mechanical device, will be used to cut or fracture the casing so that the bentonite will invade the surrounding formation outside the casing.

The bentonite will be allowed to settle for at least 12 hours, and the remainder of the boring will be filled with a neat grout and bentonite mixture to the land surface.

B. Method B

Method B is similar to Method A except that the casing and well annulus will be drilled out using stringer to guide the drill bit down the well casing.

III Record Filing

A record of each well plugged and abandoned will be filed with the State Engineer.

APPENDIX F
MODEL SAFETY PLAN OUTLINE

Harding Lawson Associates
JOB SAFETY PLAN

Part 1 - Site Information

1. Site: Sparton Technology, Inc. 2. Job No.: 6310,012.12
3. Location: 9621 Coors Road N.W., Albuquerque, New Mexico 87103
4. Plan Prepared By: H.A. Wood Date: August 20, 1985
5. Plan Approved By: Thomas S. Burger Date: August 20, 1985
6. Plan Revised: _____ 7. Approved: _____
8. Facility Description: Electronics manufacturing facility with lagoon and drum storage of hazardous wastes.
9. Status (active, inactive, unknown): Active electronics manufacturing
10. Unusual Features (dike integrity, powerlines, etc.): Waste discharge lines, fences, gas line outside fences.
11. History (injuries, exposures, complaints): Old drum area used 1981, sump closed 1980, two ponds and two drum storage areas used 1980 to present.
12. Surroundings (location with respect to residences, businesses, natural features): Facility is on State Highway 448 about 0.5 miles south of Alameda Airport, 0.5 miles west of Rio Grande River. Commercial/unimproved land use, low density po
13. Site Sketch (attach sketch showing salient features) Plates 1, 2, 3 & 4
14. Climate: Strong daytime heating, cool nights, wide daily temperature range. Summers fair, dry, sunny, hot. Winters cold to warm, some snow.
a) average wind speed and direction: Prevailing winds are January N or SE; July mostly SE; annual average SE and NW.
b)

	July	October	January	April
mean high temperature	<u>90</u>	<u> </u>	<u>45</u>	<u> </u>
mean low temperature	<u>60</u>	<u> </u>	<u>20</u>	<u> </u>

15. Hazardous Material Type: ☒ Liquid ☒ Solid ☒ Sludge ☒ Gas/Vapor ☐ Other _____
16. Hazardous Material Characteristics: ☐ Corrosive ☒ Ignitable ☒ Toxic ☐ Volatile
☐ Reactive ☐ Radioactive ☐ Carcinogenic ☐ Other _____

* If in pure form. Hazardous materials expected to be encountered in the field will be unsaturated soils with trace (ppm) contamination.

17. Chemical Information Summary

The chemicals listed below might be encountered at the site during field exploration. Appendix A presents detailed summary information for each chemical listed.

m-Xylene
o,p-Xylene
Boron
Chromium
Manganese
Nickel
Sodium
Ethyl Benzene
Methyl Chloride
Methylene Chloride
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
1,2-Dichloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Acetone
Benzene
Chlorobenzene
Chloroform
1,1-Dichloroethane
Trichlorotrifluoroethane
1,1-Dichloroethylene

Task Description: FIELD EXPLORATION (TEST BORINGS)

Task Name:

18. ANALYSIS OF KNOWN OR SUSPECTED UNMITIGATED HAZARDS		19. RISK ANALYSIS		
Hazard Type	How Does Hazard Exist?	Expos	Prob	Conseq
Mechanical	Construction Equipment	Cont	Unu	Min to Fatal Chronic
Electrical	Active Plant Site	Occ	Unu	Fatal
Chemical	Ingestion	Cont	Like	Mod to Fatal
	Inhalation			
	Skin Contact			
	Eye Contact			
Temperature	If personal protective equipment is worn, special consideration to heat stress.	Cont	Like	Min to Fatal
Acoustical	Not Applicable			
Radioactive	Not Applicable			
O2 Deficiency	Not Applicable			
Biohazard	Not Applicable			

Expos: Frequency of exposure to the hazard event
cent - many times per day

cont - many times per day
freq - once or twice per day
occ - once a week or month
seld - once a month or year

Prob: Likelihood that an injury will occur upon exposure

cert - certain
like - 50/50 chance
unu - unusual
imp - improbable

Conseq: Degree of injury if one occurs

fatal - fatality
 ser - serious, requires hospitalization
 mod - moderate, requires out-patient care
 min - requires on-site first aid
 chron - chronic, no acute affects

[illegible]

Special Procedures Required:

Workplace to be monitored by HNU Meter Model TI 101 with 11.7 or 10.2 ev. probe.

- respirator action level = 5 ppm
- tyvek suit action level = 5 ppm
- evacuation action level = 50 ppm

21. Required Personal Protective Equipment

Task: Construction

Level: A B X C D

Head

 X Hardhat

Eye/Face

 X Safety Glasses Face Shield
 Goggles

Hand

 X Neoprene Nitrile X PVC
 Viton Underglove Other:

Body

 Full Encapsulating Suit:
 Two Piece Rainsuit, Material =
 One Piece Splash Suite, Material =
 X Tyvek Suit Tyvek/Saranax Suit Tyvek/Polyethylene Suit
 Cloth Coveralls X Other: Standard Work Clothes

Lung

 SCBA (open circuit, pressure demand):
 Full Face Respirator, cartridge =
 X Half Mask Respirator, cartridge = Organic Vapor (OV) or OV & Acid Gas; each
 Other: with dust filter

Ear

 X Earplug, type = Discretionary
 Earmuff, type =

Foot

 X Boots, type = Steel toe and Shank
 Disposable Overboots, type =

22. Special Equipment, Facilities, or Procedures:

Refer to Items 20, 23, and 28.

No smoking or eating within work areas.

All personnel working on site will be briefed on the safety procedures
established by this plan.

* To be used if deemed appropriate by site safety officer in accordance with
Item 20 of the Safety Plan.

7. Chemical Information Summary

Material Name	1,1,2-Trichloroethane
Chemical Constituent	$C_2H_3Cl_3$
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.42 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.45
Vapor Density	4.6
Flash Point	non-flammable
Vapor Pressure	19 mm Hg
LEL	6%
UEL	15.5%

Hazard Specifics of Pure Chemical

STEL	-
TLV	10 ppm Skin notation
LD50/LC50	LD50 - 1140 mg/kg LC50 - 500 ppm/8 hours
IDLH Level	500 ppm
Odor Threshold	sweet odor like chloroform
Hazard Property(3)	toxic, persistence
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	500 ppm SAF/SCBAF

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

7. Chemical Information Summary

Material Name	Trichloroethylene
Chemical Constituent	C ₂ HCl ₃
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	59.0 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.1%
Vapor Density	-
Flash Point	90°F
Vapor Pressure	58 mm Hg
LEL	12.5%
UEL	90%

Hazard Specifics of Pure Chemical

STEL	300 ppm 5 minute peak
TLV	100 ppm (OSHA), 50 ppm (ACGIH), 200 ppm ceiling
LD50/LC50	-
IDLH Level	1000 ppm
Odor Threshold	50 ppm
Hazard Property(3)	toxic, ignitable, persistence
Exposure Route (4)	inhale, ingest, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	500 ppm CCROV/SA/SCBA

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc. Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

17. Chemical Information Summary

Material Name	Acetone
Chemical Constituent	C ₃ H ₆ O
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	56.0 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	soluble
Vapor Density	2.0
Flash Point	4°F
Vapor Pressure	26 mm Hg
LEL	2.15%
UEL	18%

Hazard Specifics of Pure Chemical

STEL	1000 ppm (ACGIH)
TLV	1000 ppm (OSHA): 250 ppm (NIOSH)
LD50/LC50	LD50 - 3000 mg/kg (mouse), LC50 - 16000 ppm/4 hours (rat), Skin 20 g/kg (rabbit)
IDLH Level	20,000 ppm
Odor Threshold	2.0 ppm
Hazard Property(3)	toxic, ignitable
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	5000 ppm G MOV

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

7. Chemical Information Summary

Material Name	Benzene
Chemical Constituent	C ₆ H ₆
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.083 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	820 ppm
Vapor Density	2.8
Flash Point	12°F
Vapor Pressure	75 mm Hg
LEL	1/3%
UEL	7.1% (Hazardline)

Hazard Specifics of Pure Chemical

STEL	50 ppm 10 minute peak (OSHA), 25 ppm (ACGIH)
TLV	10 ppm 25 ppm ceiling (OSHA)
LD50/LC50	LD50 - 4700 mg/kg (mouse) LC50 - 10,000 ppm / 7 hours (rat)
IDLH Level	2000 ppm
Odor Threshold	1.5 - 5 ppm
Hazard Property(3)	flammable, carcinogenic
Exposure Route (4)	inhale, absorb, ingest, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	10 ppm SA/SCBA

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc. Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

17. Chemical Information Summary

Material Name	Chlorobenzene
Chemical Constituent	C_6H_5Cl
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.060 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.1 g/100 g water
Vapor Density	3.9
Flash Point	84°F
Vapor Pressure	8.8 mm Hg
LEL	1.3 %
UEL	9.6%

Hazard Specifics of Pure Chemical

STEL	-
TLV	75 ppm
LD50	2910 mg/kg (rat)
IDLH Level	2400 ppm
Odor Threshold	0.21 ppm
Hazard Property(3)	toxic, ignitable, persistence
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	1000 ppm CCROVF

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

1. Chemical Information Summary

Material Name	Chloroform
Chemical Constituent	CHCl ₃
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.16 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.8 G
Vapor Density	4.12
Flash Point	non-flammable
Vapor Pressure	160 mm Hg
LEL	incombustible
UEL	incombustible

Hazard Specifics of Pure Chemical

STEL	50 ppm
TLV	50 ppm (OSHA) 10 ppm (ACGIH)
LD50/LC50	LD50 - 1194 mg/kg LC50 - 8000 ppm/4 hours
IDLH Level	1000 ppm
Odor Threshold	100 ppm
Hazard Property(3)	toxic, persistence
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	500 ppm SA/SCBA

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

7. Chemical Information Summary

Material Name	1,1-Dichloroethane
Chemical Constituent	CH ₃ CHCl ₂
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Estimated
Maximum Value	0.12 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.1 G
Vapor Density	3.4
Flash Point	22°F
Vapor Pressure	182 mm Hg
LEL	6%
UEL	16%

Hazard Specifics of Pure Chemical

STEL	250 ppm (ACGIH)
TLV	100 ppm
LD50/LC50	LD50 - 725 mg/kg
IDLH Level	4000 ppm
Odor Threshold	5.0 ppm
Hazard Property(3)	toxic, ignitable, persistence
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	1000 ppm CCROV/SA/SCBA

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

7. Chemical Information Summary

Material Name	Trichlorotrifluoroethane
Chemical Constituent	$C_2Cl_3F_3$
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.47 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.028%
Vapor Density	-
Flash Point	non-flammable
Vapor Pressure	284mm
LEL	not combustible
UEL	not combustible

Hazard Specifics of Pure Chemical

STEL	-
TLV	1000 ppm
LD50/LC50	LD50 - 43g/kg LCLo - 87000 ppm/6 hours
IDLH Level	4500 ppm
Odor Threshold	-
Hazard Property(3)	toxic, reactive
Exposure Route (4)	inhale, ingest
Toxic Effects (5)	see Hazardline
Respirator Level	4500 ppm SA/SCBA

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

7. Chemical Information Summary

Material Name	1,1-Dichloroethylene
Chemical Constituent	C ₂ H ₂ Cl ₂
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid Gas

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	22.0 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	2250 mg/l
Vapor Density	3.4
Flash Point	3°F
Vapor Pressure	600 mm Hg
LEL	7.3%
UEL	16%

Hazard Specifics of Pure Chemical

STEL	20 ppm (ACGIH)
TLV	5 ppm (ACGIH TWA) 1 ppm (NIOSH)
LD50/LC50	LCLo - 10,000 ppm/24 hours
IDLH Level	200 mg/kg (LD50 oral rat)
Odor Threshold	-
Hazard Property(3)	toxic, ignitable, reactive
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	no level mentioned

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

7. Chemical Information Summary

Material Name	Sodium
Chemical Constituent	Na
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Metal

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	210.0 mg/l
Minimum Value	38.0 mg/l

Pure Chemical Characteristics

Water Solubility	decomposes
Vapor Density	-
Flash Point	NA
Vapor Pressure	1.2 mm at 752°F
LEL	-
UEL	-

Hazard Specifics of Pure Chemical

STEL	-
TLV	none established
LD50/LC50	-
IDLH Level	none specified
Odor Threshold	-
Hazard Property(3)	toxic, ignitable, reactive
Exposure Route (4)	ingestion
Toxic Effects (5)	see Hazardline
Respirator Level	no level set

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

1. Chemical Information Summary

Material Name	Ethyl Benzene
Chemical Constituent	C ₈ H ₁₀
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.086 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.015 G
Vapor Density	3.7
Flash Point	59°F
Vapor Pressure	7.1 mm Hg
LEL	1%
UEL	6.7%

Hazard Specifics of Pure Chemical

STEL	125 ppm (ACGIH)
TLV	100 ppm
LD50/LC50	LCLo 4000 ppm/4 hours
IDLH Level	2000 ppm
Odor Threshold	140 ppm
Hazard Property(3)	toxic, ignitablility, persistence
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	1000 ppm CCROVF

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, soild, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenicic, infections, etc.
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

7. Chemical Information Summary

Material Name	Methyl Chloride
Chemical Constituent	CH ₃ Cl
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Gas Compresses to liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	16.0 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.74%
Vapor Density	1.8
Flash Point	less than 32°F
Vapor Pressure	4.8 mm Hg
LEL	7.6%
UEL	19%

Hazard Specifics of Pure Chemical

STEL	300 ppm 5 minute peak
TLV	100 ppm/8 hours (TWA); 200 ppm ceiling
LD50/LC50	3146 ppm/7 hr (mouse)
IDLH Level	10,000 ppm
Odor Threshold	10 ppm
Hazard Property(3)	toxic, ignitable, persistence
Exposure Route (4)	inhale, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	1000 SA/SCBA

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

17. Chemical Information Summary

Material Name	Methylene Chloride
Chemical Constituent	CH ₂ Cl ₂
Information Reference/Page	Hazardline (Sax)

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	57. mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	slight
Vapor Density	2.9
Flash Point	none
Vapor Pressure	350 mm Hg
LEL	10% (Sax) 12% (Hazardline)
UEL	unavailable

Hazard Specifics of Pure Chemical

STEL	2000 ppm 5 minute peak
TLV	75 ppm (NIOSH)
LD50/LC50	LD50 2136 mg/kg
IDLH Level	5000 ppm
Odor Threshold	200 ppm
Hazard Property(3)	toxic, reactive, persistence
Exposure Route (4)	inhale, ingest, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	500 ppm SAF/SCBAF

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

1. Chemical Information Summary

Material Name	1,1,2,2-Tetrachloroethane
Chemical Constituent	C ₂ H ₂ Cl ₄
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.086 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.19%
Vapor Density	5.8
Flash Point	not combustible
Vapor Pressure	5 mm Hg
LEL	not combustible
UEL	not combustible

Hazard Specifics of Pure Chemical

STEL	-
TLV	5 ppm (OSHA) Skin Notation 1 ppm (ACGIH)
LD50/LC50	LCLo 1000 ppm/4 hours
IDLH Level	150 ppm
Odor Threshold	3 ppm
Hazard Property(3)	toxic, persistence
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	50 ppm CCROV/SA/SCBA

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

7. Chemical Information Summary

Material Name	Tetrachloroethylene
Chemical Constituent	C ₂ Cl ₄
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.50 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.015 g/ml
Vapor Density	5.8
Flash Point	not combustible
Vapor Pressure	15.8 mm Hg
LEL	not combustible
UEL	not combustible

Hazard Specifics of Pure Chemical

STEL	300 ppm 5 minute peak (OSHA)
TLV	100 ppm (OSHA) (TWA) 200 ppm Ceiling 50 ppm (ACGIH)
LD50/LC50	LD50 - 8850 mg/kg (rat) LDLo 4000 ppm/4 hours (rat)
IDLH Level	500 ppm
Odor Threshold	50 ppm
Hazard Property(3)	toxic, persistence
Exposure Route (4)	inhale, ingest, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	500 ppm CCROV/GMOV/SA/SCBAF

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc. Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

7. Chemical Information Summary

Material Name	Toluene
Chemical Constituent	C ₇ H ₈
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	3.2 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.05 G
Vapor Density	3.2
Flash Point	40°F
Vapor Pressure	22 mm Hg
LEL	1.3%
UEL	7.1%

Hazard Specifics of Pure Chemical

STEL	500 ppm 10 minute peak (OSHA) 200 ppm/10 minutes (NIOSH)
TLV	200 ppm (OSHA TWA) 100 ppm (ACGIH TWA) Skin Note
LD50/LC50	LD50 - 5000 mg/kg (rat) LC50 - 4000 ppm/4 hours (rat) Skin 14g/kg (rabbit)
IDLH Level	2000 ppm
Odor Threshold	2 ppm
Hazard Property(3)	toxic, ignitable, persistence
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	500 ppm CCROV/SA/SCBA

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

.. Chemical Information Summary

Material Name	1,2-Dichloroethylene
Chemical Constituent	C ₂ H ₂ Cl ₂
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.011 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.35 - 0.636
Vapor Density	3.4
Flash Point	43°F
Vapor Pressure	400 mm Hg
LEL	9.7%
UEL	12.8%

Hazard Specifics of Pure Chemical

STEL	250 ppm (ACGIH)
TLV	200 ppm (OSHA)
LD50/LC50	770 mg/kg (rat)
IDLH Level	4000 ppm
Odor Threshold	0.085 ppm
Hazard Property(3)	toxic, ignitable, reactive, persistence
Exposure Route (4)	inhale, ingest, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	1000 ppm CCROVF

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

1. Chemical Information Summary

Material Name	1,1,1-Trichloroethane
Chemical Constituent	C ₂ H ₃ Cl ₃
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	27.0 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.07%
Vapor Density	999
Flash Point	184°F
Vapor Pressure	100 mm Hg
LEL	8%
UEL	10.5%

Hazard Specifics of Pure Chemical

STEL	450 ppm (ACGIH)
TLV	350 ppm
LD50/LC50	-
IDLH Level	1000 ppm
Odor Threshold	20 ppm
Hazard Property(3)	toxic, reactive, persistence
Exposure Route (4)	inhale, ingest, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	500 ppm CCROV/SA/SCBA

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

17. Chemical Information Summary

Material Name	m-Xylene
Chemical Constituent	C ₈ H ₁₀
Information Reference/Page	Hazardline (Sax)

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	.033 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.00003%
Vapor Density	3.7
Flash Point	84°F (Sax)
Vapor Pressure	6 mm Hg (Hazardline) 10 mm Hg (Sax)
LEL	1.1% (Sax) 1.0% (Hazardline)
UEL	7%

Hazard Specifics of Pure Chemical

STEL	-
TLV	100 ppm (ACGIH TWA)
LD50/LC50	LD50 - 5000mg/kg LCLo - 8000 ppm/ 4 hours
IDLH Level	10,000 ppm
Odor Threshold	0.5 ppm
Hazard Property (3)	toxic, ignitable, persistence
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	1000 ppm CCROVF

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

17. Chemical Information Summary

Material Name	o,p-Xylene
Chemical Constituent	C ₈ H ₁₀
Information Reference/Page	Hazardline (Sax)

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Liquid

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.042 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	0.00003%
Vapor Density	3.7
Flash Point	81°F (Sax)
Vapor Pressure	9 mm Hg
LEL	1.1%
UEL	7%

Hazard Specifics of Pure Chemical

STEL	-
TLV	100 ppm (ACGIH TWA)
LD50/LC50	LD50 - 5000 mg/kg LCLo - 4912 ppm/24 hours
IDLH Level	10,000 ppm
Odor Threshold	0.05 ppm
Hazard Property(3)	toxic, ignitable
Exposure Route (4)	inhale, ingest, absorb, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	1000 ppm CCROV

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc. Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

17. Chemical Information Summary

Material Name	Boron
Chemical Constituent	B
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Crystal, Powder

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	32.0 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	insoluble
Vapor Density	-
Flash Point	NA
Vapor Pressure	-
LEL	-
UEL	-

Hazard Specifics of Pure Chemical

STEL	-
TLV	none established
LD50/LC50	-
IDLH Level	none established
Odor Threshold	-
Hazard Property(3)	toxic, ignitable, reactive, persistence
Exposure Route (4)	inhale, ingest, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	no level set

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

17. Chemical Information Summary

Material Name	Chromium
Chemical Constituent	CR
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	Metal

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	22.0 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	insoluble
Vapor Density	-
Flash Point	autoignition 752°F
Vapor Pressure	0.0
LEL	0.230%
UEL	dust is explosive

Hazard Specifics of Pure Chemical

STEL	-
TLV	1 mg/m ³
LD50/LC50	-
IDLH Level	500 mg/m ³
Odor Threshold	-
Hazard Property(3)	persistence
Exposure Route (4)	inhale, ingest, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	2.5 mg/m ³ DMXS

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc. Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

17. Chemical Information Summary

Material Name	Manganese
Chemical Constituent	Mn
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	SI, GW, Soil
Physical State (2)	metal

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	4.2 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	decomposes
Vapor Density	-
Flash Point	flammable
Vapor Pressure	1 mm Hg
LEL	NA
UEL	NA

Hazard Specifics of Pure Chemical

STEL	-
TLV	5 mg/m ³
LD50/LC50	-
IDLH Level	10,000 ppm
Odor Threshold	-
Hazard Property(3)	toxic, ignitable, reactive, persistence
Exposure Route (4)	inhale, ingest, absorb
Toxic Effects (5)	see Hazardline
Respirator Level	25 mg/m ³ DM/DMXS

- (1) Tank, drum, soil, ground water, surface impoundment, etc.
- (2) Liquid, solid, gas, vapor, dust, fume, mist, sludge
- (3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.
- (4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact
- (5) Exposure symptoms and effects

1. Chemical Information Summary

Material Name	Nickel
Chemical Constituent	Ni
Information Reference/Page	Hazardline

Likely Encounter

Source (1)	Si, GW, Soil
Physical State (2)	Metal

Concentrations

Measured or Estimated?	Measured
Media	Groundwater
Maximum Value	0.73 mg/l
Minimum Value	ND

Pure Chemical Characteristics

Water Solubility	insoluble
Vapor Density	-
Flash Point	NA
Vapor Pressure	0.0
LEL	NA
UEL	NA

Hazard Specifics of Pure Chemical

STEL	-
TLV	1 mg/m ³
LD50/LC50	LDLo 12 mg/kg
IDLH Level	none specified
Odor Threshold	-
Hazard Property(3)	toxic, ignitable, persistence
Exposure Route (4)	inhale, ingest, skin and eye contact
Toxic Effects (5)	see Hazardline
Respirator Level	5 mg/m ³ DM 50 mg/m ³ CCROVHIEP

(1) Tank, drum, soil, ground water, surface impoundment, etc.

(2) Liquid, solid, gas, vapor, dust, fume, mist, sludge

(3) Corrosive, ignitable, toxic, volatile, reactive, radioactive, carcinogenic, infections, etc.
Fill in all that apply.

(4) Inhalation, Skin Absorption, Ingestion, Skin and Eye Contact

(5) Exposure symptoms and effects

APPENDIX G
OLD DRUM AREA SOILS INVESTIGATION

APPENDIX G
OLD DRUM AREA SOILS INVESTIGATION

Three soil samples will be collected from the ground surface in the old hazardous waste drum storage area. These samples will be collected from points near the north and south ends of the area, and midway between these areas. Each sample will consist of a composite of four samples collected at points equidistant on the circumference of an imaginary 3-foot-diameter circle. The composite soil samples will be sealed in storage containers provided by the analytical laboratory and submitted for analysis for the following parameters:

pH
lead
nickel

chromium
silver
Total Organic Halides

APPENDIX H
FINAL CLOSURE SCHEDULE

APPENDIX H
FINAL CLOSURE SCHEDULE

I Introduction

This section has been prepared to demonstrate the time required for completion of major activities in the closure of the hazardous waste storage units at the Coors Road facility. All times are expressed in days after approval of the closure plan. Activities expected to be completed prior to final closure plan approval will be assigned a time of 0. Closure of both drum storage areas and the ponds is expected to commence in 1986.

II Hazardous Waste Areas

A. Old Drum Area

<u>Activity</u>	<u>Time (days)</u>
1. Collect soil samples	30
2. Submit closure certification	60

B. New Drum Area

<u>Activity</u>	<u>Time (days)</u>
1. Remove existing drums	30
2. Inspect facility	45
3. Decontaminate facility (if necessary)	60
4. Submit closure certification	90

C. Pond and Sump Area

<u>Activity</u>	<u>Time (days)</u>
1. Plug monitoring wells	0
2. Complete modifications to pond walls and remove sump	60
3. Complete final grading and fencing alterations	90
4. Complete asphaltic concrete cap	120
5. Submit certification of closure	180

III Extension of Closure Time

It is not anticipated that any extension of the closure time will be necessary.

APPENDIX I
CLOSURE COST ESTIMATES

APPENDIX I

CLOSURE COST ESTIMATES

I Introduction

This section contains cost estimates for closure of the two ponds and the drum storage areas at the Sparton Technology, Inc., Coors Road facility in Albuquerque, New Mexico. As described in the closure plan, closure certification will be provided for four discrete closure elements. Cost estimates for each of these four elements is provided in Tables N-1 through N-3.

II Maximum Waste Inventories

The maximum inventory of hazardous waste drums in the drum storage area is 480 drums. The two ponds contain drill cuttings from area borings. The total volume of material in the ponds is estimated to be 30 cubic yards.

III Basis for Estimates

Costs related to engineering have been estimated by Sparton's consultant, Harding Lawson Associates (HLA). Laboratory costs are based on current prices charged by Rocky Mountain Analytical Laboratory. Costs related to earthwork and construction to support the pond and sump area modifications were obtained from Means' Site Work Cost Data, 1986 edition.

IV Cost Estimate Revisions

The date of this cost estimate is December 5, 1985. Annually, the closure cost estimate will be adjusted using an inflation factor derived from the annual Implicit Price Deflator for Gross National Product, as published by the U.S. Department of Commerce Survey of Current Business. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. The adjustment will be made by multiplying the most recent closure cost estimate or adjusted closure cost estimate by the inflation factor.

The closure cost estimate will be revised whenever a change in the closure plan would cause a change in the anticipated cost of closure.

V Closure Costs

The cost to close the drum storage areas and the two ponds is estimated as follows:

● Old Drum Area Closure	\$ 1,810.00
● New Drum Area Closure	61,455.00
● Pond and Sump Area Closure	<u>40,670.00</u>
Total Closure Costs	\$103,935.00

TABLE I-1
 OLD DRUM AREA CLOSURE COST ESTIMATE
 (1986 Basis)

ITEM	UNITS	COST(\$)/UNIT	COST
Sample Collection	3 samples	70.00/ea	\$ 210.00
Laboratory Analysis	1 ea	600.00/ea	600.00
Closure Certification	1 ea	1,000.00/ea	1,000.00
TOTAL			\$ 1,810.00

TABLE I-2
 NEW DRUM AREA CLOSURE COST ESTIMATE
 (1986 Basis)

ITEM	UNITS	COST(\$)/UNIT	COST
Remove Maximum Inventory for Disposal	480 drums	125.00/ea	\$ 60,000.00
Equipment Rental	1 day	175.00/day	175.00
Materials	4 drums	25.00/ea	100.00
Remove Wash Water for Disposal	4 drums	125.00/ea	500.00
Labor	12 hours	50.00/hr	180.00
Closure Certification	1 ea	500.00/ea	500.00
TOTAL			\$ 61,455.00

TABLE I-3
POND AND SUMP AREA SURFACE REMOVAL COST ESTIMATE
(1986 Basis)

ITEM	UNITS	COST(\$)/UNIT	COST
Excavate soil to grade	200 c.y.	\$7.40	\$1,480.00
Demolition			
concrete	200 s.f.	20.00	4,000.00
masonry	200 s.f.	10.00	2,000.00
Backfill & compaction	150 c.y.	21.30	3,200.00
Soil stabilization	50 c.y.	20.00	1,000.00
Remove fence & gates	270 L.F.	1.84	500.00
Reinstall fence & gates	200 L.F.	9.00	1,800.00
Install asphalt base	525 s.y.	15.75	8,270.00
Install tack coat	525 s.y.	.38	200.00
Install asphaltic concrete	525 s.y.	6.70	3,520.00
Prepare bid documents	1 ea.	5,000	5,000.00
Closure certification	1 ea.	9,700	<u>9,700.00</u>
TOTAL			<u>\$40,670.00</u>

ADDENDUM

October 15, 1986

Hazardous Waste Facility Closure Plan
Coors Road Plant
Albuquerque, New Mexico
HLA Job No. 6310,012.12
Report Date: December 17, 1985

This document presents modifications to the plans and specifications for closure of the pond and sump area in the above referenced closure plan.

1. Demolition debris from the sump, together with any grossly contaminated soils excavated during sump removal, shall be placed in open-top containers provided by Sparton. The sump debris shall be reduced to a size consistent with containerized storage. The soils shall be placed in the container around the debris so as to optimize use of the storage space and reduce the number of containers required. The contractor will also assist Sparton in transportation of the containers to a secure on-site storage area designated by Sparton.
2. Monitoring well MW-11 will be left in place. This monitoring well is to be protected from damage during pond and sump closure in a manner similar to protection of MW-16. In addition to the use of hand excavation techniques and manual soil compaction techniques, a 1/2-inch steel pipe shall be gently lowered to the bottom of each well. The pipe will extend to within 6 inches of the top of the well, such that the protected steel cover can be engaged and locked. In addition, the top of the monitoring well will be wrapped with a suitable material to prevent the entry of dust.

In the event that either monitoring well is damaged, the well will be repaired or replaced to a standard acceptable in the monitoring well industry. Replacement of a damaged monitoring well will include the cost to properly abandon the damaged well.

3. Any PVC piping excavated during preparation of the subgrade will be disposed in containers provided by Sparton, as described in Number 1 above.
4. The closure plan specification calls for placement of a grout cap over the top of concrete block pond walls. If these concrete blocks are hollow, the void spaces should be filled with sand prior to placement of the grout.

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Sparton Closure Plan
Coors Road Plant
Albuquerque, New Mexico
Page 2

5. In the event that the pond liners are damaged as a result of pond and sump closure, the liner shall be repaired by qualified liner repair contractor. The liners are approximately 6 years old and are constructed of 30-mil, 2-ply hypalon liners with a polyester scrim. It should be assumed that the hypalon has self-cured since installation. The two nearest contractors to the work site, known by HLA to be qualified in such work are as follows:
 - National Seal Company
Westminster, Colorado
(303) 428-3086
Contact: Richard Sprague
 - Gulf Seal Corporation
Houston, Texas
(713) 759-0861
Contact: Bill Way
6. A borrow area for backfill will be designated by the facility engineer. The A-zone soil will be removed prior to excavation of backfill.

The standard of compaction is revised as follows:

Soils within the pond shall be compacted using hand-operated equipment. Soils three feet below the asphaltic base shall be compacted to at least 90 percent of maximum dry density as determined by the standard proctor test method (ASTM D-698). Soils within three feet of the asphaltic base shall be compacted to at least 95 percent maximum dry density of ASTM D-698. Moisture content of compacted soils shall be within 3 percent of optimum moisture as determined by ASTM D-698.

Samples for field density tests shall be collected at points designated by HLA's field representative. At least two field density tests shall be conducted per lift. Results of the Standard Proctor Test shall be reviewed and approved by HLA prior to placement of backfill. Results of field density tests shall be reviewed by HLA as they are performed. All field density tests are to be reviewed and approved by HLA prior to installation of the cap.

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Harding Lawson Associates

7. The dock and concrete pad identified on Plate A-1 of the closure plan are to be removed and disposed at an approved disposal site for non-hazardous construction/demolition debris. The site to be used shall have the prior approval of Sparton.

ADDENDUM 2

NOVEMBER 10, 1986

HAZARDOUS WASTE FACILITY CLOSURE PLAN
COORS ROAD PLANT
ALBUQUERQUE, NEW MEXICO
6310,012.12
REPORT DATE: December 17, 1985

This document presents modifications to the plans and specifications for closure of the pond and sump area in the above-referenced closure plan. This Addendum 2 is in addition to the modifications presented in Addendum 1, dated October 15, 1986.

1. Section 02400, BACKFILL AND COMPACTION

2.02 Cement Stabilized Sand

a. Cement

Type II Portland Cement may be used in place of type IS Portland Blast Furnance Cement for stabilization of soil above pond walls.

2. Text - p. 18, Paved Cap

Plate A-3 indicates that the drainage swale is to be constructed of cement-stabilized sand. Alternatively, the material of construction for the drainage swale may be asphaltic concrete as specified below for the wearing surface. The drainage swale is to be poured and compacted continuous with the surface course, and is to be a minimum of three inches thick.

2. Section 02500, ASPHALTIC PAVEMENT SYSTEM

2.01 Asphaltic Base Course

The asphaltic base course shall be a 3/4-inch dense mix with a minimum of 4 percent asphaltic cement as specified in ASTM D-3515-84.

2.03 Wearing Surface

The asphaltic concrete wearing surface (surface course) shall be a No. 4 dense mix with a minimum of 8 percent asphaltic cement as specified in ASTM D-3515-84.

3.02 Asphaltic Base Course Construction

The asphaltic concrete base course shall be compacted to a minimum 95 percent of a laboratory specimen prepared by the Marshall Method, ASTM D-1559-76.

3.04 Asphaltic Surface Course Application

The asphaltic concrete surface course shall be compacted to a minimum 95 percent of a laboratory specimen prepared by the Marshall Method, ASTM D-1559-76.

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Harding Lawson Associates

ADDENDUM 3

**Hazardous Waste Facility Closure Plan
Coors Road Plant
Albuquerque, New Mexico
HLA Job No. 6310,012.12
Report Date: December 17, 1985**

**APPENDIX GG
OLD DRUM STORAGE AREA CLOSURE**

**December 4, 1986
Revised December 5, 1986**

APPENDIX GG
OLD DRUM STORAGE AREA CLOSURE

I Introduction

The closure plan for the Old Drum Storage Area provided that 8 soil samples would be collected from the area and analyzed for pH, total organic halides, cadmium, chromium, lead, nickel, and silver. The analytical results from this investigation are presented as Attachment 1 to this Addendum. All soil samples were negative for total organic halides; however, all samples were above background (as discussed in Section IV, below) for one or more metals. Therefore, some excavation and off-site disposal of soil will be required in order to complete the closure of the Old Drum Storage Area. Additional soil samples will be collected in order to determine the extent and configuration of excavation necessary to remove contaminated soils.

II Sample Collection

The Old Drum Storage Area (Plate GG-1) has been divided into eight equal rectangular sections (see Plate GG-2). A vertical series of soil samples will be collected from the center of each of these rectangular sections. The samples will be collected at approximately 6-inch intervals, as shown below:

<u>Level</u>	<u>Sample Interval (Inches)</u>
A	6 to 9
B	12 to 15
C	18 to 21
D	24 to 27
E	30 to 33

III Analysis

The samples will be evaluated for cadmium, chromium, lead, and nickel, the metals detected at above background concentrations in the surface soil samples.

Assaigai Analytical Laboratories of Albuquerque, New Mexico, has been selected to provide analytical support for this investigation. The analytical methods to be used are described in Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, U.S. EPA SW-846, EMSL - Cincinnati, 1982.

<u>Parameter</u>	<u>Methodology</u>	<u>Method</u>
Total Metals	Acid Digestion	3050
Cadmium	Furnace Atomic Absorption	7131
Lead	Furnace Atomic Absorption	7421
Chromium	Furnace Atomic Absorption	7191
Nickel	Flame Atomic Absorption	7520

IV. Interpretation of Results

The total metals values obtained from this investigation will be compared to the background levels for these metals as determined during a previous site soil investigation ¹. In that investigation, two background borings (B-1 and B-9) were performed. These borings

1 Soil Investigation of the Unsaturated and Upper Saturated Zones, Sparton Technology, Inc., Coors Road Plant, Albuquerque, New Mexico, HLA Job No. 6310, 023.12, June 30, 1986

are located on Plate GG-1. For the purposes of the present investigation, Boring B-9 shall be used as the background boring due to its more proximate location to the Old Drum Storage Area. In Boring B-9, cadmium was not detected. Chromium ranged from 1.8 to 6.0 milligrams per kilogram (mg/kg). Lead ranged from 3.0 to 7.4 mg/kg, and nickel ranged from 2.0 to 7.0 mg/kg. Therefore, the background values applicable to the Old Drum Storage Area are as follows:

<u>Metal</u>	<u>Background Concentration (mg/kg)</u>
Cadmium	1.0
Chromium	6.0
Lead	7.4
Nickel	7.0

If any samples are found to contain a metallic constituent above background, the block of soil surrounding that sample will be classified as being contaminated. The block of soil surrounding a sample is defined as a rectanguloid with lateral limits equal to the section boundaries depicted in Plate GG-2, and having vertical limits extending from the top of the sample interval to the top of the next deeper sample interval. Thus, each soil block would be approximately 6 feet by 14 feet by 6 inches thick.

V Contaminated Soil Removal

Based on the analytical results of the the original surface soil samples, the entire top 6 inches (A-Layer) is assumed to be contaminated. In order to clean-close the site, all of the A-Layer will be removed and disposed off site as a hazardous waste. Likewise, any contaminated soil blocks in the B, C, D or E-Layers would be excavated and disposed as a hazardous waste.

A sample excavation strategy is diagrammed in Plate GG-3 to illustrate this closure plan. The figure is based on the hypothetical outcome that one or more metals is above background in all B-Layer samples and in samples 1-C, 1-D, and 2-C.

Contaminated soil will be loaded into tractor-trailer end dumps provided by U.S. Pollution Control, Inc. (USPCI), a registered hazardous waste hauler. The soil will be transported to the USPCI hazardous waste landfill in Knolls, Utah.

The excavation will be backfilled with clean soil.

VI Certification

Following closure of the Old Drum Storage Area, a certificate of closure signed by a registered Professional Engineer will be provided to the New Mexico Environmental Improvement Division.

VII Date of Completion

It is anticipated that closure certification can be provided by December 21, 1986.

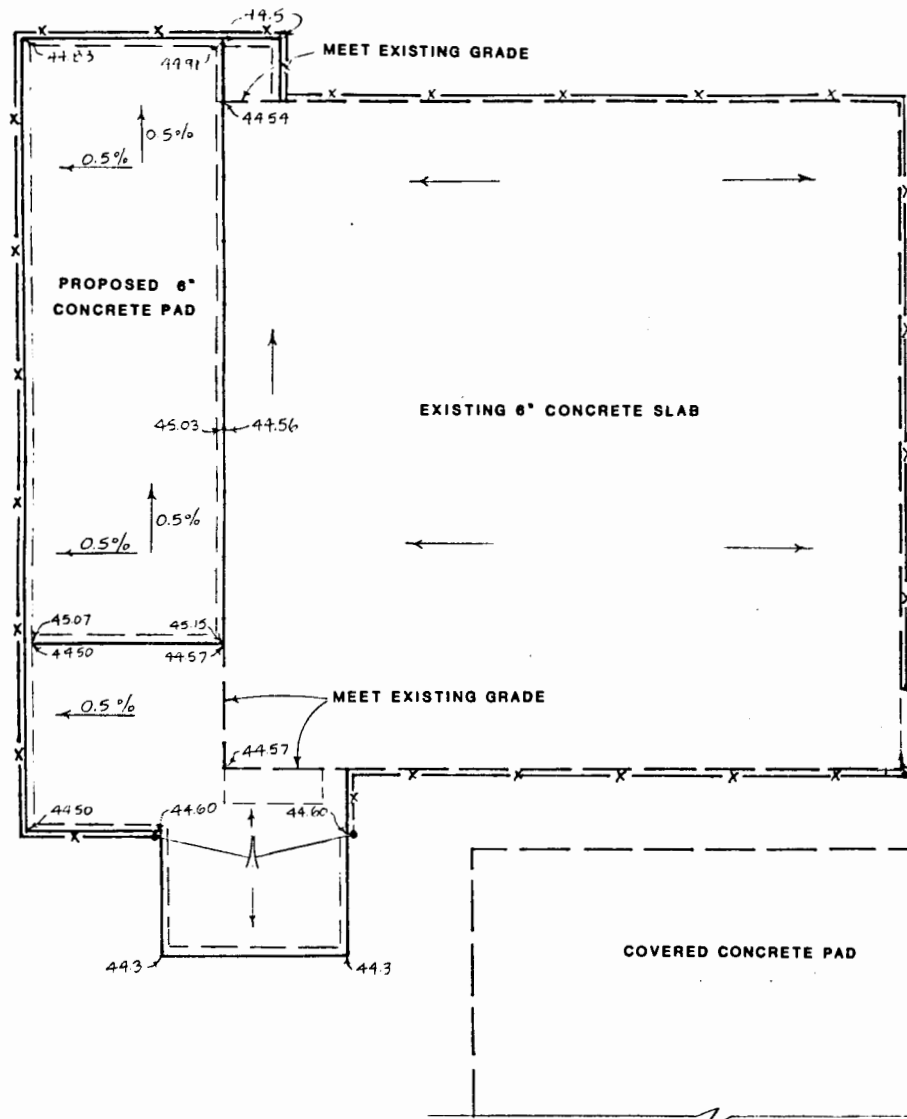
VIII Cost Estimate

Closure cost estimates are anticipated to be \$40,193.00, as detailed in the following table.

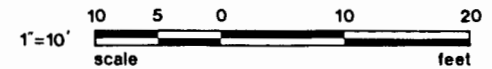
OLD DRUM STORAGE AREA CLOSURE COST ESTIMATE

ITEM	UNITS	COST (\$) PER UNIT	TOTAL COST
Analyze Samples	40 each	89.25	3,570.00
Excavation and Loading	62.2 c.y.	12.00	747.00
Mobilization/ Demobilization	1 each	400.00	400.00
Backfill and Compaction	62.2 c.y.	21.30	1,325.00
Fence Removal	70 l.f.	2.00	140.00
Install Fence	70 l.f.	9.00	630.00
Transportation	3,485 miles	3.61	12,581.00
Disposal	100 tons	140.00	14,000.00
Waste Profile	1 each	300.00	300.00
Closure Certification	1 each	5,500.00	6,500.00
TOTAL			40,193.00





- KEY**
- X — FENCE
 - - - - - EXISTING BOUNDARY
 - PROPOSED STRUCTURE BOUNDARY
 - ////// OLD DRUM STORAGE AREA

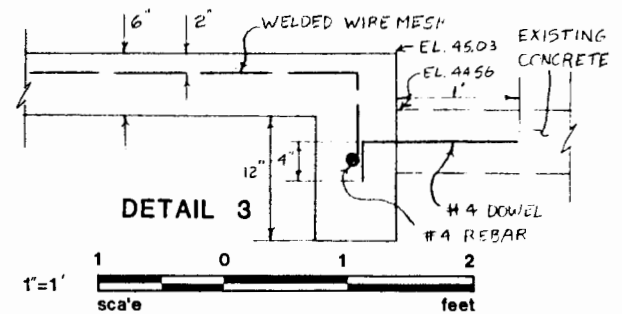
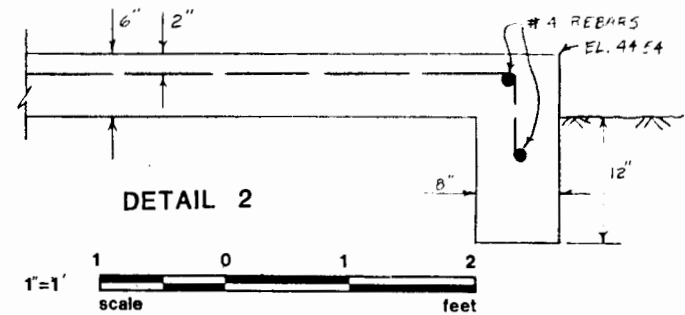
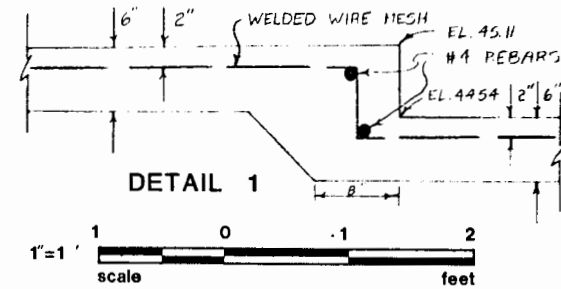
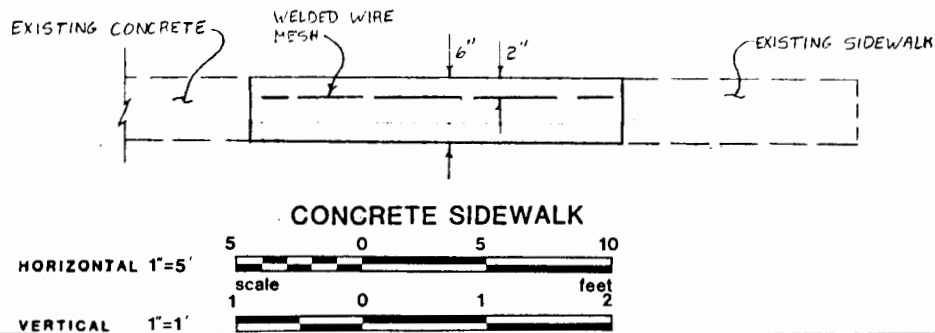
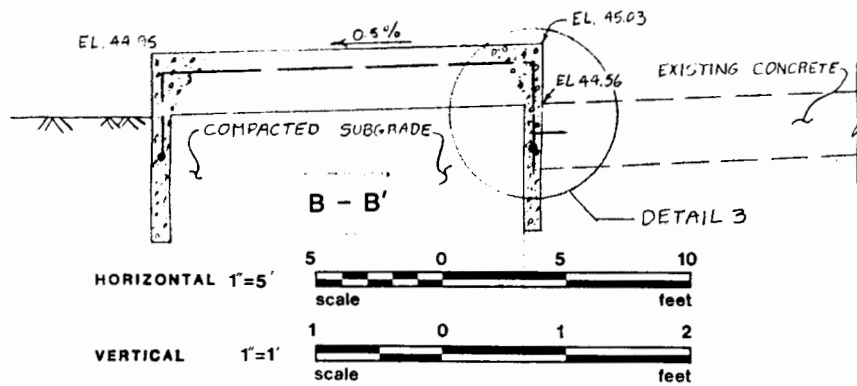
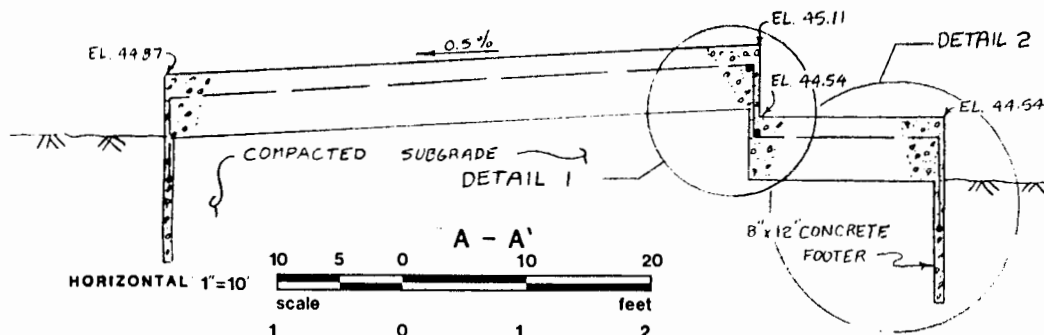


HLA Harding Lawson Associates
Engineers, Geologists
& Geophysicists

FINISHED GRADE ELEVATIONS

PLATE
2

DRAWN SAF	JOB NUMBER 06310.012.12	APPROVED <i>[Signature]</i>	DATE 12/17/86	REVISED	DATE
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Harding Lawson Associates
Engineers, Geologists
& Geophysicists

DETAIL SHEET

PLATE
3

DRAWN: SAF CHECKED: 06/10/12 DATE: 12/17/12 REVISION: DATE:

Tam

Harding Lawson Associates

ADDENDUM 4

Hazardous Waste Facility Closure Plan
Sparton Technology, Inc.
Coors Road Plant
Albuquerque, New Mexico
HLA Job No. 6310,012.12
Report Date: December 17, 1985

APPENDIX GG
OLD DRUM STORAGE AREA CLOSURE

December 17, 1986

APPENDIX GG

(As Modified December 17, 1986)

OLD DRUM STORAGE AREA CLOSURE

I Introduction

The closure plan for the Old Drum Storage Area provided that eight soil samples would be collected from the area and analyzed for pH, total organic halides, cadmium, chromium, lead, nickel, and silver. Those samples were collected on October 20, 1986, and submitted for analysis. The analytical results from this investigation are presented as Attachment 1 to this Addendum. All soil samples were negative for pH and total organic halides; however, all samples were above background for one or more total metals, including cadmium, chromium, lead, and nickel. Silver was not detected in any of the samples.

Addendum 3 of the Closure Plan (as revised December 5, 1986) provided that additional soil samples would be collected to evaluate the presence of metals in the area. A vertical series of soil samples was collected from each of eight locations at approximately 6-inch intervals, as shown below:

<u>Level</u>	<u>Sample Interval (Inches)</u>
A	6 to 9
B	12 to 15
C	18 to 21
D	24 to 27
E	30 to 33

These samples were evaluated for total cadmium, total chromium, total lead, and total nickel. The results of these analyses, as performed by Assaigai Analytical Laboratories of Albuquerque, New Mexico, are presented as Attachment 2 to this document. Duplicate samples were also analyzed for the same parameters by Rocky Mountain Analytical Laboratory (RMAL), which had performed the analyses of the initial eight samples. RMAL also performed an analysis for the four metals by the EP-toxicity procedure in two of the samples, as discussed below. RMAL's results are presented as Attachment 3.

II Interpretation of Results

One or more metals (as total metals) exceeded background in each of the samples submitted for analysis. However, the concentration levels are quite scattered with respect to the spatial distribution of the sample locations. This result is not consistent with the patterns of contamination to be expected from the migration of leachable (i.e., soluble) metals.

In order to further evaluate the source of metals found in the Old Drum Storage Area, two of the samples were tested for leachable metals. These samples were selected to represent the "worst-case" total metals situation at the lowest sample interval (30 to 33 inches), and were analyzed for EP-toxicity metals as discussed above in Section I. The results of these determinations are reported in Attachment 3.

None of the target metals (cadmium, chromium, lead, or nickel) were detectable by the EP-toxicity procedure. Therefore, the metallic constituents were not leachable.

The erratic distribution of total metals, together with the absence of leachable metals, indicates that the soil samples contained small amounts of particulate elemental metals. Small metallic particles have likely entered the soil from containers of scrap metal which are known to have been routinely stored in this area. It is unlikely that the metallic constituents present in the soil samples have resulted from spillage of hazardous wastes.

III Conclusions

The presence of elemental chromium, lead, or nickel in soil does not represent a threat to groundwater, since these metals are relatively insoluble in the elemental state. Therefore, no soil removal should be necessary. However, there is some potential that these metals may accompany windblown dust from the area. This may represent a slight risk to any personnel immediately downwind. Therefore, it is desirable to close the site in a manner which will prevent windborne soils dispersal.

IV Concrete Pad

The Old Drum Storage Area is located adjacent to a concrete pad used for temporary staging of incoming and outgoing shipments. This concrete pad will be extended as shown in the attached Plans and

Specifications to cover and extend five feet beyond the Old Drum Storage Area (see Attachment 4). The concrete pad extension will prevent windblown dispersion of soil in the area.

V Safety

During construction of the concrete pad extension, protection shall be required against inhalation or ingestion of soil. Dust masks shall be required during all earthwork. Smoking and eating shall be prohibited in the work area. Good hand washing procedures will be used at the end of each work period.

VI Time Table

It is believed that construction of the above-mentioned concrete pad extension can be completed by February 20, 1987, provided Sparton receives EID's approval to proceed by December 22, 1986. The proposed time table is as follows:

<u>Milestone</u>	<u>Item Description</u>
December 23, 1986	Mail Request for Bid
January 5, 1987	Receive Bids
January 12, 1987	Select Contractor
January 19, 1987	Begin Construction
February 20, 1987	Certification of Closure

VII Cost Estimate

The total cost of closure should not exceed the cost estimate provided in Addendum 3, as revised December 5, 1986.

LIST OF ATTACHMENTS

- 1 Analytical Report of Eight Surface Soil Samples, Rocky Mountain Analytical Laboratory
- 2 Analytical Report, Asaigai Analytical Laboratories of Albuquerque, New Mexico
- 3 Analytical Report, Rocky Mountain Analytical Laboratory
- 4 Concrete Pad Extension, Plans and Specifications

ATTACHMENT 1

**Analytical Report of Eight Surface Soil Samples
Rocky Mountain Analytical Laboratory**

Rocky Mountain Analytical Laboratory

4955 Yarrow Street, Arvada, CO 80002 (303) 421-6611

A DIVISION OF
ENSECO
INCORPORATED

November 17, 1986

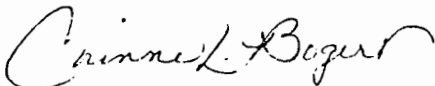
Cleoves Martinez
Sparton Technology, Inc.
9621 Coors Rd., N.W.
Albuquerque, NM 87114

Dear Cleoves:

Enclosed are the results for the eight soil samples received on
October 21, 1986.

Please call if you have any questions.

Sincerely,



Corinne L. Bogert
Project Coordinator

Reviewed by:



Jeannie Brooks
Project Coordinator

CLB/JTB/bjb
Enclosures

RMAL # 62261

cc: Tom Burger, Hardin Lawson Associates

SAMPLE DESCRIPTION INFORMATION

for

Sparton Technology, Inc.

<u>RMA Sample No.</u>	<u>Sample Description</u>	<u>Sample Type</u>	<u>Date Sampled</u>	<u>Date Received</u>
62261-01	ODS-1 0-3"	Solid	10/20/86	10/21/86
62261-02	ODS-2 0-3"	Solid	10/20/86	10/21/86
62261-03	ODS-3 0-3"	Solid	10/20/86	10/21/86
62261-04	ODS-4 0-3"	Solid	10/20/86	10/21/86
62261-05	ODS-5 0-3"	Solid	10/20/86	10/21/86
62261-06	ODS-6 0-3"	Solid	10/20/86	10/21/86
62261-07	ODS-7 0-3"	Solid	10/20/86	10/21/86
62261-08	ODS-8 0-3"	Solid	10/20/86	10/21/86

November 17, 1986

4955 Yarrow Street, Arvada, CO 80002 (303) 421-6611

A DIVISION OF
ENSECO
INCORPORATED

RMAL Client Spartan Technology, Inc.

Sampling Co. Same

Project Name/No. _____

RMAL Project No. 602261

Sampling Personnel Cleoves Martinez

Sampling Site 9621 Coors Rd. N.W., Albuquerque, NM
87114

White Copy to Lab

Pink Copy to Client

Yellow Copy to _____

SS

ANALYTICAL RESULTS

for

Sparton Technology, Inc.

INORGANIC PARAMETERS

<u>Parameter</u>	<u>Units</u>	<u>62261-01</u>		<u>62261-02</u>		<u>62261-03</u>		<u>62261-04</u>	
pH	units	8.65	(0.01)	9.21	(0.01)	8.80	(0.01)	8.99	(0.01)
Total Organic Halogen	mg/kg	ND	(100)	ND	(100)	ND	(100)	ND	(100)

<u>Parameter</u>	<u>Units</u>	<u>62261-05</u>		<u>62261-06</u>		<u>62261-07</u>		<u>62261-08</u>	
pH	units	7.26	(0.01)	8.10	(0.01)	9.05	(0.01)	9.08	(0.01)
Total Organic Halogen	mg/kg	ND	(100)	ND	(100)	ND	(100)	ND	(100)

ND = Not Detected. Detection limits in parentheses

ANALYTICAL RESULTS

for

Sparton Technology, Inc.

TOTAL METALS

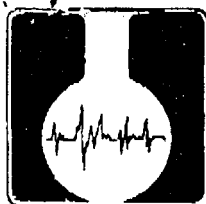
<u>Parameter</u>	<u>Units</u>	<u>62261-01</u>		<u>62261-02</u>		<u>62261-03</u>		<u>62261-04</u>	
Cadmium	mg/kg	0.41	(0.02)	1.4	(0.02)	0.60	(0.02)	0.17	(0.02)
Chromium	mg/kg	8.0	(0.5)	9.8	(0.5)	9.8	(0.5)	2.4	(0.5)
Lead	mg/kg	18	(2.0)	12	(2.0)	41	(2.0)	8.7	(2.0)
Nickel	mg/kg	5.5	(1.0)	4.7	(1.0)	2.8	(1.0)	2.4	(1.0)
Silver	mg/kg	ND	(0.3)	ND	(0.3)	ND	(0.3)	ND	(0.3)

<u>Parameter</u>	<u>Units</u>	<u>62261-05</u>		<u>62261-06</u>		<u>62261-07</u>		<u>62261-08</u>	
Cadmium	mg/kg	2.4	(0.02)	0.43	(0.02)	0.43	(0.02)	0.77	(0.02)
Chromium	mg/kg	3.6	(0.5)	7.2	(0.5)	23	(0.5)	32	(0.5)
Lead	mg/kg	6.4	(2.0)	19	(2.0)	37	(2.0)	170	(2.0)
Nickel	mg/kg	2.2	(1.0)	3.1	(1.0)	6.0	(1.0)	4.5	(1.0)
Silver	mg/kg	ND	(0.3)	ND	(0.3)	ND	(0.3)	ND	(0.3)

ND = Not Detected. Detection limits in parentheses.

ATTACHMENT 2

**Analytical Report, Asaigai Analytical Laboratories
of Albuquerque, New Mexico**



ASSAIGAI ANALYTICAL LABORATORIES

TO: Sparton
ATTN: Clovis Martinez
PO Box 1784
Albuquerque, NM 87103

DATE: 8 December 1986
2065

SAMPLE ID		ANALYTE/ANALYTICAL RESULTS			
		Ni	Pb	Cd	Cr
6-9"	1	24.0 ug/g	32.0 ug/g	0.50 ug/g	12.20 ug/g
	2	18.2 ug/g	190.0 ug/g	0.50 ug/g	7.79 ug/g
	3	19.0 ug/g	7.5 ug/g	0.10 ug/g	19.60 ug/g
	4	26.2 ug/g	12.0 ug/g	0.20 ug/g	12.70 ug/g
	5	20.0 ug/g	12.0 ug/g	<0.01 ug/g	9.64 ug/g
	6	22.0 ug/g	11.0 ug/g	0.40 ug/g	29.70 ug/g
	7	20.0 ug/g	11.0 ug/g	0.50 ug/g	18.30 ug/g
	8	20.1 ug/g	19.0 ug/g	0.20 ug/g	12.00 ug/g
12-15"	1	25.0 ug/g	11.0 ug/g	0.10 ug/g	7.05 ug/g
	2	29.2 ug/g	47.0 ug/g	2.50 ug/g	15.60 ug/g
	3	24.3 ug/g	13.0 ug/g	0.30 ug/g	27.90 ug/g
	4	33.0 ug/g	10.0 ug/g	0.20 ug/g	19.00 ug/g
	5	36.5 ug/g	14.0 ug/g	0.70 ug/g	32.30 ug/g
	6	42.9 ug/g	33.0 ug/g	2.75 ug/g	23.30 ug/g
	7	22.0 ug/g	4.0 ug/g	0.50 ug/g	20.00 ug/g
	8	65.0 ug/g	34.0 ug/g	1.10 ug/g	38.50 ug/g
18-21"	1	43.6 ug/g	16.0 ug/g	0.40 ug/g	18.50 ug/g
	2	36.5 ug/g	13.0 ug/g	0.50 ug/g	9.50 ug/g
	3	22.7 ug/g	14.0 ug/g	1.00 ug/g	15.10 ug/g
	4	34.4 ug/g	22.0 ug/g	0.20 ug/g	12.70 ug/g
	5	39.0 ug/g	14.0 ug/g	0.20 ug/g	13.90 ug/g
	6	39.4 ug/g	9.0 ug/g	0.50 ug/g	8.40 ug/g
	7	32.9 ug/g	21.0 ug/g	3.00 ug/g	26.80 ug/g
	8	41.0 ug/g	10.0 ug/g	0.40 ug/g	16.00 ug/g
24-27"	1	35.6 ug/g	50.0 ug/g	0.30 ug/g	22.10 ug/g
	2	27.4 ug/g	22.0 ug/g	0.20 ug/g	17.40 ug/g
	3	23.1 ug/g	18.0 ug/g	0.30 ug/g	12.10 ug/g
	4	24.7 ug/g	13.0 ug/g	0.40 ug/g	14.70 ug/g
	5	28.5 ug/g	20.0 ug/g	0.50 ug/g	16.70 ug/g
	6	26.4 ug/g	14.0 ug/g	0.30 ug/g	10.70 ug/g
	7	24.5 ug/g	13.0 ug/g	0.30 ug/g	12.10 ug/g
	18	24.6 ug/g	18.0 ug/g	0.80 ug/g	26.80 ug/g

30-33"	1	21.7 ug/g	14.0 ug/g	0.20 ug/g	15.40 ug/g
	2	23.4 ug/g	18.0 ug/g	0.40 ug/g	29.40 ug/g
	3	15.2 ug/g	12.0 ug/g	0.30 ug/g	18.10 ug/g
	4	21.1 ug/g	12.0 ug/g	0.20 ug/g	14.10 ug/g
	5	23.5 ug/g	16.0 ug/g	0.30 ug/g	16.70 ug/g
	6	26.0 ug/g	12.0 ug/g	0.30 ug/g	10.70 ug/g
	7	28.3 ug/g	13.0 ug/g	0.20 ug/g	12.10 ug/g
	8	27.5 ug/g	13.0 ug/g	0.30 ug/g	12.00 ug/g

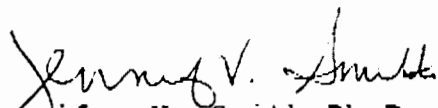
NOMINAL DETECTION LIMITS:

Ni	0.1 ug/g
Pb	0.1 ug/g
Cd	0.01 ug/g
Cr	0.01 ug/g

REFERENCE: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," USEPA, SW 846, EMSL-Cincinnati, 1982.

An invoice for services is enclosed. Thank you for contacting Assaigai Laboratories.

Sincerely,


Jennifer V. Smith, Ph.D.
Laboratory Director

Harding Lawson Associates

ATTACHMENT 3

Analytical Report, Rocky Mountain Analytical Laboratory

Rocky Mountain Analytical Laboratory

4955 Yarrow Street, Arvada, CO 80002 (303) 421-6611

A DIVISION OF
ENSECO
INCORPORATED

December 15, 1986

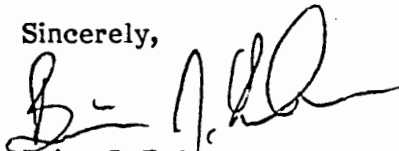
Cleovis Martinez
Sparton Technology, Inc.
9621 Coors Road, N.W.
Albuquerque, NM 87114

Dear Cleovis:

Enclosed are the results for the analysis of the 40 soil samples received December 9, 1986. Also enclosed is a copy of the chain of custody document. These results have been previously transmitted to you through our facsimile system.

Please do not hesitate to call if you have any questions.

Sincerely,



Brian J. Rahn
Project Coordinator

Approved by:



Jerry L. Parr
Technical Director

BJR/JLP/brm
Enclosures

cc: Tom Burger
Harding Lawson Associates
6300 West Part Drive
Houston, TX 77057

RMAL #62498

SAMPLE DESCRIPTION INFORMATION

for

Sparton Technology, Inc.

<u>RMA Sample No.</u>	<u>Sample Description</u>	<u>Sample Type</u>	<u>Date Sampled</u>	<u>Date Received</u>
62498-01	# 1 6-9	Solid	12/05/86	12/09/86
62498-02	# 1 12-15	Solid	12/05/86	12/09/86
62498-03	# 1 18-21	Solid	12/05/86	12/09/86
62498-04	# 1 24-27	Solid	12/05/86	12/09/86
62498-05	# 1 30-33	Solid	12/05/86	12/09/86
62498-06	# 2 6-9	Solid	12/05/86	12/09/86
62498-07	# 2 12-15	Solid	12/05/86	12/09/86
62498-08	# 2 18-21	Solid	12/05/86	12/09/86
62498-09	# 2 24-27	Solid	12/05/86	12/09/86
62498-10	# 2 30-33	Solid	12/05/86	12/09/86
62498-11	# 3 6-9	Solid	12/05/86	12/09/86
62498-12	# 3 12-15	Solid	12/05/86	12/09/86
62498-13	# 3 18-21	Solid	12/05/86	12/09/86
62498-14	# 3 24-27	Solid	12/05/86	12/09/86
62498-15	# 3 30-33	Solid	12/05/86	12/09/86
62498-16	# 4 6-9	Solid	12/05/86	12/09/86
62498-17	# 4 12-15	Solid	12/05/86	12/09/86
62498-18	# 4 18-21	Solid	12/05/86	12/09/86
62498-19	# 4 24-27	Solid	12/05/86	12/09/86
62498-20	# 4 30-33	Solid	12/05/86	12/09/86
62498-21	# 5 6-9	Solid	12/05/86	12/09/86
62498-22	# 5 12-15	Solid	12/05/86	12/09/86
62498-23	# 5 18-21	Solid	12/05/86	12/09/86
62498-24	# 5 24-27	Solid	12/05/86	12/09/86
62498-25	# 5 30-33	Solid	12/05/86	12/09/86
62498-26	# 6 6-9	Solid	12/05/86	12/09/86
62498-27	# 6 12-15	Solid	12/05/86	12/09/86
62498-28	# 6 18-21	Solid	12/05/86	12/09/86
62498-29	# 6 24-27	Solid	12/05/86	12/09/86
62498-30	# 6 30-33	Solid	12/05/86	12/09/86
62498-31	# 7 6-9	Solid	12/05/86	12/09/86
62498-32	# 7 12-15	Solid	12/05/86	12/09/86
62498-33	# 7 18-21	Solid	12/05/86	12/09/86
62498-34	# 7 24-27	Solid	12/05/86	12/09/86
62498-35	# 7 30-33	Solid	12/05/86	12/09/86
62498-36	# 8 6-9	Solid	12/05/86	12/09/86
62498-37	# 8 12-15	Solid	12/05/86	12/09/86
62498-38	# 8 18-21	Solid	12/05/86	12/09/86
62498-39	# 8 24-27	Solid	12/05/86	12/09/86
62498-40	# 8 30-33	Solid	12/05/86	12/09/86

December 15, 1986

ANALYTICAL RESULTS

for

Sparton Technology, Inc.

EP TOXICITY METALS

<u>Parameter</u>	<u>Units</u>	<u>62498-10</u>		<u>62498-25</u>	
Arsenic	mg/L	ND	(0.1)	ND	(0.1)
Barium	mg/L	0.5	(0.4)	0.84	(0.4)
Cadmium	mg/L	ND	(0.008)	ND	(0.008)
Chromium	mg/L	ND	(0.01)	ND	(0.01)
Lead	mg/L	ND	(0.04)	ND	(0.04)
Mercury	mg/L	ND	(0.001)	ND	(0.001)
Selenium	mg/L	ND	(0.002)	ND	(0.002)
Silver	mg/L	ND	(0.006)	ND	(0.006)

TOTAL METALS

<u>Parameter</u>	<u>Units</u>	<u>62498-10</u>		<u>62498-25</u>		<u>62498-01</u>		<u>62498-02</u>	
Cadmium	mg/kg	ND	(0.4)	ND	(0.4)	ND	(0.4)	ND	(0.4)
Chromium	mg/kg	6.7	(1)	5.3	(1)	5.8	(1)	4.0	(1)
Lead	mg/kg	22	(2)	18	(2)	25	(2)	22	(2)
Nickel	mg/kg	7.4	(1)	7.6	(1)	4.0	(1)	2.9	(1)

<u>Parameter</u>	<u>Units</u>	<u>62498-03</u>		<u>62498-04</u>		<u>62498-05</u>		<u>62498-06</u>	
Cadmium	mg/kg	ND	(0.4)	ND	(0.4)	ND	(0.4)	ND	(0.4)
Chromium	mg/kg	6.7	(1)	8.0	(1)	8.3	(1)	4.1	(1)
Lead	mg/kg	25	(2)	26	(2)	27	(2)	15	(2)
Nickel	mg/kg	9.3	(1)	9.3	(1)	8.4	(1)	3.0	(1)

ND = Not detected. Detection limits in parentheses.

ANALYTICAL RESULTS

for

Sparton Technology, Inc.

TOTAL METALS

<u>Parameter</u>	<u>Units</u>	<u>62498-07</u>		<u>62498-08</u>		<u>62498-09</u>		<u>62498-11</u>	
Cadmium	mg/kg	1.6	(0.4)	ND	(0.4)	ND	(0.4)	ND	(0.4)
Chromium	mg/kg	7.2	(1)	8.0	(1)	6.6	(1)	5.7	(1)
Lead	mg/kg	22	(2)	26	(2)	22	(2)	19	(2)
Nickel	mg/kg	6.2	(1)	11	(1)	8.1	(1)	3.0	(1)

<u>Parameter</u>	<u>Units</u>	<u>62498-12</u>		<u>62498-13</u>		<u>62498-14</u>		<u>62498-15</u>	
Cadmium	mg/kg	ND	(0.4)	0.6	(0.4)	ND	(0.4)	ND	(0.4)
Chromium	mg/kg	24	(1)	13	(1)	3.6	(1)	3.9	(1)
Lead	mg/kg	13	(2)	22	(2)	13	(2)	14	(2)
Nickel	mg/kg	3.4	(1)	6.0	(1)	5.8	(1)	5.3	(1)

<u>Parameter</u>	<u>Units</u>	<u>62498-16</u>		<u>62498-17</u>		<u>62498-18</u>		<u>62498-19</u>	
Cadmium	mg/kg	ND	(0.4)	ND	(0.4)	ND	(0.4)	ND	(0.4)
Chromium	mg/kg	5.0	(0.5)	3.9	(0.5)	8.3	(0.5)	6.5	(0.5)
Lead	mg/kg	13	(2)	16	(2)	25	(2)	21	(2)
Nickel	mg/kg	5.8	(1)	4.2	(1)	9.3	(1)	7.7	(1)

<u>Parameter</u>	<u>Units</u>	<u>62498-20</u>		<u>62498-21</u>		<u>62498-22</u>		<u>62498-23</u>	
Cadmium	mg/kg	ND	(0.4)	ND	(0.4)	0.6	(0.4)	0.6	(0.4)
Chromium	mg/kg	4.7	(1)	2.3	(0.5)	16	(0.5)	6.0	(0.5)
Lead	mg/kg	17	(2)	12	(2)	14	(2)	17	(2)
Nickel	mg/kg	6.6	(1)	2.8	(1)	6.2	(1)	8.6	(1)

ND = Not detected. Detection limits in parentheses.

ANALYTICAL RESULTS

for

Sparton Technology, Inc.

TOTAL METALS

<u>Parameter</u>	<u>Units</u>	<u>62498-24</u>		<u>62498-26</u>		<u>62498-27</u>		<u>62498-28</u>	
Cadmium	mg/kg	ND	(0.4)	ND	(0.4)	2.0	(0.4)	ND	(0.4)
Chromium	mg/kg	5.4	(0.5)	17	(0.5)	16	(0.5)	5.0	(0.5)
Lead	mg/kg	19	(2)	10	(2)	38	(2)	15	(2)
Nickel	mg/kg	8.5	(1)	2.9	(1)	10	(1)	6.7	(1)

<u>Parameter</u>	<u>Units</u>	<u>62498-29</u>		<u>62498-30</u>		<u>62498-31</u>		<u>62498-32</u>	
Cadmium	mg/kg	ND	(0.4)	ND	(0.4)	ND	(0.4)	ND	(0.4)
Chromium	mg/kg	4.4	(0.5)	4.9	(1)	8.1	(0.5)	12	(0.5)
Lead	mg/kg	15	(2)	18	(2)	10	(2)	8.3	(2)
Nickel	mg/kg	7.7	(1)	6.8	(1)	3.2	(1)	3.0	(1)

<u>Parameter</u>	<u>Units</u>	<u>62498-33</u>		<u>62498-34</u>		<u>62498-35</u>		<u>62498-36</u>	
Cadmium	mg/kg	1.8	(0.4)	ND	(0.4)	ND	(0.4)	ND	(0.4)
Chromium	mg/kg	25	(0.5)	4.1	(0.5)	5.2	(1)	4.9	(0.5)
Lead	mg/kg	18	(2)	15	(2)	19	(2)	13	(2)
Nickel	mg/kg	9.8	(1)	6.8	(1)	7.0	(1)	3.1	(1)

<u>Parameter</u>	<u>Units</u>	<u>62498-37</u>		<u>62498-38</u>		<u>62498-39</u>		<u>62498-40</u>	
Cadmium	mg/kg	1.2	(0.4)	0.5	(0.4)	ND	(0.4)	ND	(0.4)
Chromium	mg/kg	24	(0.5)	11	(0.5)	9.1	(0.5)	7.5	(1)
Lead	mg/kg	37	(2)	18	(2)	23	(2)	19	(2)
Nickel	mg/kg	42	(1)	7.8	(1)	9.0	(1)	7.6	(1)

ND = Not detected. Detection limits in parentheses.

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Inorganic Analytical Methodology

Parameter	Units	Nominal Detection Limit ^a	Methodology	Reference	Preservation Bottle No.	Maximum Holding Time ^b
MAJOR IONS						
Sodium	mg/l	0.5	ICP Emission Spectroscopy	3	4	6 months
Potassium	mg/l	0.3	ICP Emission Spectroscopy	3	4	6 months
Calcium	mg/l	0.1	ICP Emission Spectroscopy	3	4	6 months
Magnesium	mg/l	0.1	ICP Emission Spectroscopy	3	4	6 months
Chloride	mg/l	3	Manual Titrimetric, Hg (NO ₃) ₂ Automated Colorimetric Ferricyanide	1-325.3/2-407B 1-325.2	1	28 days
Fluoride	mg/l	0.1	Electrode	1-340.2/2-413B	1	28 days
Sulfate	mg/l	5	Manual Turbidimetric Automated Colorimetric MTB	1-375.4/2-426C 1-375.2	1	28 days
Total Alkalinity as CaCO ₃ at pH 4.5	mg/l	5	Titrimetric	1-310.1/2-403	1	14 days
Carbonate Alkalinity as CaCO ₃ at pH 8.3	mg/l	5	Titrimetric	1-310.1/2-403	1	14 days
Bicarbonate Alkalinity as CaCO ₃ at pH 4.5	mg/l	5	Titrimetric	1-310.1/2-403	1	14 days
Hydroxide Alkalinity as CaCO ₃	mg/l	5	Calculation	2-403	-	-
Nitrate+Nitrite as N	mg/l	0.1	Manual Cd Reduction - Colorimetric	1-353.3/2-418C	2	28 days
		0.1	Automated Cd Reduction - Colorimetric	1-353.2	2	28 days
Total Cations	meq/l	0.1	Calculation	2-104C	-	-
Total Anions	meq/l	0.1	Calculation	2-104C	-	-
Difference	%	0.1	Calculation	2-104C	-	-
RADIOCHEMISTRY						
Gross Alpha	pCi/l	0.1	Proportional Counter	2-703	5	6 months
Gross Beta	pCi/l	0.1	Proportional Counter	2-703	5	6 months
Radium 226	pCi/l	0.1	Separation - Counter	2-705	5	6 months
Radium 228	pCi/l	0.1	Separation - Counter	2-707	5	6 months
Uranium	mg/l	0.005	Fluorimetric	4-D2907-75	5	6 months

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Inorganic Analytical Methodology (Continued)

<u>Parameter</u>	<u>Units</u>	<u>Nominal Detection Limit^a</u>	<u>Methodology</u>	<u>Reference</u>	<u>Preservation Bottle No.</u>	<u>Maximum Holding Time^b</u>
TRACE METALS^c						
Aluminum	mg/l	0.05	ICP Emission Spectroscopy	3	4	6 months
Antimony	mg/l	0.002	Furnace Atomic Absorption	1-204.2	4	6 months
Arsenic	mg/l	0.002	Furnace Atomic Absorption	1-206.2	4	6 months
Barium	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Beryllium	mg/l	0.001	ICP Emission Spectroscopy	3	4	6 months
Boron	mg/l	0.004	ICP Emission Spectroscopy	3	4	6 months
Cadmium	mg/l	0.002	ICP Emission Spectroscopy	3	4	6 months
Chromium	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Cobalt	mg/l	0.003	ICP Emission Spectroscopy	3	4	6 months
Copper	mg/l	0.002	ICP Emission Spectroscopy	3	4	6 months
Iron	mg/l	0.05	ICP Emission Spectroscopy	3	4	6 months
Lead	mg/l	0.025	ICP Emission Spectroscopy	3	4	6 months
		0.001	Furnace Atomic Absorption	1-239.2	4	6 months
Manganese	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Mercury	mg/l	0.0002	Cold Vapor Atomic Absorption	1-245.1	4	6 months
Molybdenum	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Nickel	mg/l	0.01	ICP Emission Spectroscopy	3	4	6 months
Selenium	mg/l	0.002	Furnace Atomic Absorption	1-270.2	4	6 months
Silver	mg/l	0.003	ICP Emission Spectroscopy	3	4	6 months
Strontium	mg/l	0.005	ICP Emission Spectroscopy	3	4	6 months
Thallium	mg/l	0.002	Furnace Atomic Absorption	1-279.2	4	6 months
Tin	mg/l	0.03	ICP Emission Spectroscopy	3	4	6 months
Titanium	mg/l	0.002	ICP Emission Spectroscopy	3	4	6 months
Vanadium	mg/l	0.002	ICP Emission Spectroscopy	3	4	6 months
Zinc	mg/l	0.004	ICP Emission Spectroscopy	3	4	6 months
INORGANIC PARAMETERS						
pH	units	0.01	Meter	1-150.1; 2-423	1	ASAP
Specific Conductance at 25°C	umhos/cm	1	Bridge	1-120.1; 2-205	1	28 days
Total Dissolved Solids	mg/l	10	Gravimetric, 180°C	1-160.1; 2-209B	1	7 days
Total Suspended Solids	mg/l	2	Gravimetric, 105°C	1-160.2	1	7 days
Total Solids	mg/l	10	Gravimetric, 105°C	1-160.3	1	7 days
Total Volatile Solids	mg/l	10	Gravimetric, 550°C	1-160.4	1	7 days
Ortho-Phosphate as P	mg/l	0.01	Single Reagent Colorimetric	1-365.2; 2-424F	1	48 hours

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Inorganic Analytical Methodology (Continued)

<u>Parameter</u>	<u>Units</u>	<u>Nominal Detection Limit^a</u>	<u>Methodology</u>	<u>Reference</u>	<u>Preservation Bottle No.</u>	<u>Maximum Holding Time^b</u>
INORGANIC PARAMETERS						
(Continued)						
Total Phosphorus as P	mg/l	0.06	Digestion; ICP Emission Spectroscopy	1-4.1.4; 3	4	28 days
		0.01	Digestion - Colorimetric	1-365.2; 1-424C,F	2	28 days
Silica as SiO ₂	mg/l	0.1	ICP Emission Spectroscopy	3	4	28 days
	mg/l	1	Colorimetric	1-370.1; 2-425C	1	28 days
Biological Oxygen Demand	mg/l	2	Dilution Bottle - D.O. Probe	1-405.1; 2-507	1	48 hours
Chemical Oxygen Demand	mg/l	5	Micro Colorimetric	1-410.4; 2-508A	2	28 days
Total Organic Carbon	mg/l	0.1	Oxidation-Infrared Absorption	1-415.1; 2-505	2	28 days
Ammonia as N	mg/l	0.1	Electrode	1-350.3; 2-417E	2	28 days
		0.1	Automated Colorimetric	1-350.1	2	28 days
Total Kjeldahl Nitrogen as N	mg/l	0.1	Digestion - Electrode	1-351.4; 2-420B	2	28 days
		0.1	Digestion - Colorimetric	1-351.2	2	28 days
Total Organic Nitrogen as N	mg/l	0.1	Calculation (TKN - NH ₃)	-	-	-
Oil and Grease	mg/l	1	Freon Extraction-Gravimetric	1-413.1; 2-503A	3	28 days
Free Cyanide	mg/l	0.01	Chlorination-Distillation-Colorimetric	1-335.1; 2-412F,D	6	14 days
Total Cyanide	mg/l	0.01	Distillation - Colorimetric	1-335.2; 2-412B,D	6	14 days
Phenolics	mg/l	0.01	Distillation - Colorimetric	1-420.1; 2-510A,B	2	28 days
Fecal Coliform	Colonies/100 ml	1	Membrane Filter	2-909C	8	ASAP
Total Coliform	Colonies/100 ml	1	Membrane Filter	2-909A	8	ASAP
Bromide	mg/l	0.1	Colorimetric	2-405	1	28 days
Residual Chlorine	mg/l	0.05	Amperometric	1-330.2; 2-408C	1	ASAP
Hexavalent Chromium	mg/l	0.01	Colorimetric	1-218.4; 2-312B	1	24 hours
Color	units	5	Pt-Co Colorimetric	1-110.2; 2-204A	1	48 hours
Hardness as CaCO ₃	mg/l	5	Calculation	2-314A	4	6 months
Nitrite as N	mg/l	0.01	Colorimetric	1-354.1; 2-419	1	48 hours
Sulfide	mg/l	0.05	Titrimetric - Electrode	1-376.1; 2-427B,D	7	7 days
Sulfite	mg/l	2	Titrimetric	1-377.1; 2-428	1	ASAP
MBAS (Surfactants)	mg/l	0.1	Colorimetric	1-425.1; 2-512A	1	48 hours
Turbidity	NTU	0.1	Turbidimeter	1-180.1; 2-214A	1	48 hours

ROCKY MOUNTAIN ANALYTICAL LABORATORY

Inorganic Analytical Methodology (Continued)

References

- (1) "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, EMSL, Cincinnati, 1979.
- (2) "Standard Methods for the Examination of Water and Wastewater", 15th Edition, APHA, 1980.
- (3) 40 CFR 136.3, Table II.
- (4) "Annual Book of ASTM Standards", Part 31, Water, 1980.

Notes

^aNominal values are the best achievable with the listed analytical method. Interferences in specific samples may result in a higher detection limit.

^bApplicable to NPDES wastes as updated by Robert C. Booth, Director, EMSL-Cincinnati, September 22, 1981.

^cDigestion procedure 1-4.1.4 used for elements determined by ICP Emission Spectroscopy when determining total metals. Digestion procedures for graphite furnace elements included with reference listed.

6/5/86

GUIDELINES FOR SAMPLE BOTTLES AND PRESERVATIVES^{a, b}

<u>Bottle No.</u>	<u>Parameters</u>	<u>Container</u>	<u>Preservative</u>	<u>Notes</u>
1	Cl ⁻ , F ⁻ , SO ₄ ⁼ , Tot. Alk., CO ₃ ⁼ Alk., HCO ₃ ⁻ Alk., SiO ₂ , BOD, Br ⁻ , res. Cl ₂ , Cr ⁺⁶ , color, NO ₂ ⁻ , SO ₃ ⁼ , OH ⁻ Alk., pH, spec. cond., TDS, TSS, TS, TVS, α -PO ₄ MBAS, Turbidity.	500 mL poly	4°C	Provide unfiltered sample for solids and turbidity.
2	Tot.P, COD, TOC, NH ₃ , TKN, TON, Phenolics NO ₃ + NO ₂ .	1 liter glass	2 ml 50% H ₂ SO ₄ , 4°C	
3	O & G	1 liter glass	4 ml 50% H ₂ SO ₄ , 4°C	Do not filter, collect directly in bottle.
4	Na, K, Ca, Mg, A Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, Se, Ag, Sr, Tl, Sn, Ti, V, Zn, ICP, Hardness	500 ml poly	5 ml 50% HNO ₃	Provide separate samples for total and dissolved sample (filter before adding to bottle).
5	Alpha, Beta, Ra ²²⁶ , Ra ²²⁸ , U	1 liter poly (no Ra ²²⁸), ½ gallon poly (with Ra ²²⁸)	10 ml 50% HNO ₃ 20 ml 50% HNO ₃	
6	Free CN, Tot. CN	500 ml poly	2 ml 50% NaOH, 4°C	
7	Sulfide	250 ml poly	1 ml 1 N Zn acetate, 1 ml 50% NaOH, 4°C	
8	Fecal coli., total coli.	8 oz. sterile	4°C	Collect directly in sterile bottle.
11	VOA, purgeable organics, THM	3-40 ml glass vial	4°C	Completely fill bottle, leave no air bubbles.
12	B/NA	1 liter glass	4°C	
13	Pest./PCB	1 liter glass	4°C	
14	Herbicides	1 liter glass	4°C	
15	TOX	1 liter glass	4°C	

^a40 CFR 136.3 Table II.

^bNote: Certain other non-routine samples may require different preservation to remove interferences as specified in 40 CFR 136.3 Table II.

4955 Yarrow Street, Arvada CO 80002 (303) 421-6611

A DIVISION OF
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INCORPORATED

RMAL Client Spartan Technology, INC.
Sampling Co ~~S&S~~ Metric Corporation
Project Name/No. O.D.S. soil Samples

RMAL Project No. 62 998

Sampling Personnel Larry Campbell, Don Briggs

Sampling Site Pool Cars Rd. N.W., Albuquerque, NM 87114

[illegible]

Relinquished by: (Signature) <i>Charles Martin</i>	Date / Time <i>12/18/02 4:30</i>	Received by: (Signature) <i>Mr. Bac</i>	Date / Time <i>12/18/02</i>	Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Method of Shipment: <i>1-CLX</i>		Shipped by: (Signature)		Delivered by: (Signature)		Received for Laboratory by: (Signature) <i>Anthony Smith</i>	
						Date / Time <i>12/19/02</i>	

ATTACHMENT 4

Concrete Pad Extension, Plans and Specifications

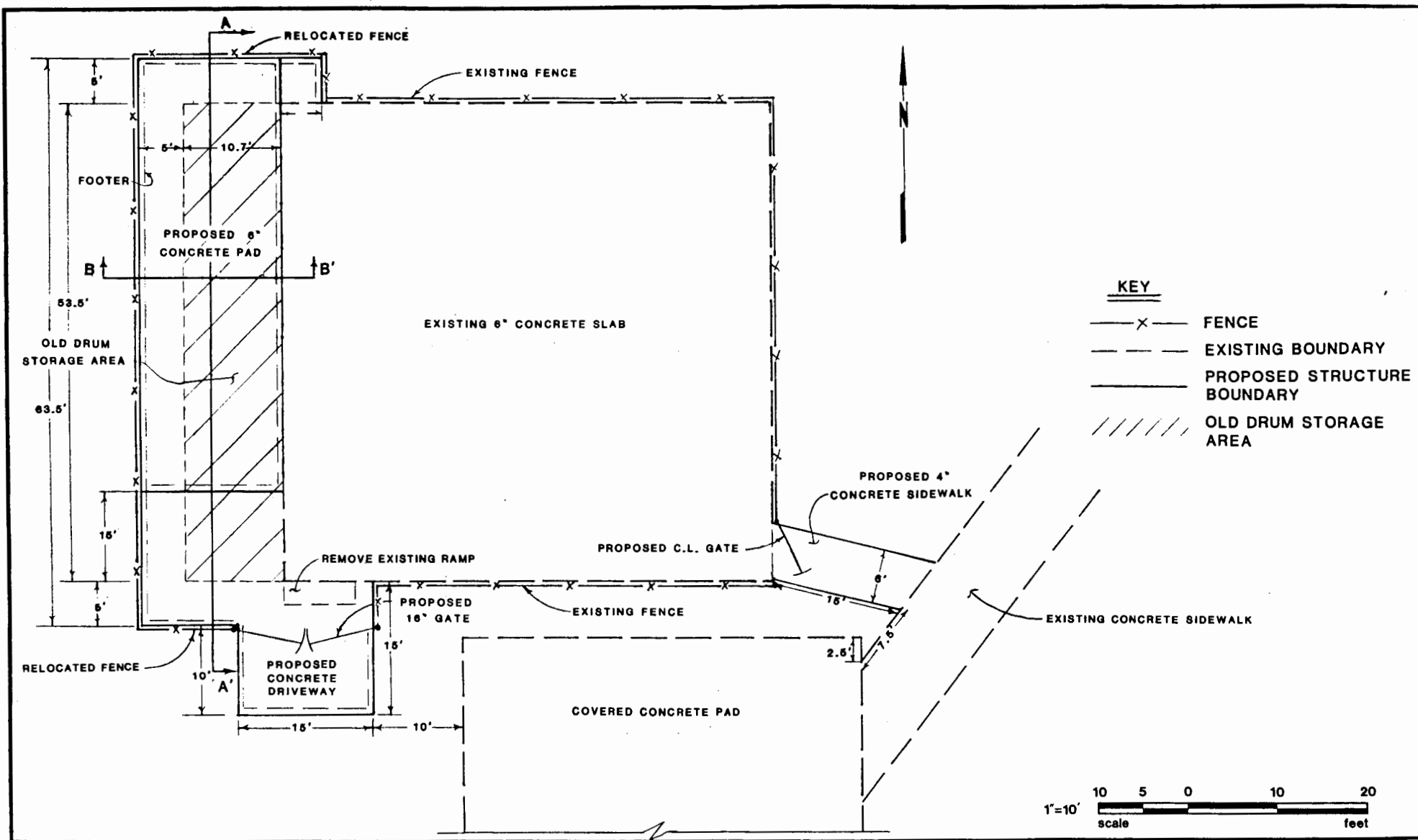
ATTACHMENT 4
of
APPENDIX GG
(As Modified December 17, 1986)

OLD DRUM STORAGE AREA CLOSURE

CONCRETE PAD EXTENSION
PLANS AND SPECIFICATIONS

1. Concrete shall have a compressive strength of 3500 psi at 28 days. Concrete slump shall be a minimum of 1 inch and a maximum of 3 inches. A sealant must be added where the proposed pad and existing slab meet.
2. A continuous concrete footing, 12 inches deep by 8 inches wide, shall be placed around the perimeter of the proposed 6-inch-thick concrete pad and also at elevation breaks. A #4 (0.5-inch-diameter) deformed rebar shall be used for reinforcement and shall be centered in footing width, 8 inches above the bottom of the footing.
3. A welded wire fabric placed 2 inches from the top of the 6-inch concrete pad shall be used for reinforcement. The fabric shall be a #6 gauge, steel wire with 6-inch by 6-inch spacing.
4. Dowels shall be used, spaced at 2-foot centers between the proposed pad and the existing concrete slab, and grouted in place. Dowels shall be #4 steel.
5. Drainage grades shall be at 0.5 percent, draining in a west and north direction only, except at the driveway.
6. Subgrade compaction shall be tested and approved when 95 percent standard Proctor compaction is achieved.
7. The chain-link fence shall be relocated around the perimeter of the proposed concrete pad, as shown in Plate 1. An approximately 16-foot-wide, double swinging gate shall be placed at the driveway. A 6-foot chain-link gate shall be installed in the fence at the southeast corner of the existing concrete slab.

The existing wire fabric, top rails, fittings, and gates may be reused, if undamaged. New materials and new fence shall be of equal quality and dimensions of the existing fence.

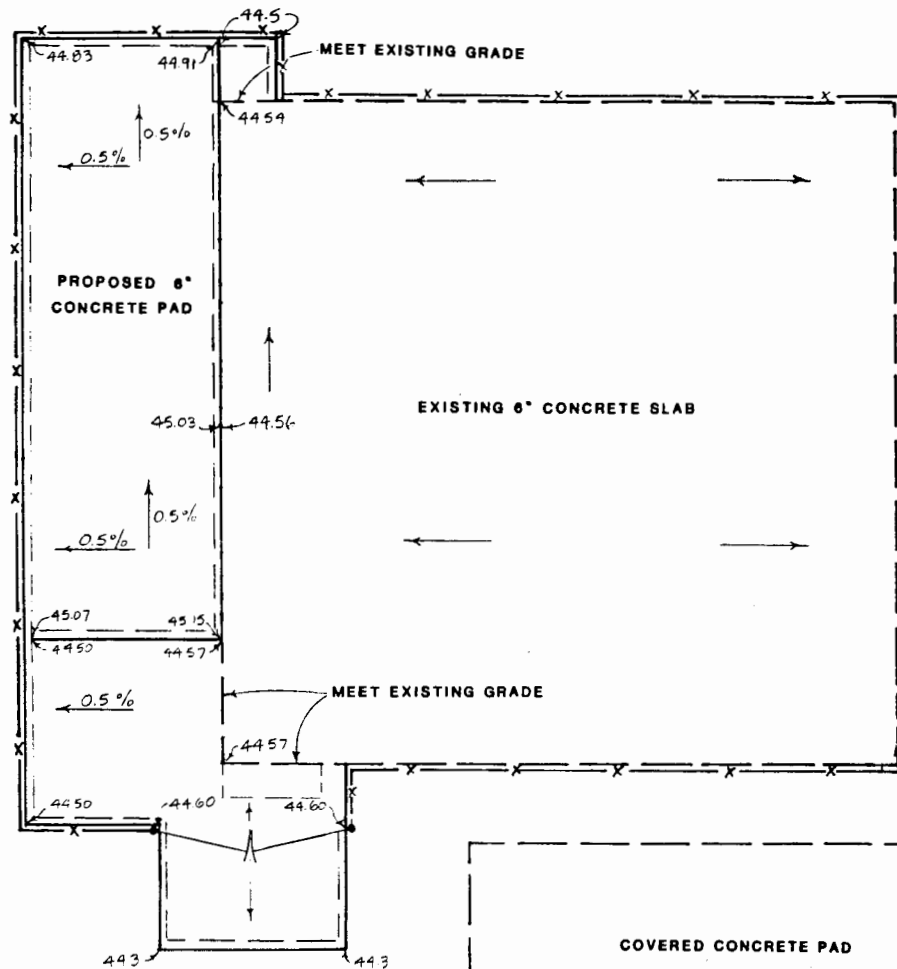


HLA **Harding Lawson Associates**
Engineers, Geologists
& Geophysicists

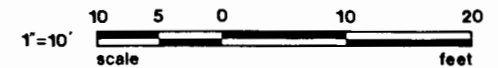
**CONCRETE COVER OVER
OLD DRUM STORAGE AREA**

PLATE
1

DRAWN: 0631 12 APPROVED: 12/86 DATE: 12/86 REVISED: DATE:



- KEY**
- X — FENCE
 - - - - - EXISTING BOUNDARY
 - PROPOSED STRUCTURE BOUNDARY
 - ////// OLD DRUM STORAGE AREA



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& Geophysicists

FINISHED GRADE ELEVATIONS

PLATE
2

DRAWN
SAF

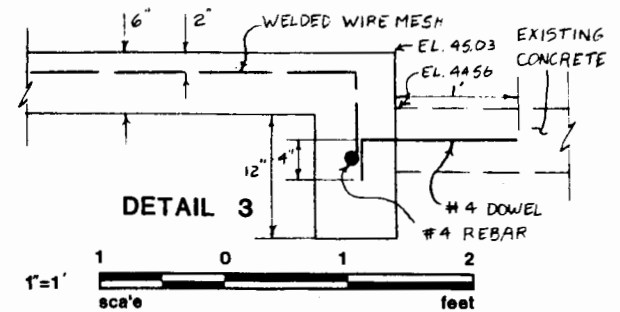
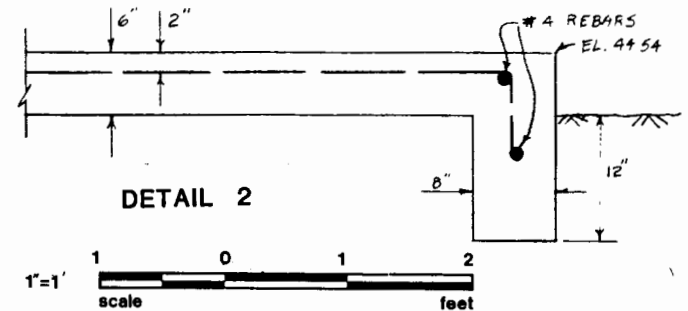
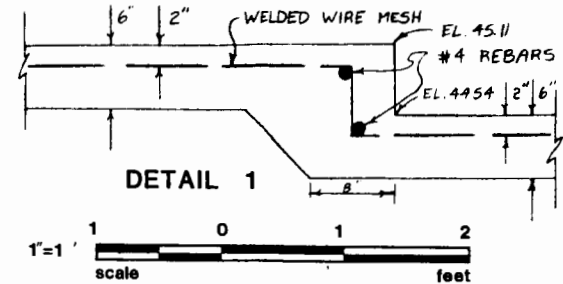
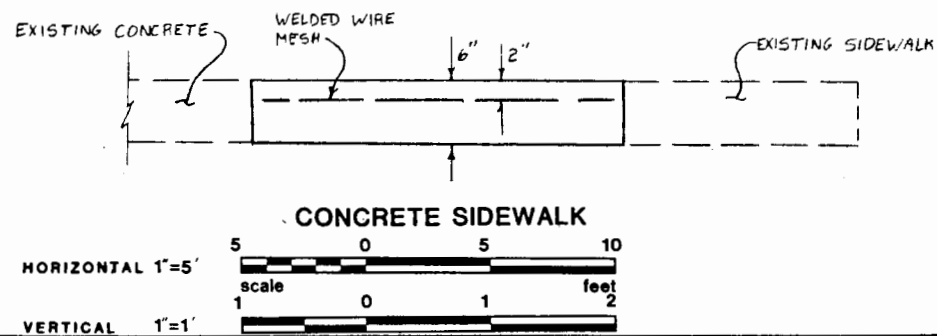
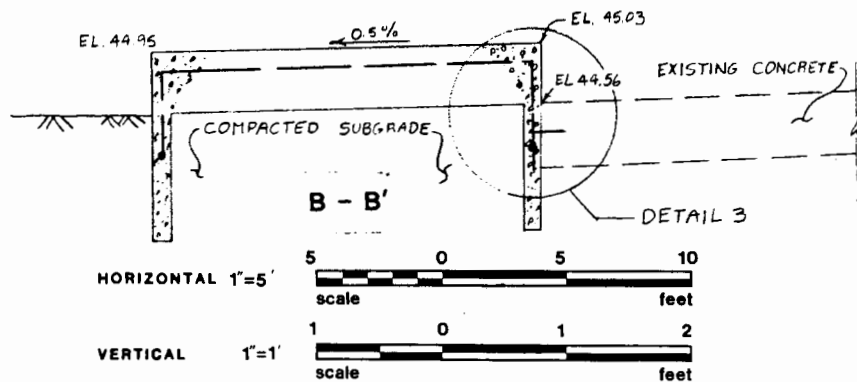
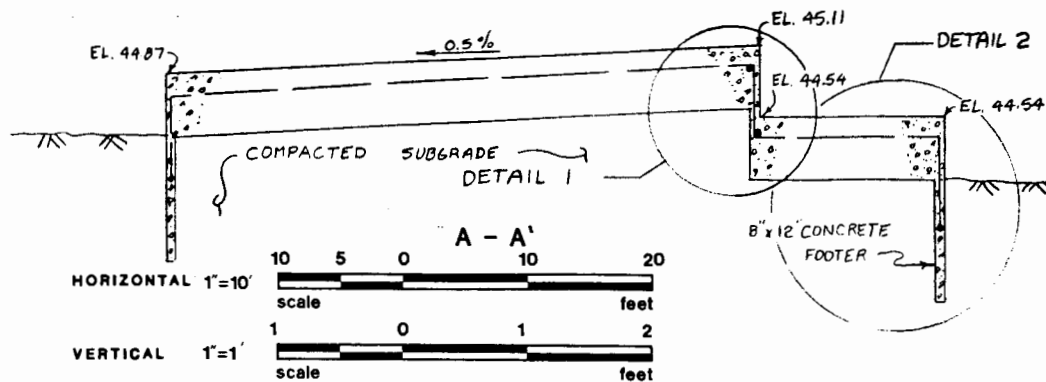
JOB NUMBER
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APPROVED

DATE
12/17/86

REVISED

DATE



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DETAIL SHEET

PLATE
3

DRAWN *CLC* JOB NUMBER 06310 REV 12 DATE 1/1/80 REVISIONS DATE

New Mexico Environment Department
April 2026

Sparton Technology, Inc.
NMD083212332

G.4.2 Public Notice and Fact Sheet (February 20, 1986)

PUBLIC NOTICE

NEW MEXICO ENVIRONMENTAL IMPROVEMENT DIVISION
HAZARDOUS WASTE SECTION
P.O.Box 968
Santa Fe, New Mexico 87504

PUBLIC NOTICE NO. 4

February 20, 1986

NOTICE OF INTENT TO TERMINATE INTERIM STATUS
AND TO CLOSE LONG-TERM (GREATER THEN 90-DAY)
STORAGE AREAS FOR HAZARDOUS WASTE

The State of New Mexico is authorized to operate a hazardous waste management program in lieu of the Federal program for those portions of the Resource Conservation and Recovery Act (RCRA) in effect prior to the enactment of the Hazardous and Solid Waste Amendments of 1984 (HSWA). The HSWA imposes additional requirements on hazardous waste management facilities which will be administered and enforced by the U.S. Environmental Protection Agency (EPA) until the State of New Mexico receives additional authorization for these requirements. Therefore, both the EPA and the New Mexico Environmental Improvement Division (NMEID) of the State Health and Environment Department will determine whether to approve Sparton Technology, Inc.'s (Sparton) request for termination of interim status and the proposed closure plan.

Under authority of the New Mexico Hazardous Waste Act (§ 74-4-1 et. seq. NMSA 1978) and the New Mexico Hazardous Waste Management Regulations (HWMR-2), the NMEID proposes to terminate the interim status of Sparton's Coors Road facility, EPA I.D. Number NMD083212332, located at 9621 Coors Road, N. W., Albuquerque, New Mexico and to approve a closure plan for the long-term (greater than 90-day) storage areas at that site. Sparton's Coors Road facility is involved in the manufacture and assembly of electronic equipment and has conducted long term storage of hazardous wastes associated with those processes.

The EPA has also reviewed the request for termination of interim status and the proposed closure plan for the storage of hazardous waste from Sparton. The review was conducted pursuant to RCRA as amended by HSWA. The EPA has made a tentative determination to approve Sparton's request to terminate interim status and the proposed closure plan under the authority of the RCRA, as amended by the HSWA.

The decision to terminate interim status is based on Sparton's request to withdraw its Part A application for a hazardous waste storage permit because, as a result of changes in its waste management practices, the company will no longer be subject to the requirements of HWMR-2, Section 206.C. for the storage of hazardous wastes. Termination of interim status is to be accomplished through permit denial. The cause for this permit denial is a request by the Company and does not suggest any wrongdoing on the part of the Company.

003809

The proposed closure plan describes the procedures to be used to immobilize all hazardous constituents in the soil, decontaminate the existing storage areas, and monitor the ground water.

Persons wishing to comment upon the proposed termination of interim status or upon the proposed closure plan, or who wish to request a public hearing, should submit, in writing, comments and requests, along with the commentor's name and address to the New Mexico Health and Environment Department, Environmental Improvement Division, 1190 St. Francis Drive, P.O.Box 968, Santa Fe, New Mexico 87504-0968, ATTENTION: Peter H. Pache. Requests for a public hearing shall state the nature of the issues proposed to be raised in the hearing. These comments and/or requests must be received no later than March 22, 1986 to be considered.

The administrative record for these decisions consist of a permit application (Part A), a "notice of intent to terminate interim status", a fact sheet, a closure plan, and related correspondence. The administrative record may be reviewed at either the EID District Office, 4215-4219 Montgomery Blvd., N.E., Albuquerque, New Mexico, or the EID Central Office, Harold Runnels Building, 1190 St. Francis Drive, Santa Fe, New Mexico.

To obtain a copy of the administrative record or any part thereof, please contact:
Peter H. Pache, Program Manager
Hazardous Waste Section
New Mexico Environmental Improvement Division
1190 St. Francis Drive, P.O.Box 968
Santa Fe, New Mexico 87504-0968
(505) 827-2924

All written comments submitted on the proposed termination of interim status and/or the proposed closure plan will be considered in formulating a final decision. The EID will notify Sparton and each person who submitted a written comment during the public comment period of the final decisions or of any public hearing which may be scheduled.

If, after consideration of all written comments, these proposed actions become EID's final decisions, EID will issue to Sparton a Notice of Termination, immediately terminating the interim status of the Company's facility. The Notice of Termination will require that the Company's closure activities be performed in conformity with applicable State law, as well as within the terms of the Company's closure plan.

003810

RADIO

Sparton Technology, Inc.'s Albuquerque plant has withdrawn its application for a permit for longer than 90 day storage of hazardous waste at their facility at 9621 Coors Road, N.W. The New Mexico Environmental Improvement Division (NMEID) proposes to accept this application for withdrawal and to terminate the interim status of this facility under the New Mexico Hazardous Waste Act. The company has also submitted a closure plan for their hazardous waste storage areas which the Division proposes to approve.

Information regarding this matter is available for public review at the NMEID Central Office, Harold Runnels Building, 1190 St. Francis Drive in Santa Fe and the NMEID District I Office at 4219 Montgomery Boulevard, N.E., Albuquerque, New Mexico. Persons wishing to comment on the proposed termination of interim status, or on the proposed closure plan, or who wish to request a public hearing, should do so in writing to the NMEID at P.O.Box 968, Harold Runnels Building, 1190 St. Francis Drive, Santa Fe, New Mexico 87504-0968, ATTENTION: Peter H. Pache.

003811

FACT SHEET

Intent to Terminate Interim Status and to Close Under the New Mexico Hazardous Waste Act

Activity: Termination of Sparton Technology, Inc.'s Coors Road plant interim status and closure of long-term storage areas

Facility Name: Sparton Technology, Inc.

EPA I.D. Number: NMD083212332

Location: 9621 Coors Road, N. W.
Albuquerque, New Mexico 87114

Landowner: Sparton Technology, Inc.

Facility Operator: Sparton Technology, Inc.

Comment Period:

Any person, including the applicant, who wishes to comment on the tentative decisions to terminate the facility's interim status and to approve the proposed closure plan may do so by submitting written comments to the New Mexico Environmental Improvement Division (NMEID), Harold Runnels Building, 1190 St. Francis Drive, P. O. Box 968, Santa Fe, New Mexico 87504-0968, ATTENTION: Peter H. Pache, (505) 827-2924. All such comments must be received by March 22, 1986 to be considered. Note that the termination of interim status is achieved through permit denial, as required by EID regulations; however, no wrongdoing on the part of the facility is to be inferred.

Procedures for Requesting a Hearing:

Any person, including the applicant, who wishes to request a public hearing concerning the proposed actions may do so by submitting a written request to the New Mexico Environmental Improvement Division (NMEID), P. O. Box 968, Harold Runnels Building, 1190 St. Francis Drive, Santa Fe, New Mexico, 87504-0968, ATTENTION: Peter H. Pache. Any request for a hearing shall be submitted in writing and shall state the nature of the issues proposed to be raised in the hearing. All requests must include the requestor's name and address. Requests for a hearing must be received by March 22, 1986 to be considered.

Interim Status Activities:

Since November 19, 1980, Sparton Technology, Inc. has been operating under interim status as a hazardous waste storage facility. Primary activities conducted at the facility consist of the manufacture and assembly of commercial, industrial, and military electronic equipment and the storage of various spent solvents, metal plating wastes, and other characteristic wastes (ignitable, corrosive, and reactive wastes) associated with these manufacturing processes. All wastes have been stored at on-site storage areas and have ultimately been shipped off-site to approved disposal facilities.

003312

Reasons Supporting Decision to Terminate Interim Status:

On January 15, and June 14, 1985 the NMEID requested the submittal of a Part B RCRA permit application from Sparton Technology, Inc. On July 10, 1985 Sparton requested that its interim status be terminated, its Part A application be withdrawn and the facility's status changed to generator of hazardous waste. Sparton's request stated that, due to changes in its waste management practices, Sparton believed they were correctly described as a Generator and therefore were not subject to the NMEID interim status requirements. Subsequent NMEID review indicated that the Company's request to withdraw its Part A application was justified. Therefore NMEID is hereby formally proposing to terminate Sparton's interim status by denying a permit.

Closure of the Facility:

The facility is currently operating under interim status. If this tentative decision becomes the final administrative disposition of the permit application, interim status will terminate and closure will begin immediately [i.e., closure of the Company's long term (greater than 90-day) storage areas]. Sparton's closure plan has been previously submitted, reviewed and modified by NMEID. A copy is available for public review at the NMEID Central Office, Harold Runnels Building, 1190 St. Francis Drive, Santa Fe, New Mexico and the NMEID District I Office at 4219 Montgomery Boulevard, NE, Albuquerque, New Mexico. The public notice and this fact sheet include the proposed approval of the closure plan for this facility's long-term (greater than 90 day) storage areas. The public is provided an opportunity to submit written comments on the plan, or request a public hearing as previously described elsewhere in this fact sheet. The owner/operator must implement the approved closure plan in accordance with its stipulated time schedule.

Ground-water and soil contamination resulting from the storage of these wastes have been detected and will be addressed separately through a corrective action order to be issued by EPA Region VI.

In addition, NMEID has required the submission of a post-closure permit application by Sparton (due March 1986). The ground-water monitoring requirements of this permit and those which will be required through the corrective action order will encompass both on and off-site ground-water issues.

Final Decisions:

All written comments submitted on the proposed termination of interim status and/or the proposed closure plan will be considered in formulating a final decision. The NMEID will notify Sparton Technology, Inc. and each person who submitted a written comment during the public comment period of the final decisions made, or of any public hearing which may be scheduled.

G.4.3 NMED issues final approval of Closure Plan (June 16, 1986)



STATE OF NEW MEXICO

ENVIRONMENTAL IMPROVEMENT DIVISION

P.O. Box 968, Santa Fe, New Mexico 87504-01
(505) 984-0020

TONEY ANAYA
GOVERNOR

DENISE D. FOF
DIRECTOR

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

June 16, 1986

Mr. R.P. Mico
Vice President and General Manager
SPARTON TECHNOLOGY, INC.
P.O. Box 1784
Albuquerque, New Mexico 87103

Re: Closure Plan Modifications

Dear Mr. Mico:

The Environmental Improvement Division (EID) has completed a review of the comments submitted by Sparton regarding EID's proposed modifications to their closure and post-closure plans. EID's modifications were prepared pursuant to Section 206.C.2.c.(4) of the New Mexico Hazardous Waste Management Regulations (HWMR-2) which empowers EID to incorporate any modifications they feel are necessary after Sparton has had an opportunity to revise their closure/post-closure plans. EID reserves the right to accept or deny any proposed modifications submitted by Sparton and/or the public concerning these matters.

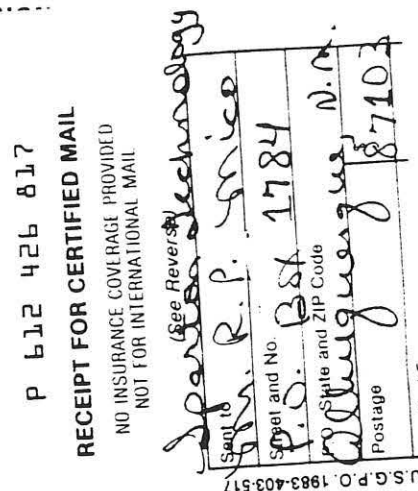
The issues discussed below reflect EID's response to Sparton's comments:

page 13, paragraph 3

Removal of any materials from the sump area which may contain hazardous constituents would constitute the generation of a hazardous waste. The disposal of such a waste would, indeed, require a RCRA permit (see HWMR-206.A.). The placement of soil contaminated with a hazardous waste, whether it is moved from fifteen feet or five-hundred feet away, into a unit no longer permitted to receive hazardous waste, i.e. one which has lost interim status, is a violation of the RCRA/HSWA requirements.

page 21, paragraph 1

If it is determined that all hazardous waste and hazardous waste constituents have not been removed (including any hazardous constituents present in the ground water as a result of the unit) clean closure cannot be accomplished and the unit must be closed pursuant to the regulatory requirements of a landfill (landfill in this case implies the



regulatory definition and should not necessarily be construed to mean that which a layman may interpret as a "dump").

page 21, paragraph 3

This addition would be considered acceptable.

Appendix D

Please notify EID of any changes in the laboratories to be used.

Guidelines for Sample Bottles and Preservatives

Pursuant to 40CFR265.92(c), the regulations require the use of EPA approved methodology in the analysis of ground water, and cite the Methods for Chemical Analysis of Water and Wastes as an appropriate methods manual. 40CFR265.92(b)(1) and HWMR-2 206.C.1.c.(2)(a) also require that samples be analyzed for their suitability as drinking water. The methods document cited above states that drinking water samples should be analyzed for total metals. The sampling methodology suggested requires that the samples be acidified with HNO₃ without filtering.

Guidance from EPA Washington suggests that aeration of a sample during filtration causes the release of dissolved gases, and, thereby, results in raising the pH. This would cause dissolved metals present in the ground water to "fall out" of solution. The final filtered liquid, therefore, reflects a lower metal concentration than that which actually exists in the ground water.

Although filtering may possibly avoid the indication of a false high in the metal concentration, not filtering and field acidification is believed to, more frequently, avoid false lows.

Sample Collection and Preservation

Soil samples, especially those collected for analysis of volatile organic constituents, should be retrieved so as to avoid any unnecessary aeration.

Appendix F- Item #24

Once again, the introduction of contaminated soil into the lined surface impoundments after they have lost interim status is not acceptable.

Appendix F - "Appendix A - Item 17. Chemical Information Summary."

EID believes the assumption that a reader will understand that a compound is volatile at atmospheric pressure because the actual vapor pressure is included in the Chemical Information Summary is a false assumption. The toxicity levels and flash points are also included in the Summary and no assumption is made that the reader would naturally categorize the compounds as toxic and ignitable - these characteristics are included in the "Hazard Property" section as should the "volatile"

characteristic. Additionally, the options at the bottom of each compound description direct the author to "Fill in all the characteristics that apply".

Comments at the Top of Page 5, EID Letter

It would seem prudent to confirm the actual area to be paved prior to initiation of closure activities. Final approval of the closure plan was to focus predominantly on the results of the vadose zone investigation. Due to the lack of submittal of the vadose zone investigation (due January 1986) Sparton will be required to extend the proposed asphalt cap an additional 15 feet to ensure that any surface water infiltration will not add to the current ground-water contamination problem. Any information submitted later, i.e. the vadose zone model results, etc., will be evaluated to confirm the areal adequacy of the cap.

In regard to the issue of deleterious effects of TCE on the asphalt, it seems uncertain that similar effects on other parking areas would be evident. Sparton has not submitted any vadose zone investigation data that would suggest that the parking lots overlay concentrated regions of contaminated vadose zone - only contaminated ground water. The proposed cap will cover what would reasonably be assumed the most contaminated portion of the vadose zone. Comparison of TCE vapors possibly found beneath other parking lots with those accumulating beneath the proposed cap would, therefore, seem difficult. Nevertheless, it would appear to be in Sparton's best interest to install an active vadose zone air flushing/venting system to prevent downward flux of contaminants.

page 11, paragraph 1

Although the building floor covers a greater areal extent than the proposed cap would, the cap would cover the most contaminated portion of the vadose zone. Evidence has not been submitted indicating that the contaminated vadose zone extends below the building. It, therefore, does not follow that the current air monitoring program would have already detected a problem. The possibility exists that an accumulation of concentrated vapors below the cap could migrate to areas not currently effected by any substantial accumulation. The air quality sampling plan may be sufficient to satisfy EID's request for safety monitoring. Please submit to EID the air quality sampling plan currently performed by Sparton as a part of their industrial hygiene program.

page 15, paragraph 3

The proposed closure plan intends to leave in place what would be classified as a hazardous waste. This activity constitutes what would be considered land disposal of hazardous waste and is regulated as such under HWMR-2 and HSWA.

003841

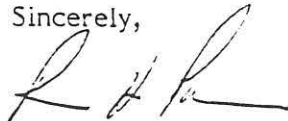
page C-1, #3

EID would like to remind Sparton that numerous delays on Sparton's part, e.g. report submittals, have added to everyone's frustration regarding the initiation of remedial activity at the site. Many of the activities currently being performed by Sparton are necessary and very relevant in determining an effective remedial plan before beginning a full-scale corrective action program. Completion of these activities would typically be required through a Corrective Action Order to ensure that furtherance of environmental damage does not take place.

The issues addressed in this letter reflect EID's position regarding specific comments from Sparton on our closure/post-closure modifications. With this letter, EID is now issuing final approval for these closure/post-closure plans, incorporating those original modifications, any changes expressed in this letter, and those changes agreed to by both parties, .

Should you have any questions relating to these matters, please feel free to contact me or my staff at (505) 827-2929.

Sincerely,



Peter H. Pache
Program Manager
Hazardous Waste Section

cc: Duff Westbrook, EID Legal
Kent Bostick, EID Groundwater Section
Ernest Rebeck, Chief, GW/HW Bureau
Richard Mitselfelt, District I EID
Buddy Parr, EPA Region VI

003842

New Mexico Environment Department
April 2026

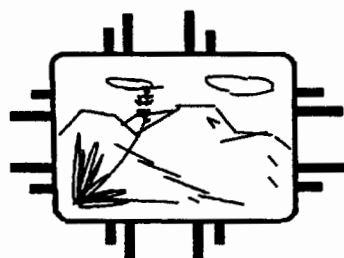
Sparton Technology, Inc.
NMD083212332

G.4.4 NMED approval of the certifications of closure (May 18, 1987)

 ENTERED

cc: Juan
Marc

Susan



NEW MEXICO
HEALTH AND ENVIRONMENT
DEPARTMENT

Post Office Box 968
Santa Fe, New Mexico 87504-0968

HAZARDOUS WASTE SECTION
(505) 827-2929

GARREY CARRUTHERS
Governor

LARRY GORDON
Secretary

CARLA L. MUTH
Deputy Secretary

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

May 18, 1987

Mr. Richard D. Mico
Vice President and General Manager
Sparton Technology, Inc.
P. O. Box 1784
Albuquerque, NM 87103

Re: Sparton Technology, Inc.
NMD 083212332

Dear Mr. Mico:

EID has reviewed Sparton's letters of December 18, 1986, February 18, February 27 and March 31, 1987 and Metric Corporation's letters of February 26 and March 31, 1987 in Sparton's behalf, concerning certification of closure of the surface impoundments and old and new container storage areas. Further, on March 9, 1987 EID performed a post-closure inspection of the site. Based upon the information provided, EID hereby releases Sparton Technology, Inc. from the requirements of New Mexico Hazardous Waste Management Regulations' Section 206.C.3.d. in accordance with Section 206.C.3.d.(8).

Enclosed herewith is the irrevocable letter of credit number 11019 issued in your behalf by the First National Bank of Albuquerque for closure surety.

Sincerely,



Michael J. Burkhart
Director

cc: Susan Stark, EPA (6H-HS) ✓
Gini Nelson, HED Office of General Counsel
Richard Mitzelfelt, EID Ground Water & Hazardous Waste Bureau
Tito Madrid, EID District I





CERTIFICATION OF CLOSURE

New Drum Storage Area
Sparton Technology, Inc.
Coors Road Plant
Albuquerque, New Mexico

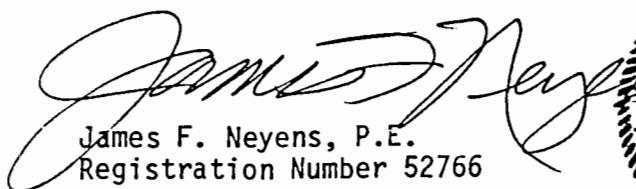
On October 15, 1986, Gary Richardson, a New Mexico Registered Professional Engineer, acting as a subcontractor to Harding Lawson Associates, inspected the New Drum Storage Area at the Sparton Technology, Inc. Coors Road facility. This area has been used as a storage facility for hazardous waste in drums.

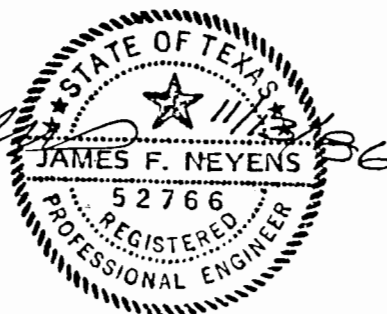
The area was clean and orderly, and there was no visible evidence of residual hazardous wastes or hazardous waste constituents. Furthermore, there was no visible evidence that any hazardous waste or hazardous waste constituents had escaped the storage facility. All containers of hazardous waste had been removed from the facility.

According to Mr. Cleoves Martinez, the facility Environmental Engineer, the hazardous waste removed from the storage area was disposed at a permitted commercial hazardous waste facility.

Based on the above information, it is the professional opinion of the undersigned that the New Drum Storage Area was closed in general accordance with the Closure Plan dated December 19, 1985, as subsequently modified by the New Mexico Environmental Improvement Division in a letter addressed to Sparton Technology, Inc. dated March 21, 1986.

HARDING LAWSON ASSOCIATES


James F. Neyens, P.E.
Registration Number 52766



METRIC Corporation


Gary L. Richardson, P.E.
Registration Number 6436





CERTIFICATION OF CLOSURE

Hazardous Waste Storage Surface Impoundments
Sparton Technology, Inc.
Coors Road Plant
Albuquerque, New Mexico

Metric
During the period November 3, 1986, through December 12, 1986, Cutler Repaving, Inc. of New Mexico, acting as a contractor to Sparton Technology, Inc., closed the two hazardous waste storage surface impoundments at the Coors Road facility. The surface impoundments had been used for the storage of aqueous plating wastes prior to off-site disposal. Residual liquid wastes had been removed prior to closure.

The closure consisted of reducing the surface impoundment walls and backfilling. The area was then graded and proof-rolled in preparation of the subgrade for an asphaltic concrete cap. During preparation of the subgrade, the old solvent sump (as described in the closure plan) was completely removed for disposal off site as a hazardous waste. Following installation of the asphaltic concrete cap and drainage swale, the security fence was reinstalled.

All of the above work was monitored on a continuous basis by representatives of Harding Lawson Associates and Metric Corporation, acting as a subcontractor to Harding Lawson Associates. Based on the observations thus obtained, it is the professional opinion of the undersigned that the hazardous waste storage surface impoundment area was closed in general accordance with the closure plan dated December 19, 1985, as subsequently modified by the New Mexico Environmental Improvement Division in a letter addressed to Sparton Technology, Inc., dated March 21, 1986, and as subsequently modified in two addenda dated October 15, 1986, and November 10, 1986, respectively.

HARDING LAWSON ASSOCIATES

James F. Neyens
James F. Neyens, P.E.
Registration Number 52766



Gary L. Richardson
Gary L. Richardson, P.E.
Registration Number 6436





CERTIFICATION OF CLOSURE

Old Drum Storage Area
Sparton Technology, Inc.
Coors Road Plant
Albuquerque, New Mexico

During the period January 16, 1987 through January 28, 1987, Chavez Concrete Company, acting as a contractor to Sparton Technology, Inc., closed the Old Drum Storage Area at the Coors Road facility. The Old Drum Storage Area had been used for storage of hazardous waste drums prior to off-site disposal. The site was also used for storage of nonhazardous industrial wastes.

The closure consisted of constructing an addition to the adjacent concrete pad. The concrete pad now covers and extends five feet beyond the Old Drum Storage Area. The security fence has been relocated to completely enclose the concrete pad extension.

All of the above work was monitored on a continuous basis by representatives of Metric Corporation, acting as a subcontractor to Harding Lawson Associates. Based on the observations obtained, it is the professional opinion of the undersigned that the Old Drum Storage Area was closed in general accordance with the Closure Plan dated December 19, 1985, as subsequently modified by the New Mexico Environmental Improvement Division in a letter addressed to Sparton Technology, Inc., dated March 21, 1986, and as subsequently further modified in Addendum 4 to that closure plan, dated December 17, 1986.

HARDING LAWSON ASSOCIATES

James F. Neyens, P.E.
Registration Number 52766



Gary L. Richardson, P.E.
Registration Number 6436



New Mexico Environment Department
April 2026

Sparton Technology, Inc.
NMD083212332

G.5 DEED NOTICE OF RESTRICTION

Pursuant to 40 CFR 270.14(b)(14), and 264.119 referenced therein, on April 27, 1987, Sparton submitted to Bernalillo County Clerk a survey plat of the facility property, in order to notify any potential purchaser of the property that the land has been used to managed hazardous waste, and that its use is, therefore, restricted. A copy of this Notice of Restriction is provided herein.

**SPARTON
TECHNOLOGY, INC.**

4901 Rockaway Blvd., SE
Rio Rancho, New Mexico 87124
P.O. Box 1784
Albuquerque, New Mexico 87103
Phone (505) 892-5300
TWX 910-989-1657

April 27, 1987

*C.C. original transmitted letter
only to EPA file
original w. attachment filed
in ETV perm. file.*

Mr. Ronald G. Olguin, County Manager
Bernalillo County
1 Civic Plaza, NW, 10th Floor
Albuquerque, NM 87102

Dear Sir:

We are filing the attached survey plat in accordance with the New Mexico Hazardous Waste Regulations, 206.C.2.(1). This regulation also requires that we submit the following record of the type, location, and quantity of hazardous wastes disposed within each area. The following information is submitted in fulfillment of this requirement.

Hazardous wastes have never been disposed within either of the subject closed hazardous waste storage units. For that matter, no hazardous wastes are known to have been disposed anywhere on the facility property. However, it is believed that some hazardous wastes have leaked from the two closed storage ponds, and the adjacent sumps, into the soil and groundwater beneath the site. These wastes fall into two general categories: aqueous plating wastes and spent solvent wastes. The quantity of material which escaped into the soils and groundwater is not known. However, extensive investigations of the soil and groundwater have been performed in order to evaluate the extent of contamination and to enable us to develop appropriate remedial measures. These investigations and the resulting remedial action programs have been and are continuing to be closely coordinated with the New Mexico Environmental Improvement Division.

Thank you for your attention to this matter.

Respectfully,

SPARTON TECHNOLOGY, INC.

RDM:ic

Richard D. Mico
Vice President and General Manager

cc: Mr. Blair Thompson ✓
Mr. Jon DeWitt
Mr. Gary Richardson
Mr. Thomas Burger
Mr. Cleaves Martinez
Mr. Richard Mitzelfelt

Attach.

subsidiary of **SPARTON CORPORATION**

001362

NOTICE OF RESTRICTION

This Notice relates to a portion of the property described in that certain plat recorded of even date herewith, with the Clerk of Bernalillo County, in Book 479-A; PAGE 445-454.

This property contains two areas which have been used to manage hazardous wastes, and the use of which is restricted under the New Mexico Hazardous Waste Regulations, 206.C.2.g(3). These units are known as the Old Drum Storage Area and the Hazardous Waste Surface Impoundment Area. These areas have been covered with a concrete cap and an asphaltic concrete cap, respectively. According to the above-cited regulatory restriction: Post-closure use of these areas must never be allowed to disturb the integrity of the final cover, or the function of the facility's monitoring systems, unless the owner or operator can demonstrate to the Director, as appropriate, that the disturbance: (a) is necessary to the proposed use of the property and will not increase the potential hazard to human health or the environment; or (b) is necessary to reduce a threat to human health or the environment.

SPARTON TECHNOLOGY, INC.

Richard D. Mico

Richard D. Mico
Vice President and General Manager

STATE OF NEW MEXICO)
) SS: "
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 27th day of April, 1987, by Richard D. Mico, Vice President and General Manager of Sparton Technology, Inc., a New Mexico corporation, on behalf of said corporation.

Aune C. Saslofsky
Notary Public

My Commission Expires:

8/20/89

001363

71-38631 Cay

518

WARRANTY DEED

6482

HORIZON-ALBUQUERQUE PROPERTIES CORP., a Delaware corporation,

SPARTON CORPORATION, an Ohio corporation,

for consideration paid, grant
the following described real estate in Bernalillo County, New Mexico:

Parcel 1

Beginning, for a tie, at the U.S.L.O. marker on the south boundary of the Town of Alameda Grant which is a point common to Section 13, Range 2 East, Township 11 North and Section 18, Range 3 East, Township 11 North, N.M.P.M., thence East 1522.40' along the south boundary of the Town of Alameda Grant to a point on the western right of way of State Road 448, thence N 40° 40' E 3930.15' along the right of way of State Road 448 to the point of beginning, thence N 40° 40' E 660.00' along the right of way of State Road 448 to the northeast corner, thence N 55° 23' W 723.23' to the northwest corner, thence S 40° 40' W 793.63' to the southwest corner, thence S 65° 36' E 749.19' to the southeast corner and point of beginning. Said tract containing 12.0 acres, more or less.

SUBJECT TO:

1. Taxes for 1961
2. Reservations in patent from the United States to Alameda Grant
3. Reservations of one-half of all oil, gas, uranium and other minerals as reserved in warranty deed filed in Book D-513, page 189, records of Bernalillo County, New Mexico.
4. Covenants, conditions and restrictions appearing of record in Book D-513, Page 189, records of Bernalillo County, New Mexico
5. Easements of Record or on the ground.

with warranty covenants.

WITNESS hand and seal this 2nd day of January 1961

(Seal) HORIZON-ALBUQUERQUE PROPERTIES CORP. (Seal)

W.H. MacKinnon (Seal) BY: Joseph Timan (Seal)
Asst. Secretary Joseph Timan, President

ACKNOWLEDGMENT FOR NATURAL PERSONS

STATE OF NEW MEXICO Arizona
COUNTY OF Pima ss.

The foregoing instrument was acknowledged before me this 30th day of January 1961
by Joseph Timan & W.H. MacKinnon
(Name or Names of Person or Persons Acknowledging)

My commission expires:
(Seal)

Notary Public

FOR RECORDER'S USE ONLY

State of New Mexico
County of Bernalillo ss

This instrument was filed for record on

1-27-61 FEB 7 1961

At o'clock P.m. Recorded in Vol. 581

of records of said County Folio 378

Deputy Clerk & Recorder

Deputy Clerk

Indexed 2-7-61

ACKNOWLEDGMENT FOR CORPORATION

STATE OF NEW MEXICO ARIZONA ss.

COUNTY OF PIMA

The foregoing instrument was acknowledged before me this 30th day of January 1961

by Joseph Timan (Name of Officer)

President of Horizon-Albuquerque Properties Corp.

(Title of Officer) (Corporation Acknowledging)

a corporation, on behalf of said corporation

My commission expires: 10/29/61

(Seal) Notary Public

001364

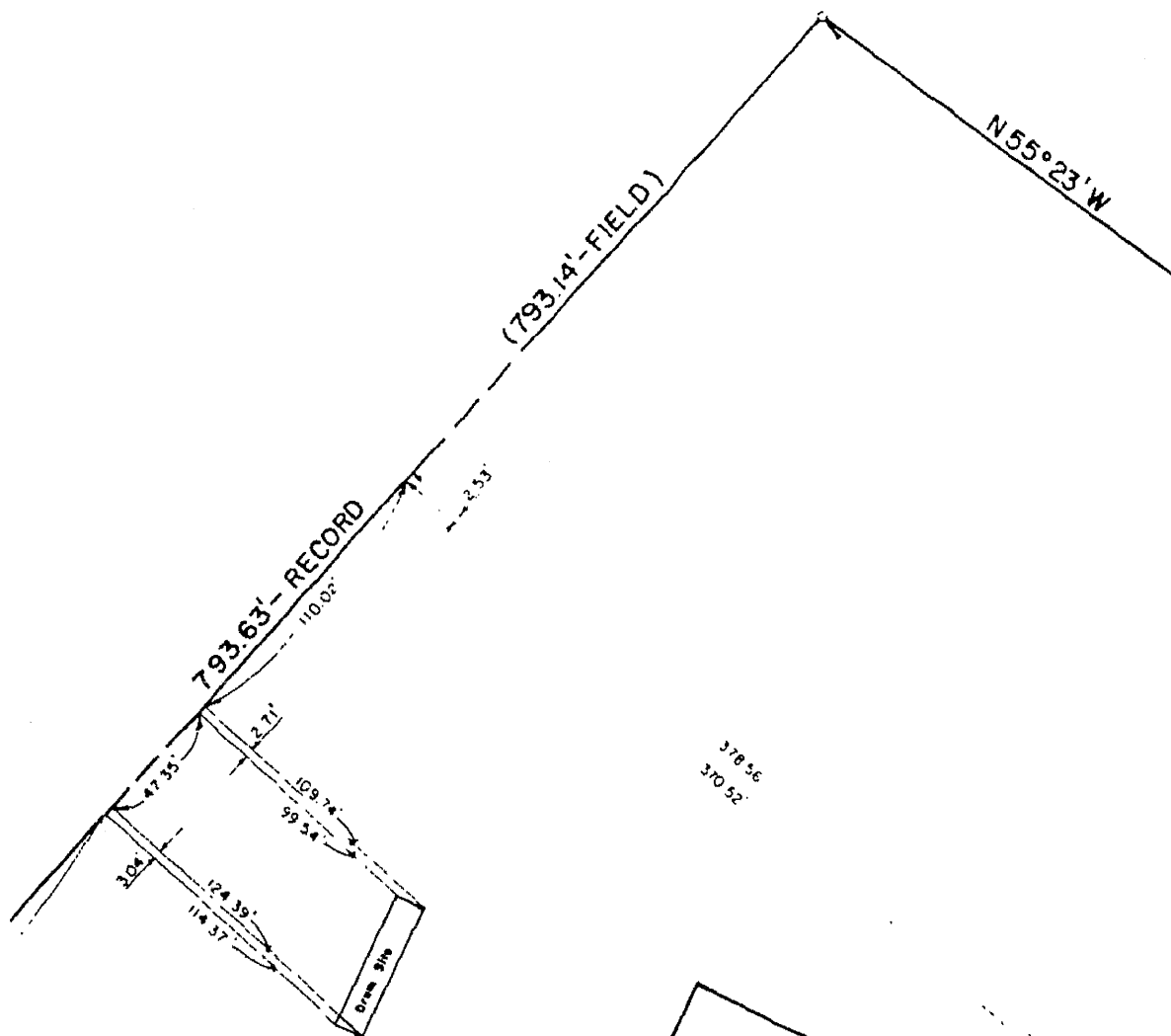


SCALE: 1" = 50'

EAGLE RANCH PROPERTY

40°40'W

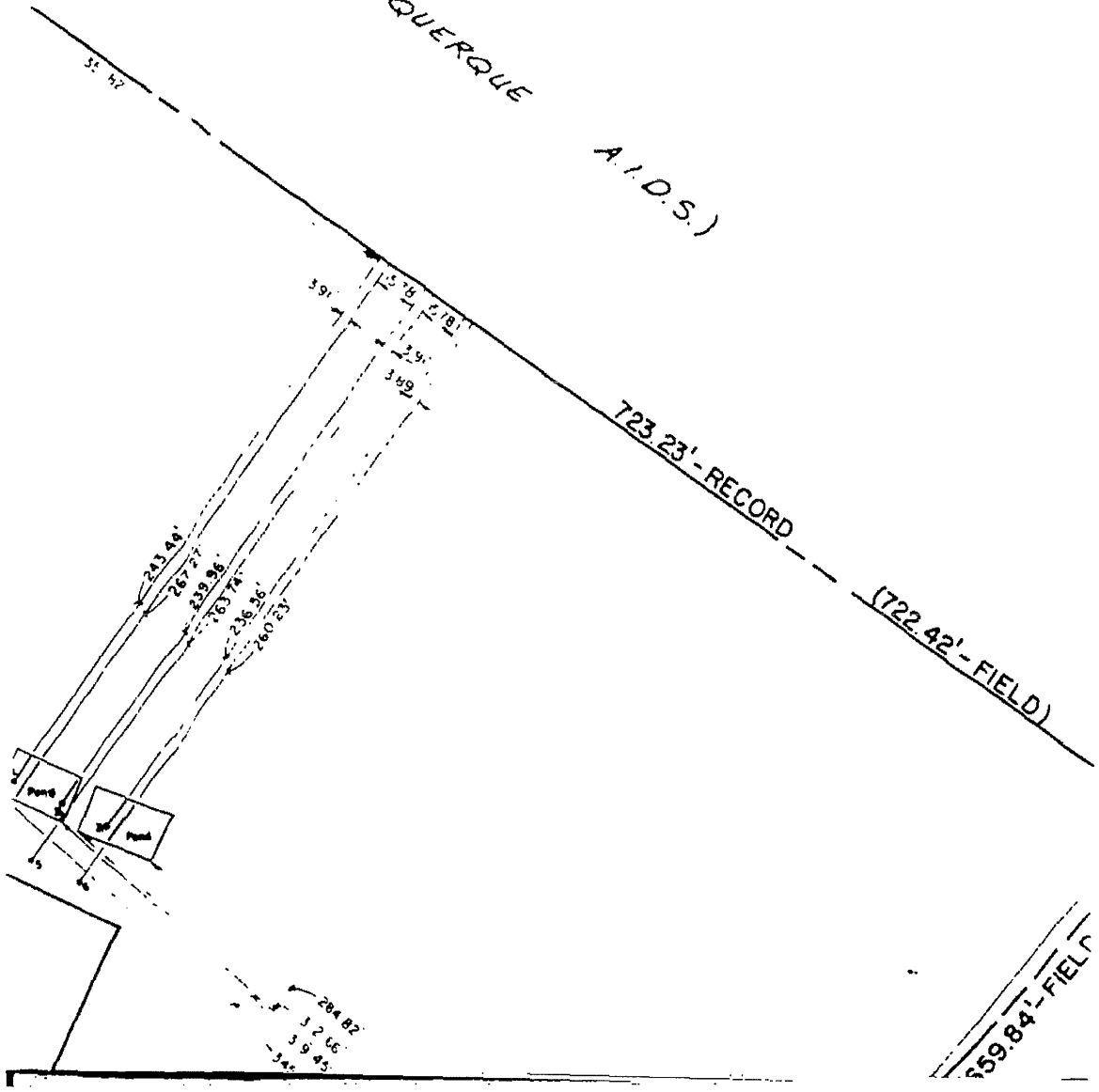
403.44'



LEGEND

	Area	Area
1	1.00	1.00
2	1.00	1.00
3	1.00	1.00
4	1.00	1.00
5	1.00	1.00
6	1.00	1.00
7	1.00	1.00
8	1.00	1.00
9	1.00	1.00
10	1.00	1.00

(CITY OF ALBUQUERQUE
A.I.D.S.)



SPARTON TECHNOLOGY, INC.
9621 COORS BOULEVARD, N.W.
BERNALILLO COUNTY, NEW MEXICO

SKETCH TO SHOW DRUM SITE & PK NAIL BENCHMARK
LOCATIONS - MARCH, 1987

45

S 65° 36' E

100' +

P



TRANSMISSION LINE EASEMENT
DOUGLAS & GENE SPENCE)

749.19'-RECORD

(748.87'-FIELD)

453

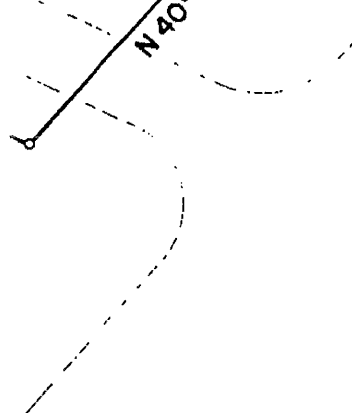
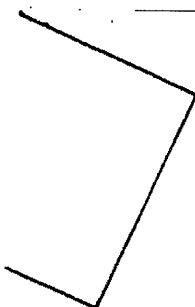
NW

BLVD.

COORS

660.00' - RECORD

N 40° 40' E



NOTE: The areas designated as Drum Site and as Pond are closed hazardous waste storage units and, as such, are subject to 206.C.2.g(3) of the New Mexico hazardous Waste Regulations, to wit: Post-closure use of these areas must never be allowed to disturb the integrity of the final cover, or the function of the facility's monitoring systems, unless the owner or operator can demonstrate to the Director, as appropriate, that the disturbance: (a) is necessary to the proposed use of the property and will not increase the potential hazard to human health or the environment; or (b) is necessary to reduce a threat to human health or the environment.

dtm & associates, inc



Denney-Tibbels-McLean & Associates, Inc.

Consulting Engineers ■ Planners ■ Surveyors

2400 COMANCHE ROAD NE ■ ALBUQUERQUE, NM 87107

TELEPHONE (505) 884-0696



DTM Job No. 47142
B-13 & B-14

PERMIT ATTACHMENT H POST-CLOSURE CARE PLAN

H.1 INTRODUCTION

The Sparton Technology, Inc. Facility was closed in 2001, and is currently undergoing post-closure care, which includes maintaining the integrity of the asphaltic concrete cap that covers the surface impoundment that was once used for storage of hazardous waste. Post-closure care also involves maintenance of the security fences around the cap, and inspection of the condition of the cap. The following sections present a description of the security measures that the Permittee must take during the post-closure care period. Also described are the inspection plan, and the maintenance plan.

H.2 SECURITY PLAN

The closed surface impoundment is bounded by a car dealership building on the south side and an 8-foot-high chain link fence on the other three sides. Access to the area is via a locking personnel gate on the northwest side of the fence and a locking vehicular gate on the southeast side. Warning Signs are posted at all gates reading "DANGER, Unauthorized Personnel Keep Out" in both English and Spanish. The signs have black letters on a yellow background and are visible from at least 25 feet in all approaching directions. Security inspections of the fences, gates, locks, and signs shall continue to take place on quarterly basis to assure equipment integrity and to look for evidence of vandalism and/or tampering. Should any security problem be found during inspection, appropriate personnel shall be informed immediately, and repairs and/or replacement shall commence as soon as possible and be completed prior to the next inspection. A security checklist component is included in the overall post-closure care inspection checklist provided in Permit Attachment E (Inspection Plan).

H.3 INSPECTION PLAN

The general post-closure care inspection of the cap and associated groundwater wells shall be conducted semi-annually as described in Permit Attachment E (Inspection Plan).

H.4 GROUNDWATER WELL INSPECTION PLAN

Inspection will concentrate on the possibility of subsidence of the cap area. There are six survey benchmarks in the asphaltic wearing surface. These benchmarks are tied-in horizontally and vertically to the plant grid. At least semi-annually, or after notice of suspected subsidence has been given, a registered surveyor shall verify the elevations of these benchmarks. Access to the cap by vehicles shall be totally restricted while the survey is taking place.

Prior to the survey, water shall be introduced, preferably from a fire hose on the up-slope sides of the cap and allowed to run down-slope. This will confirm that the grade is sufficient to allow drainage and may indicate areas of pavement subsidence, by the ponding of water, on what is supposed to be a slope. Any suspected areas of subsidence shall be surveyed to determine the extent of the problem.

If subsidence is indicated on the cap, the NMED shall be notified immediately, and a determination shall be made as to the cause of the subsidence and the subsequent plan of

action.

The following is a summary of certain Consent Decree provisions; however, the summary does not supersede or change any terms of the Consent Decree. In the event of any conflict between the summary and the Consent Decree, the Consent Decree shall control.

H.4.1 Summary of Groundwater Monitoring Data

A summary of the groundwater monitoring data is provided in Attachment A to the Consent Decree (Groundwater Monitoring Program Plan), and in annual reports submitted to NMED/the Department as stipulated by Attachment D of the Consent Decree.

H.4.2 Aquifer Identification

The aquifer identification data is contained in Attachment A of the Consent Decree and in annual reports submitted to the Department, as specified in Attachment D of the Consent Decree.

H.4.3 Topographic Map Delineations

This information is related to corrective action which is addressed in the Consent Decree.

H.4.4 Description of the Plume of Contamination

The Description of the Plume of Contamination information is contained in Attachment A of the Consent Decree and in annual reports that the Permittee submits to the Department, as required by Attachment D of the Consent Decree. **Figure 5** of Permit Attachment L (Figures) illustrates the general plume hydrology of the Facility.

H.4.5 Groundwater Monitoring Program

The Groundwater Monitoring Program is governed by the Consent Decree. Information concerning this program is contained in Attachment A of the Consent Decree and in annual reports submitted to the NMED, as specified in Attachment D of the Consent Decree.

H.4.6 Detection Monitoring Program

The Detection Monitoring Program is governed by the Consent Decree. Information concerning this program is contained in Attachment A of that document and in the annual reports submitted to the Department, as stipulated by Attachment D of the Consent Decree.

H.4.7 Compliance Monitoring Program and Corrective Action Program

The Compliance Monitoring and the Corrective Action Programs are governed by the Consent Decree. Information concerning these programs is contained in Attachments A, C, E, F, and G of the Consent Decree and in annual reports submitted to the Department.

The Corrective Action Program is governed by the Consent Decree entered March 3, 2000. Information concerning this program is contained in Attachments A, B, C, E, F, and G of the Consent Decree and in the annual reports submitted to the Department.

H.4.8 Semi-Annual Reporting

The Annual reporting of groundwater monitoring data is required under Attachment A of the Consent Decree. The semi-annual reporting of groundwater data previously required was discontinued in 2016 with the approval of both the EPA and the Department.

H.5 MAINTENANCE PLAN

The Maintenance Plan will be implemented when inspection of the cap area covered by post-closure activities indicates the need. Maintenance shall include repair of the drainage swale southwest of the cap, the chain link fence, gates, locks, signs, the asphalt wearing surface of the cap and the groundwater monitoring wells. The drainage swale shall be kept clear of debris and its structural integrity assured. All security devices shall be maintained to a level which assures their integrity, visibility and proper working order. The asphalt wearing surface shall be maintained at a thickness of 3 inches, and any repair or repaving shall be done in accordance with the specifications in the post-closure care inspection described in Permit Attachment E (Inspection Plan).

All maintenance activities shall be carried out by personnel familiar with the tasks at hand. Any repair and/or replacement of the cap shall be contracted to professionals in that field, and NMED must be notified at least 10 days prior to commencement of maintenance works.

PERMIT ATTACHMENT I COMPLIANCE SCHEDULE

(Reserved)

PERMIT ATTACHMENT J HAZARDOUS WASTE MANAGEMENT UNITS

J.1 Unit Description

The Hazardous Waste Management Unit (HWMU) subject to post-closure care under this Permit is limited to the capped surface impoundment and listed in Table J-1. The capped surface impoundment is a RCRA Regulated Unit.

TABLE J-1: Unit Subject to the Permit Undergoing Post-Closure Care (Process Code S04)			
<i>Unit Identifier</i>	<i>Regulatory Status</i>	<i>Operating Capacity</i>	<i>General Information</i>
Capped Surface Impoundment.	Post-Closure Care Permitted Unit.	Since the Facility is not operating the requirements of this capacity are not applicable.	The capped Surface Impoundment (SI) was constructed in 1975, and operated until August 1983. The SI accepted aqueous plating waste for storage before off-site shipment. The SI was Closed with Waste-In-Place in 1986, since subsurface soils were not removed during closure.

The following closed units listed in Table J-2 do not require post-closure care and are not subject to the requirements of this Permit. Therefore, Table J-2 is for informational purposes only.

TABLE J-2: Closed Units not requiring Post-Closure Care			
Unit Identifier	Process Codes	Regulatory Status	General Information
Old Drum Container Storage Area	S01	Clean Closed	The Old Drum Container Storage Unit was clean closed in 2001.
New Drum Container Storage Area	S01	Certified Closed	The New Drum Container Storage Unit was certified closed in 1986.

PERMIT ATTACHMENT K SOLID WASTE MANAGEMENT
UNITS/AREAS OF CONCERN

K.1 Solid Waste Management Unit

The Solid Waste Management Unit (SWMU) was a sump constructed of concrete blocks. The sump was located immediately north of the former manufacturing plant, and west of the surface impoundment. The sump was five-feet by five-feet by two-feet that received spent solvent waste. Spent chlorinated and non-chlorinated solvents were emptied in the sump manually and allowed to evaporate. The waste mainly consisted of trichloroethylene (TCE), 1,1,1-trichloroethane (TCA), 1,4-dioxane (used as a stabilizing in TCA), and lesser amounts of methylene chloride, acetone, 1,1-dichloroethylene (DCE). The sump was constructed between 1960 and 1969 and was in operation until October 1980, when the remaining waste in the sump was removed and filled with sand. As part of the closure activities of the surface impoundment in 1986, the sump was completely removed for disposal off site as hazardous waste.

PERMIT ATTACHMENT L FIGURES

L.1 LIST OF FIGURES

- Figure 1: Location of the Former Sparton Coors Road Plant
- Figure 2: Layout of the Former Sparton Technology, Inc. Coors Road Plant and Location of RCRA Facility
- Figure 3: Geologic Cross Section Showing Shallow Deposits at the Site and its Surroundings
- Figure 4: Topographic Map of the Site with 100-Year Floodplain and Monitoring Well Locations
- Figure 5: Plume Hydrology Map of the Site and its Surroundings
- Figure 6: Site Map Showing Existing Monitoring and Containment Wells
- Figure 7: Land Use Map of the Site and its Surroundings
- Figure 8: Layout of the Source Containment System Components
- Figure 9: Layout of the Off-Site Containment System Component



Figure 1. Location of the Former Sparton Technology, Inc. Coors Road Plant

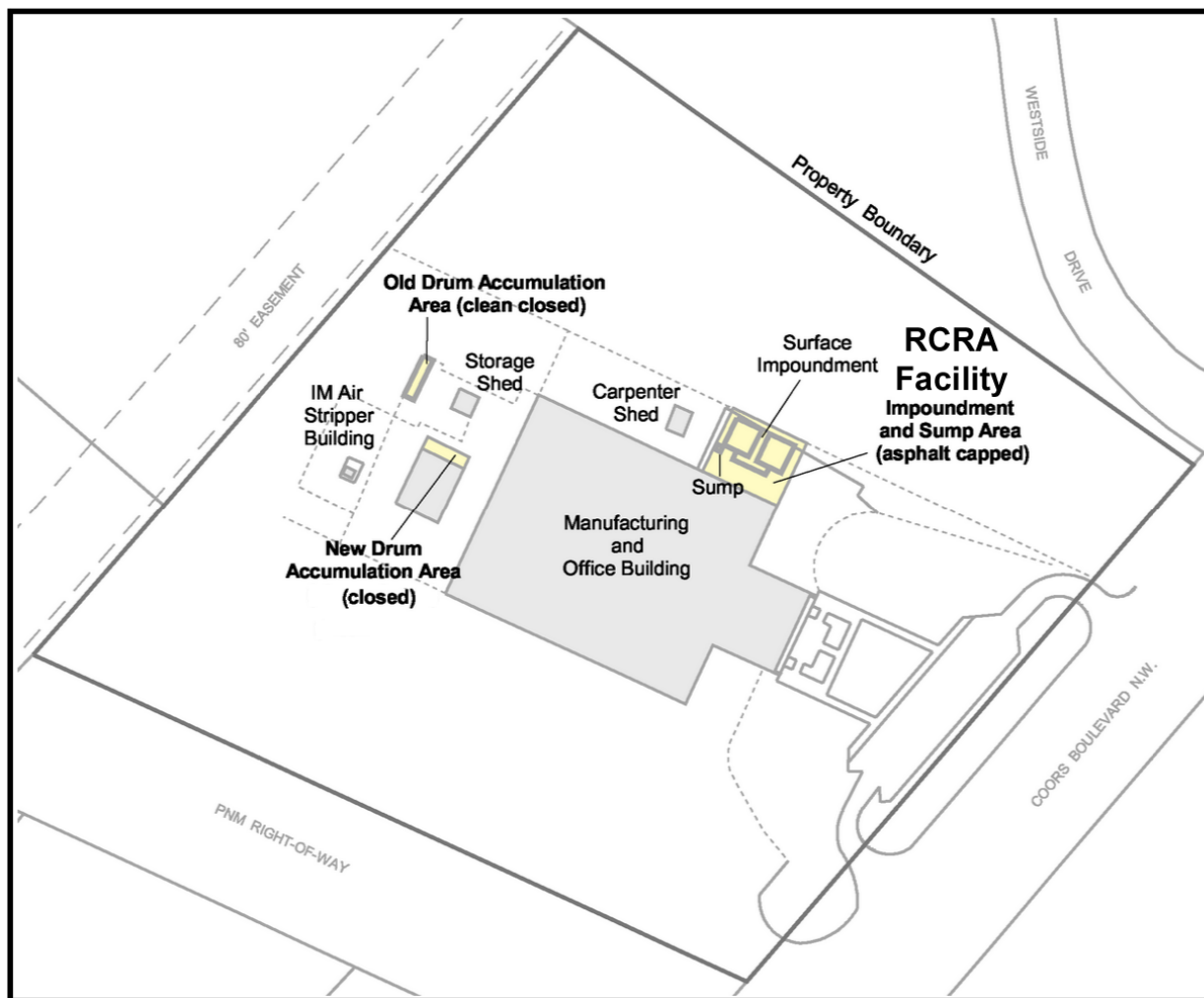


Figure 2. Layout of the Former Sparton Technology, Inc. Coors Road Plant and Location of RCRA Facility

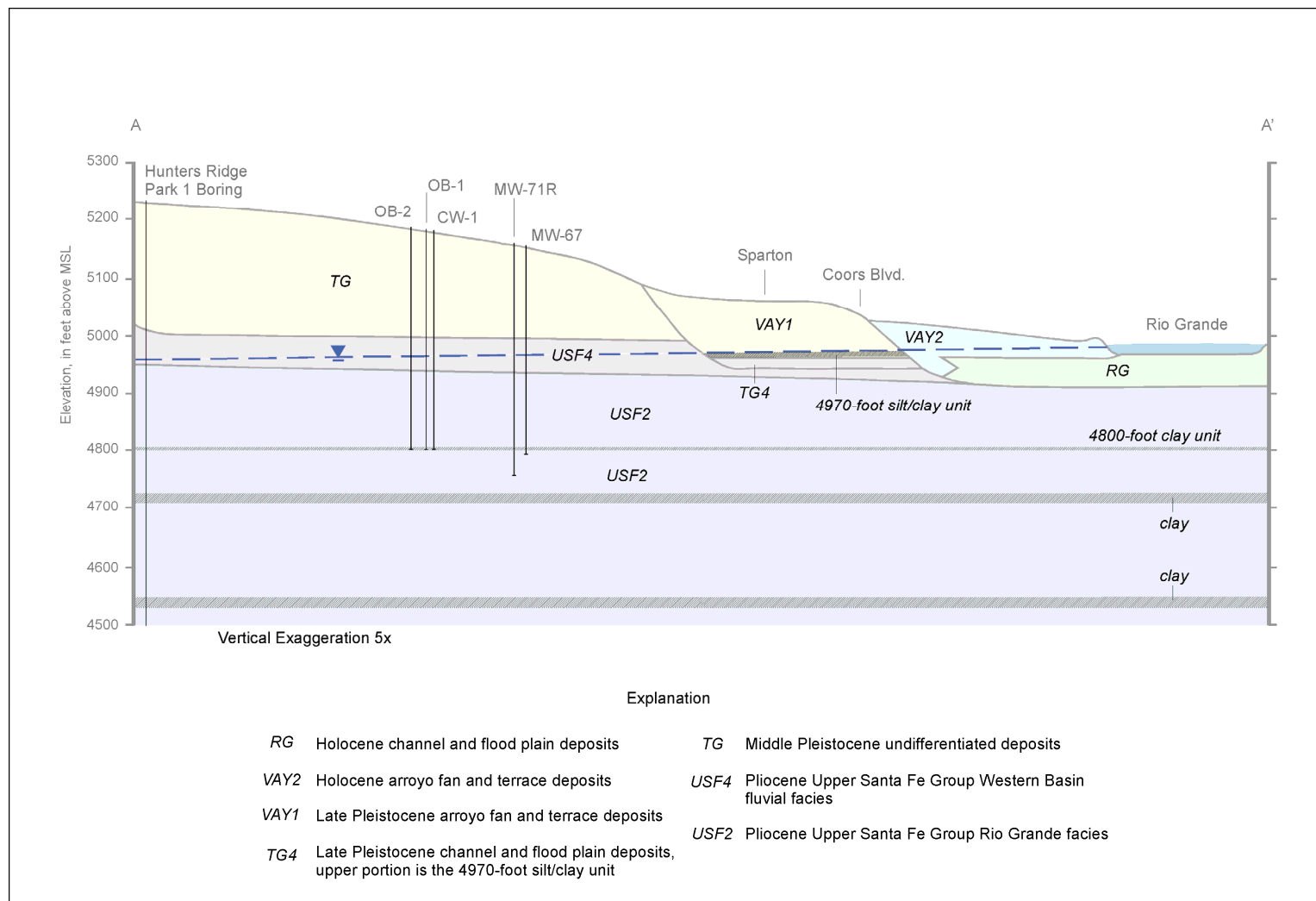


Figure 3. Geologic Cross Section Showing Shallow Deposits at the Site and its Surroundings

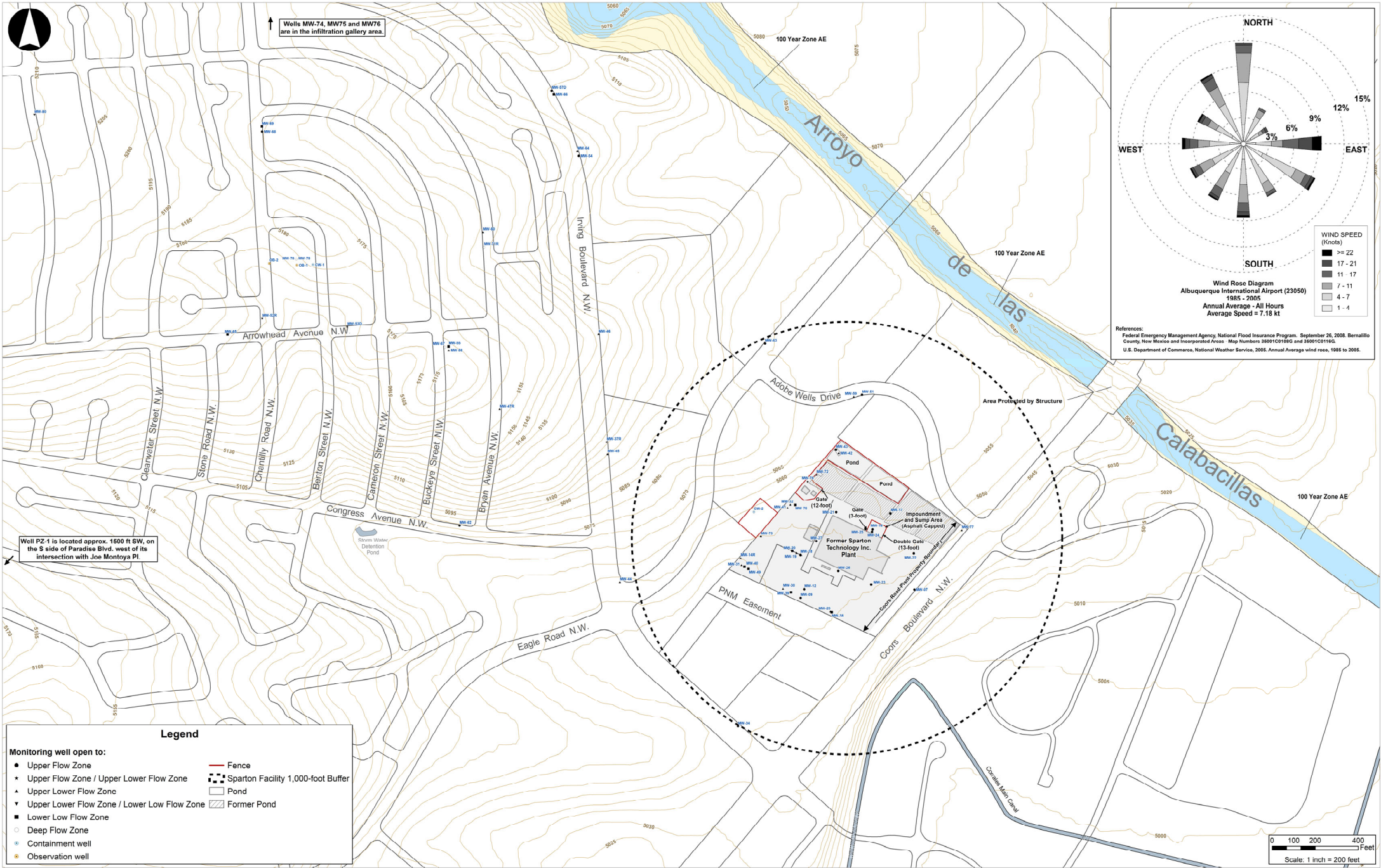


Figure 4. Topographic Map of the Site with 100-Year Floodplain and Monitoring Well Locations

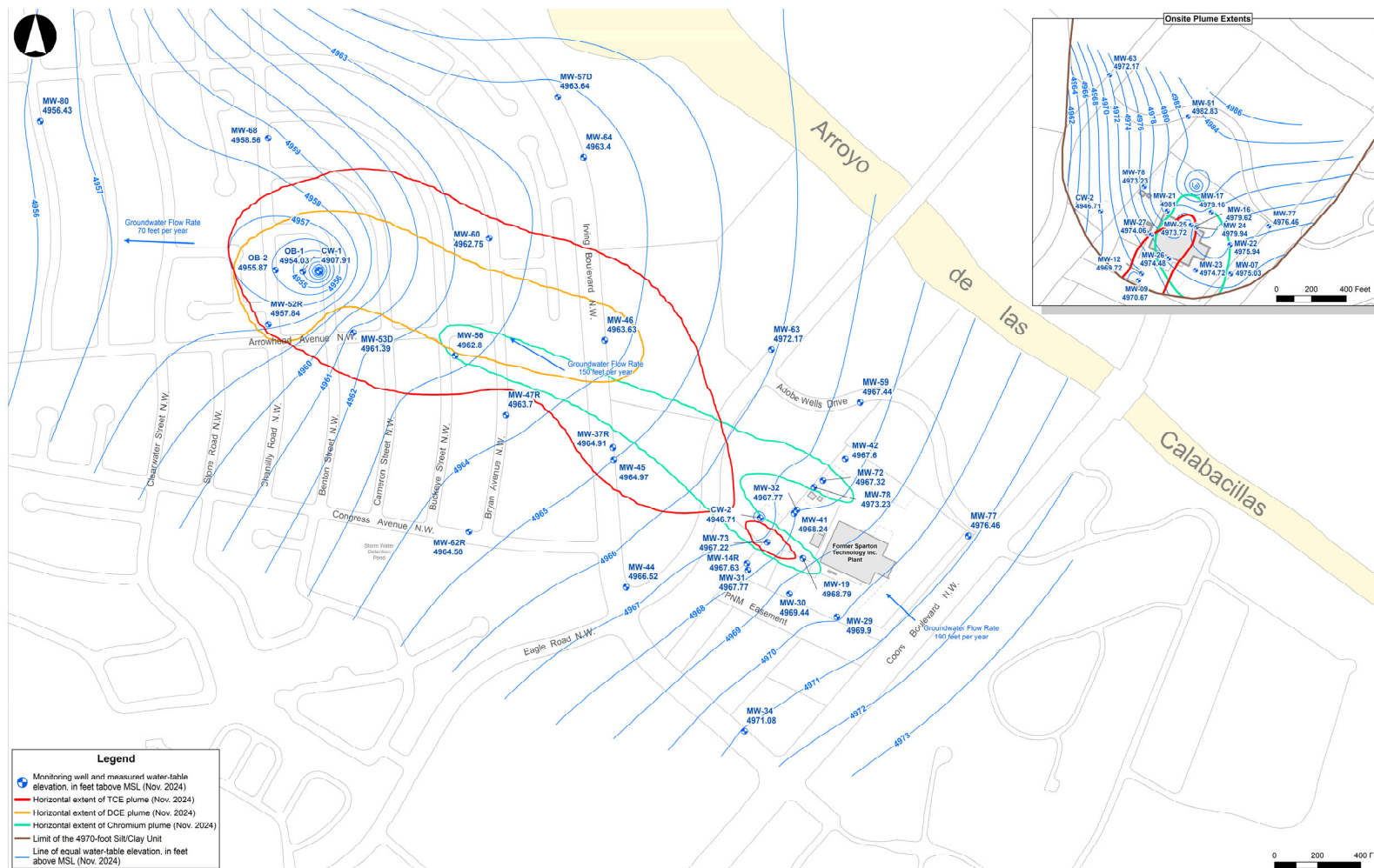


Figure 5. Plume Hydrology Map of the Site and its Surroundings





Figure 7. Land Use Map of the Site and its Surroundings

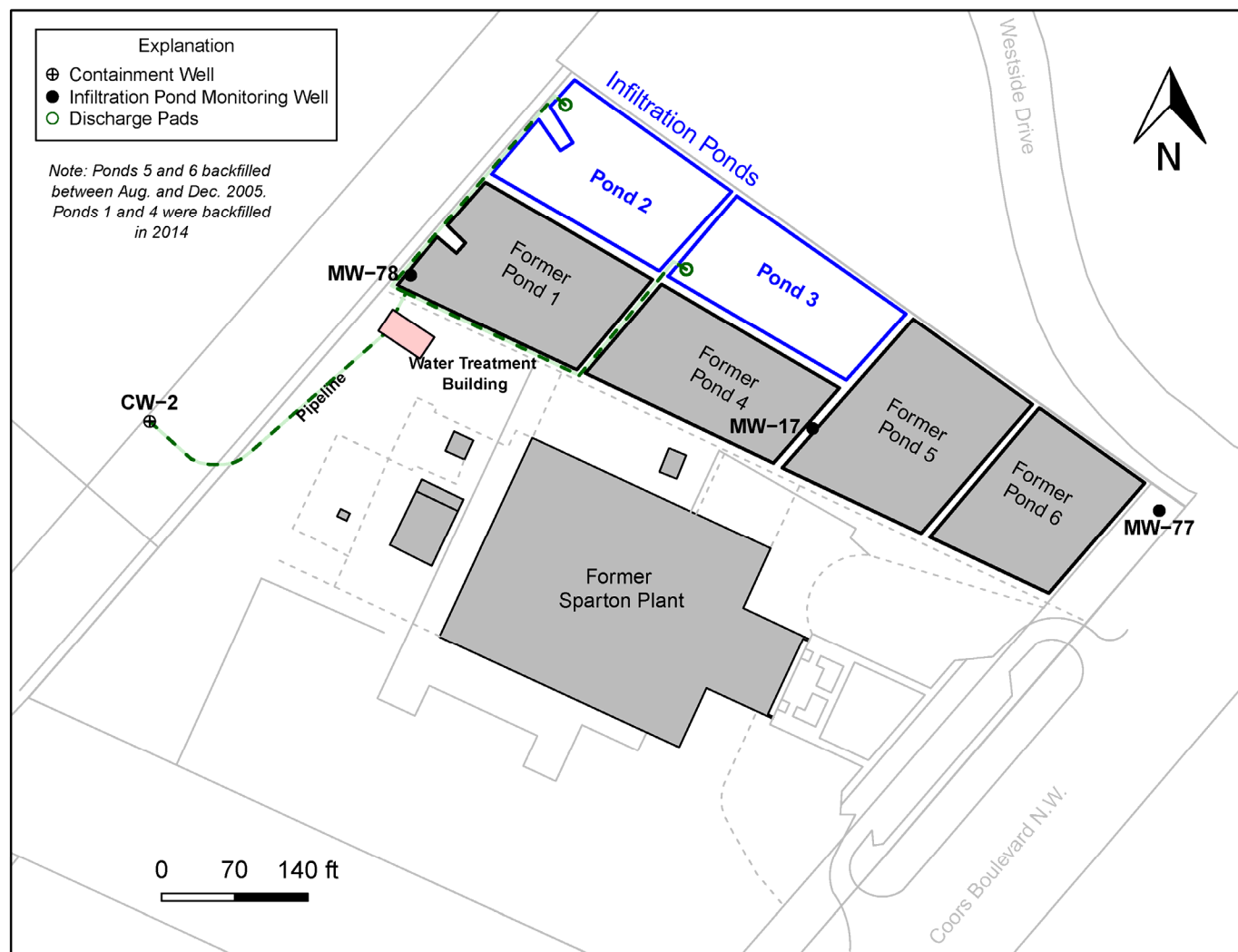


Figure 8. Layout of the Source Containment System Components

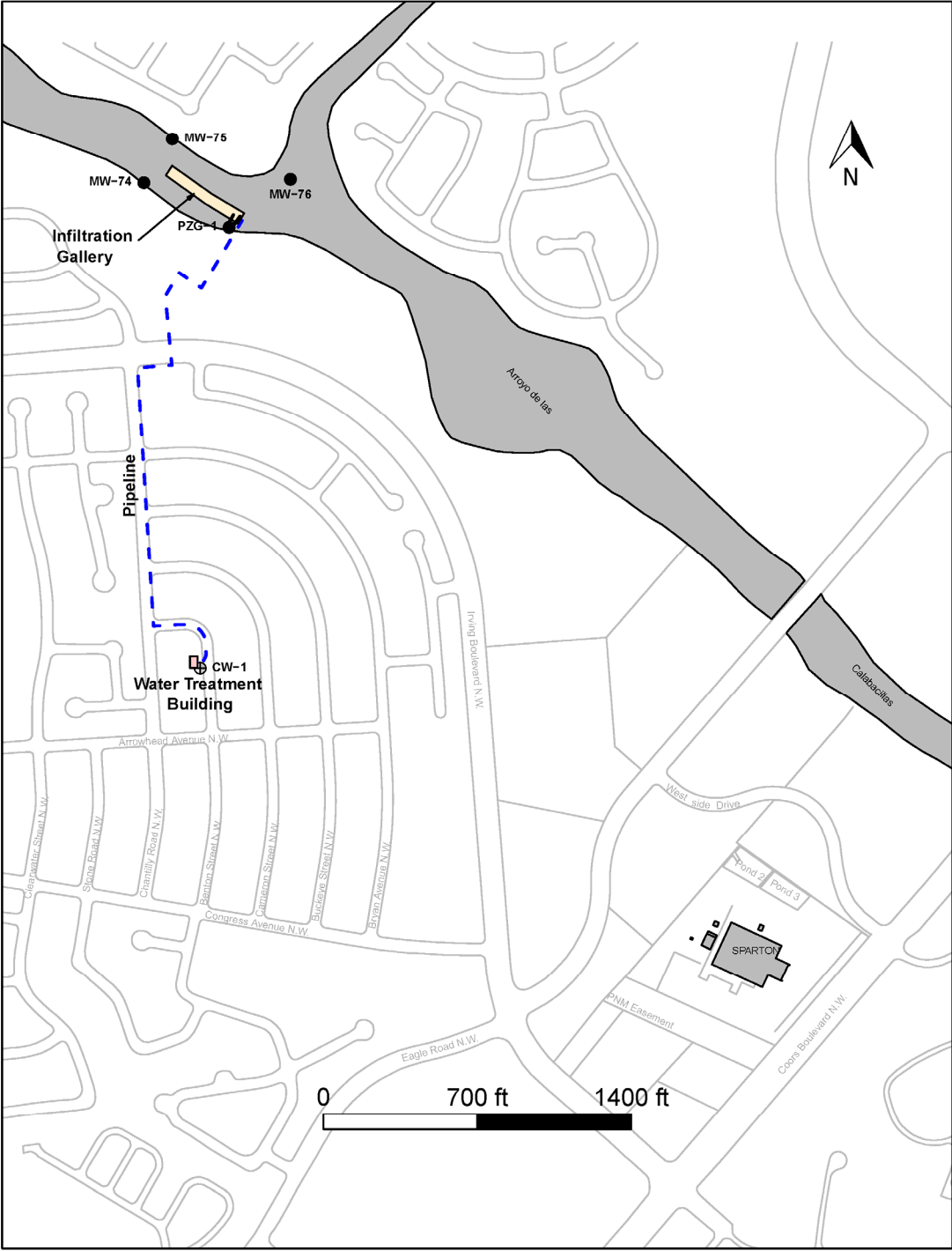


Figure 9. Layout of the Off-Site Containment System Components