UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUL 29 2004

4WD-RCRA

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. David Denner, Chief Executive Officer
Coronet Industries, Incorporated
4082 Coronet Road
Plant City, Florida 33566

SUBJ: Coronet Industries Incorporated
Plant City, Florida
EPA ID FLR 000 011 080
Administrative Order on Consent Under Section 3013 of RCRA
Docket No.: RCRA-04-2004-4250

Dear Mr. Denner:

Enclosed is a copy of the executed above referenced Order on Consent. EPA signed the Order on July 28, 2004, and as agreed, it became effective on that date. If you have any questions or comments, please contact Javier García of my staff, at (404) 562-8616, or me (404) 562-8569.

Sincerely yours,

Jeffrey T. Pallas, Chief
South Section
RCRA Enforcement and
Compliance Branch
Waste Management Division

Enclosure

cc: Tim Webster, Sidley Austin Brown & Wood
Steven Baer, DOJ
Bill Kutash, FDEP
Mita Gosh, EPA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4

IN THE MATTER OF:	)	ADMINISTRATIVE ORDER ON CONSENT
	)	
Coronet Industries, Inc.,	)	
4082 Coronet Road	)	
Plant City, Florida 33566	)	Docket No: RCRA-04-2004-4250
	)	
RESPONDENT	)	
	)	Proceeding under Section 3013(a) of the Resource Conservation and Recovery Act, as amended, 42 U.S.C. § 6934(a)
	)	
EPA ID No. FLR000011080	)	

RCRA SECTION 3013(a) ADMINISTRATIVE ORDER ON CONSENT

TABLE OF CONTENTS

I. Jurisdiction 1

II. Parties Bound 2

III. Statement of Purpose 2

IV. Findings of Fact 3

V. Determinations and Conclusions of Law 5

VI. Order 7

VII. Additional Work 7

VIII. Minimum Qualifications for Personnel 7

IX. Submissions/EPA Review 8

X. Quality Assurance/Quality Control 10

XI. Project Coordinator 11

XII. Sampling and Data/Document Availability 11

XIII. Access 12

XIV. Record Preservation 12

XV. Information Submitted to EPA 13

XVI. Delay in Performance/Stipulated Penalties 13

XVII. Dispute Resolution 15

XVIII. Force Majeure 15

XIX. Reservation of Rights 16

XX. Other Applicable Laws 17

XXI. Other Claims 17

XXII. Subsequent Modification of Order 18

XXIII. Severability 18

XXIV. Termination and Satisfaction 19

XXV. Survivability/Integration 19

XXVI. Attorneys' Fees and Costs 19

XXVII. Effective Date 19

Certificate of Service 21

RCRA SECTION 3013(a) ADMINISTRATIVE ORDER ON CONSENT

I. JURISDICTION

1. This Consent Order is issued pursuant to the authority vested in the Administrator of the Environmental Protection Agency ("EPA" or "Agency") by Section 3013(a) of the Resource Conservation and Recovery Act, ("RCRA" or "the Act"), as amended, 42 U.S.C. § 6934(a). The authority to enter into this Consent Order has been duly delegated to the Director of the Waste Management Division, EPA Region 4.

2. This Consent Order is issued to Coronet Industries, Inc., ("Coronet" or "Respondent"), a corporation doing business in the State of Florida. Coronet is the current owner of a former animal feed additive production facility and associated property located at 4082 Coronet Road, Plant City, Hillsborough County. The property is located at 27° 59' 17" North latitude, and 82° 04' 54" West longitude. For purposes of this Consent Order, the area described above and delineated on Attachment 1 will be referred to as the "Facility."

3. Without admitting to any Findings of Fact, Conclusions of Law, or Determinations, Respondent consents and agrees not to contest EPA's authority to issue this Consent Order and to enforce its terms. Further, Respondent will not contest EPA's authority to: compel compliance with this Consent Order in any subsequent enforcement proceedings; require Respondent's full or interim compliance with the terms of this Consent Order; or impose sanctions for violations of this Consent Order; provided, however, that Respondent retains any and all rights it may have to dispute the merits of any such claims.

4. Respondent does not waive its right to contest EPA's assertion of jurisdiction over any other matter concerning the Facility, including, but not limited to, EPA's authority to issue any other order to it under RCRA in the future. EPA and Respondent agree that by entering into this Consent Order, Respondent does not admit any liability arising out of, or, Findings of Fact, Conclusions of Law, and Determinations related to, the acts or omissions alleged in this Consent Order. EPA agrees that Respondent is not required under this Consent Order to perform any corrective action, remediation, removal or other cleanup activities to address any hazardous waste, hazardous constituents or releases of the same at the Facility, including but not limited to releases of hazardous constituents that may be identified as a result of the sampling activities required by this Consent Order.

5. This Consent Order is based upon the administrative record compiled by EPA and incorporated herein by reference. The record is available for review by the Respondent and the public at EPA's Regional Office at 61 Forsyth Street, S.W., Atlanta, GA 30303.

6. The State of Florida's RCRA program is authorized under 3006(b) of RCRA, 42 U.S.C. § 6926(b). The requirements of the authorized State program are found in Fla. Stat. § 403.701 et seq. and Florida Administrative Code (FAC) R. 62-730. Although EPA has granted the State authority to enforce its own hazardous waste program, EPA retains its authority under Section 3013(a) of the Act. The Florida Department of Environmental Protection ("FDEP") has

been provided an opportunity to review and comment upon the Phase 1 Site Assessment Work Plan ("Work Plan") attached hereto as Attachment 2 and agrees with the work required therein; however, FDEP is not a party hereto.

II. PARTIES BOUND

1. The provisions of this Consent Order shall apply to and be binding upon Respondent and its officers, directors, employees, agents, contractors, successors, and assigns.

2. No change in ownership, corporate, or partnership status relating to the Facility described in this Consent Order will in any way alter the status or responsibility of Respondent under this Consent Order. Any conveyance by Respondent of title, easement, or other interest in the Facility described herein, or a portion of such interest after the effective date of this Consent Order shall not affect Respondent's obligations under this Consent Order. Respondent shall be responsible and liable for any failure to carry out all activities required of Respondent by this Consent Order, irrespective of its use of employees, agents, contractors, or consultants to perform any such tasks.

3. Respondent shall provide a copy of this Consent Order to the contractors, subcontractors, laboratories, and consultants retained by Respondent to conduct or monitor any portion of the work performed pursuant to this Consent Order within fourteen (14) calendar days of the effective date of this Consent Order, or from such retention, if the retention occurs following the effective date of this Consent Order. Respondent shall condition all such contracts on compliance with the terms of this Consent Order.

4. Any documents transferring ownership and/or operations of the Facility from Respondent to a successor-in-interest after the effective date of this Consent Order shall include written notice of this Consent Order. In addition, Respondent shall, no less than thirty (30) days prior to transfer of ownership or operation of the Facility, provide written notice of this Consent Order to its successor-in-interest, and written notice of said transfer of ownership and/or operation to EPA.

III. STATEMENT OF PURPOSE

In entering into this Order, the mutual objectives of EPA and Respondent are the protection of human health and the environment through Respondent's implementation of sampling, analysis, monitoring and reporting at the Facility, and the resolution of this matter through settlement. In meeting these objectives, Respondent shall perform the first phase of a phased site assessment pursuant to the Work Plan to determine the nature and extent of any release of hazardous waste and/or hazardous constituents to the environment at or from the Facility.

IV. FINDINGS OF FACT

1. Historical operations at the Facility included phosphate rock mining, starting in approximately 1906 and continuing until approximately 1940. Production of Coronet Defluorinated Phosphate ("CDP"), a nutritional supplement for animal feed, began in approximately 1946. Production of potassium fluoroborate ("KBF4"), which is used in the aluminum alloy and electronics industries, was added in approximately the 1980s. Respondent purchased the Site in 1993 and produced CDP and KBF4 at the Facility until approximately March 2004, when production operations ceased. The following summarizes the manufacturing process during Respondent's period of ownership.

a. CDP was manufactured using phosphate rock, merchant grade phosphoric acid (54 percent phosphorus pentoxide), and caustic (sodium hydroxide) and involved three primary steps: feed preparation, thermal defluorination, and product milling. Feed preparation involved preparing a mixed and dried phosphate rock using pug mills, a rotary dryer, screens, and a cage mill. The mixing, screening, and milling produces a uniformly sized feed (green feed). The green feed was defluorinated by heating to a temperature of approximately 2,700 degrees Fahrenheit for about one hour in rotary kilns or, formerly, fluid bed reactors. Defluorinated CDP was then cooled and blended before transfer to a series of milling equipment. The milled CDP product was conveyed to storage silos and bins and subsequently loaded into trucks and railcars for distribution.

b. KBF4 production was accomplished through a series of chemical reactions, using the hydrofluoric acid generated in the spray towers at the defluorinating kilns. The initial production step involved reacting potassium chloride (potash) with the hydrofluoric acid in a clarifier to produce a potassium fluoride solution. Sodium tetraborate pentahydrate (borax) was then introduced, resulting in the formation of KBF4. The KBF4 slurry was pumped to a holding tank and then dried and packaged for distribution.

c. Process water (including rinse and wash water) generated in the manufacturing areas during production and contact stormwater were managed in two ponds designated as Pond 6 and Pond 1. Process water and stormwater from the main plant area were routed to a common ditch, which connects to Pond 6. Process water underwent single-stage liming and was clarified. From Pond 6, water flows by gravity to Pond 1 from which it was re-circulated back to the plant and used as process water, including use in the spray towers and scrubbers associated with the defluorinating process and hydrofluoric acid production. During periods of severe rainfall, excess water entering the process loop could be directed to a series of holding ponds (Pond 2, 2A, 3, 4, 4A, 5, and 8) by pumping or through a series of spillways. These ponds also serve as stormwater retention ponds for various areas outside of the plant area, including the stormwater from the adjacent golf course. All the ponds and ditches at the Facility are unlined and earthen. In addition, elevated earthen berms form the perimeter of the ponds.

d. The Facility discharges wastewater pursuant to an Industrial Wastewater Facility Permit (FL0034657) (the "IW Permit") and the FDEP Immediate Final Order ("IFO") (FDEP Docket Number 99-2030A) dated May 11, 2004, agreed to by Coronet. The IW Permit

also constitutes the Facility's NPDES permit. The terms and conditions of the IFO relate to water discharges from the ponds described above, berm stability, waste assessment, site security, and other requirements.

e. During heavy rain events, the ponds have historically been prone to overflow conditions and the earthen berms surrounding the ponds are subject to instability and leakage which threaten water quality in the area. Discharges from the Facility flow into English Creek, which flows into the Alafia River and ultimately into Tampa Bay. These waterways contain a variety of aquatic life.

3. During its operation, Coronet generated, treated, stored or disposed of material that exhibited the characteristic(s) of hazardous waste and which was managed in various locations around the Facility.

4. In April 1999, Coronet reported to FDEP that it discovered a spill of hydrofluoric acid. The investigation conducted in response to the spill indicated that the groundwater at the Facility had been impacted. The sampling results are as follows:

Compound	**Detected Maximum**
Arsenic	6.575 mg/L
Cadmium	3.057 mg/L
Chromium	5.538 mg/L
Lead	0.164 mg/L
Fluoride	12325 mg/L
pH	1.64 units
Total Recoverable Petroleum Hydrocarbons	559 mg/L

Where applicable, the MCLs are as follows:

Compound	**MCLs**
Arsenic	0.050 mg/L
Cadmium	0.005 mg/L
Chromium	0.1 mg/L
Lead	0.015 mg/L

Fluoride	2 mg/L
pH	6.5 -8.5 (range)
Total Recoverable Petroleum Hydrocarbons	5 mg/L

5. FDEP conducted a RCRA Inspection at Coronet on July 23, 2003. FDEP has identified several process waste water streams that Coronet was managing in unlined ditches and ponds. Because of concerns regarding the potential effect of heavy rains on wastewater flows off the Coronet site, FDEP utilized its state emergency authority on August 27, 2003, to issue a prior Immediate Final Order to Coronet.

6. On November 12-14, 2003, EPA and FDEP conducted a RCRA Case Development Inspection (CDI). During the CDI, EPA collected twenty-eight samples. In January 2004, EPA re-visited Coronet and collected additional samples. The sample results are as follows: the Toxicity Characteristic (TC) regulatory level for cadmium (Cd) is 1.0 mg/L (D006) using the Toxic Characteristic Leaching Procedure (TCLP), the results of several samples for cadmium ranged from 2.2 mg/L to 47 mg/L. The TC regulatory level for arsenic (As) is 5.0 mg/L (D004), the results for four of the liquid waste samples for arsenic ranged from 5.4 mg/L to 24 mg/L, TC regulatory level for chromium (Cr) is 5.0 mg/L (D007), the results of four (4) samples for chromium, ranged from 8.2 mg/L to 22 mg/L.

7. Also in November 2003, EPA collected a groundwater sample from a monitoring well in the HF acid spill area. According to the laboratory results, the groundwater had a concentration of cadmium of 5.9 mg/L.

V. DETERMINATIONS AND CONCLUSIONS OF LAW

1. Respondent's Facility is a "facility or site" within the meaning of Section 3013(a) of RCRA, 42 U.S.C. § 6934(a).

2. Respondent is a "person" as defined in Section 1004(15) of RCRA, 42 U.S.C. § 6903(15).

3. Respondent is an "owner" and "operator" of the Facility within the meaning of Section 3013(a) of RCRA, 42 U.S.C. § 6934(a).

4. Section 1004(27) of RCRA, 42 U.S.C. § 6905(27) defines the term "solid waste" to mean "any garbage, refuse . . . and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations . . ."

5. Section 1004(5) of RCRA, 42 U.S.C. § 6903(5), defines the term "hazardous waste" to mean:

> a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may-
>
> > (A) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
> >
> > (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

6. Section 1004(6) of RCRA, 42 U.S.C. § 6903(6), defines the term "generation," when used in connection with hazardous waste, to mean "the act or process of producing hazardous waste."

7. Section 1004(34) of RCRA, 42 U.S.C. § 6903(34), defines the term "treatment," when used in connection with hazardous waste, to mean, "any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, amenable for recovery, amenable for storage, or reduced in volume. Such term includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it nonhazardous."

8. Section 1004(33) of RCRA, 42 U.S.C. § 6903(33), defines the term "storage," when used in connection with hazardous waste, to mean "the containment of hazardous waste, either on a temporary basis or for a period of years, in such manner as not to constitute disposal of such hazardous waste."

9. Section 1004(3) of RCRA, 42 U.S.C. § 6903(3), defines the term "disposal" to mean, "the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters."

10. Based on the foregoing Findings of Fact, and pursuant to Section 3013(a) of RCRA, 42 U.S.C. § 6934(a), EPA has hereby determined that the Facility, owned and operated by Coronet, is a facility at which hazardous wastes are present and at which hazardous wastes have been generated, treated, stored or disposed.

11. Based on the foregoing Findings of Fact, and pursuant to Section 3013(a) of RCRA, 42 U.S.C. § 6934(a), EPA has hereby determined that there may be a substantial hazard to human health or the environment due to the presence of hazardous wastes and constituents and potential releases of hazardous wastes and constituents from the Facility.

VI. ORDER

1. Based on the Findings of Fact and Determinations and Conclusions of Law set forth above, Respondent consents to and is hereby ordered, pursuant to Section 3013(a) of RCRA, 42 U.S.C. § 6934(a), to implement the Work Plan, which is incorporated herein by reference, in the manner and by the dates specified in the Work Plan.

2. EPA acknowledges that Respondent has initiated some of the tasks required by the Work Plan and/or that Respondent may have available some of the information and data required by this Consent Order. This previous work may be used to meet the requirements of this Consent Order, upon submission to and approval by EPA.

VII. ADDITIONAL WORK

Based on work performed under the Work Plan described above, EPA may determine that additional monitoring, testing, analysis, and/or reporting is necessary on-site to fill in potential data gaps based on data generated pursuant to the Work Plan (hereinafter, "Additional Work"). This Additional Work will not expand the scope of the work to be performed in the Work Plan. If EPA determines that such Additional Work is necessary, EPA will notify Respondent in writing and specify the basis for its determination that Additional Work is necessary. Within fifteen (15) days after the receipt of such determination, Respondent shall have the opportunity to meet or confer with EPA to discuss the Additional Work. If required by EPA, Respondent shall submit for EPA approval an amendment to the Work Plan for the Additional Work. EPA will specify the contents of such amendment. Such amendment shall be submitted by Respondent within thirty (30) days of receipt of EPA's determination that Additional Work is necessary, or according to an alternative schedule established by EPA.

VIII. MINIMUM QUALIFICATIONS FOR PERSONNEL

All work performed by the Respondent pursuant to this Consent Order shall be under the direction and supervision of an individual who has demonstrated expertise in hazardous waste site investigation. Environmental Strategies Consulting LLC has been selected to serve as supervising contractor for implementation of the Work Plan. In the event that Respondent adds or substitutes additional personnel and/or contractors, it shall within fourteen (14) days submit to EPA, in writing, the name, title, and qualifications of such personnel and/or contractors to be used in carrying out the terms of this Consent Order. Additionally, the Respondent shall ensure that when a license is required, only licensed individuals shall be used to perform any work required by this Consent Order.

IX. EPA REVIEW OF SUBMISSIONS

1. EPA will provide Respondent with its written approval, approval with conditions and/or modifications, disapproval or disapproval with comments regarding any proposed Work Plan amendments and any other documents submitted pursuant to or required by this Consent Order. EPA will provide a written statement of reasons for any approval with conditions and/or modifications, disapproval or disapproval with comments.

2. Except as provided in Section XVII (Dispute Resolution) and Section XVIII (Force Majeure), Respondent shall revise any Work Plan amendments or any other documents submitted pursuant to or required by this Consent Order in accordance with EPA's written comments within thirty (30) calendar days of Respondent's receipt of EPA's written comments unless EPA has specified a reasonable alternative due date, in which case Respondent shall submit to EPA such revision in accordance with the due date specified by EPA. Revised submittals are subject to EPA approval, approval with conditions and/or modifications, disapproval or disapproval with comments. Any EPA-approved Work Plan amendment shall be deemed incorporated into this Consent Order.

3. Following Respondent's receipt of EPA's written approval, Respondent shall commence work and implement any approved Work Plan amendment in accordance with the schedule and provisions contained therein. In the event that no schedule is contained in an approved Work Plan amendment, then Respondent shall commence work and implementation of the Work Plan amendment within thirty (30) calendar days of receipt of EPA's written approval of the Work Plan amendment.

4. Unless otherwise specified, reports, correspondence, approvals, disapprovals, notices, or other submissions relating to or required under this Consent Order shall be in writing and shall be sent as follows:

a. Four (4) copies of all documents to be submitted to EPA, unless otherwise provided in the Work Plan or agreed to by EPA, shall be sent to:

Jeffrey T. Pallas, Chief
South Enforcement and Compliance Branch
Waste Management Division
United States Environmental Protection Agency
Atlanta Federal Center
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
Phone: 404-562-8569
Fax: 404562-8566
Email: pallas.jeff@epa.gov

b. One (1) copy of all documents to be submitted to EPA shall also be sent to:

William Kutash
Administrator, Waste Program
Department of Environmental Protection
Southwest District Office
3804 Coconut Palm Drive
Tampa, FL 33619
Phone: (813) 744-6100, x 353
Fax: (813) 744-6125
Email: William.kutash@dep.state.fl.us

c. Documents to be submitted to Respondent shall be sent to:

David K. Denner
Chief Executive Officer
Coronet Industries, Inc.
Phone: (813) 719-7204
Fax:(813) 754-8558
Email: corininc@yahoo.com

For Regular Mail:
P.O. Box 760
Plant City, FL 33564

For Overnight Express:
4082 Coronet Road
Plant City, Florida 33566

d. Changes in the recipient information set forth above shall be provided to the other recipients in writing.

5. Any notice, report, certification, data presentation, or other document submitted by Respondent pursuant to this Consent Order which discusses, describes, demonstrates, or supports any finding or makes any representation concerning Respondent's compliance or noncompliance with any requirement of this Consent Order shall be certified by Respondent's Chief Executive Officer or by a "duly authorized representative" of Respondent as provided herein. A person is a "duly authorized representative" only if: (a) the authorization is made in writing; (b) the authorization specifies either an individual or position having responsibility for overall operation of the regulated facility or activity (a duly authorized representative may thus be either a named individual or any individual occupying a named position); and (c) a copy of the written authorization is submitted to the Project Coordinator designated by EPA pursuant to Section XI (Project Coordinator) of this Consent Order.

6. The certification required by Paragraph 5 above, shall be in the following form:

"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 be 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 fine and imprisonment for knowing violations."

Signature : _____

Name: _____

Title: _____

X. QUALITY ASSURANCE/QUALITY CONTROL

1. Respondent shall follow EPA guidance for sampling and analysis. The Work Plan contains quality assurance/quality control (QA/QC) and chain of custody procedures for all sampling, monitoring, and analytical activities. Any deviations from the QA/QC and chain of custody procedures in the Work Plan must be approved by EPA prior to implementation to the extent such advance approval is feasible; must be documented, including reasons for the deviations; and must be reported in the applicable report.

2. The contact persons, names, addresses, and telephone numbers of the analytical laboratories Respondent intends to use are specified in the Work Plan.

3. The Work Plan required under this Consent Order includes data quality objectives for each data collection activity to ensure that data of known and appropriate quality are obtained and that data are sufficient to support their intended use(s).

4. Respondent shall monitor to ensure that high quality data is obtained by its consultant or contract laboratories. Respondent shall ensure that laboratories used by Respondent for analysis perform such analysis according to the latest approved edition of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846, as amended), or other methods deemed satisfactory to EPA. If methods other than EPA methods are to be used, Respondent shall specify and submit all such protocols for EPA approval in a Work Plan amendment. EPA may reject any data that does not meet the requirements of the approved Work Plan or EPA analytical methods and may require resampling and additional analysis.

5. Respondent shall ensure that laboratories it uses for analyses participate in a QA/QC program equivalent to that which is followed by EPA. EPA may conduct a performance and QA/QC audit of the laboratories chosen by Respondent before, during, or after sample analyses.

Upon request by EPA, Respondent shall have its laboratory perform analyses of samples provided by EPA to demonstrate laboratory performance. If the audit reveals deficiencies in a laboratory's performance or QA/QC, resampling and additional analysis may be required.

XI. PROJECT COORDINATOR

1. EPA hereby designates as its Project Coordinator:

Javier E. Garcia, Enforcement Engineer
South Section, RCRA Enforcement and Compliance Branch
U.S. Environmental Protection Agency
Region 4
61 Forsyth Street
Atlanta, Georgia 30303
Phone: 404-562-8616
Fax: 404-562-8566
Email: garcia.javier@epa.gov

2. Respondent hereby designates as its Project Coordinator:

Jim Bulman
Environmental Strategies Consulting LLC
11911 Freedom Drive
Reston, VA 20190
Phone: (703) 709-6500
Fax: (703) 318-3972
Email: jbulman@escva.com

3. Each Project Coordinator shall, on behalf of the party that designated the Project Coordinator, oversee the implementation of this Consent Order and function as the principal project contact.

4. Respondent shall provide EPA with a written notice of any change in its Project Coordinator. Such notice shall be provided at least seven (7) calendar days prior to the change in Project Coordinator. EPA shall provide Respondent with written notice of any change in its Project Coordinator in a timely manner.

XII. SAMPLING AND DATA/DOCUMENT AVAILABILITY

1. Respondent shall submit to EPA the results of all sampling and/or tests or other data generated by, or on behalf of, Respondent pursuant to the requirements of this Consent Order and the Work Plan.

2. Respondent shall notify EPA, in writing, at least ten (10) calendar days in advance of engaging in any field activities at the Facility conducted pursuant to this Consent Order, with the

exception of activities for which notice had already been given by the time of the effective date of this Consent Order or for which work has been commenced or completed and approved by EPA. At the request of EPA, Respondent shall provide or allow EPA or its authorized representatives to take split and/or duplicate samples of all samples collected by Respondent pursuant to this Consent Order. Similarly, at the request of Respondent, EPA will allow Respondent or its authorized representatives to take split and/or duplicate samples of any samples collected by EPA under this Consent Order, provided that such sampling shall not unreasonably delay EPA's proposed sampling activities. Nothing in this Consent Order shall limit or otherwise affect EPA's authority to collect samples pursuant to applicable law, including, but not limited to, RCRA and CERCLA.

XIII. ACCESS

1. Respondent shall provide access at all reasonable times to the Facility and to all non-privileged records and documentation generated pursuant to, or related to the implementation of, this Consent Order to EPA and its employees, contractors, agents, consultants, and representatives. These individuals shall be permitted to move freely at the Facility in order to conduct activities which EPA determines to be necessary, consistent with this Consent Order, provided that Respondent has a reasonable opportunity to accompany such individuals.

2. Nothing in this Consent Order limits or otherwise affects EPA's right of access to documents and entry pursuant to applicable law.

XIV. RECORD PRESERVATION

1. Respondent shall retain, during the pendency of this Consent Order and for a minimum of five (5) years after its termination, a copy of all records and documentation generated pursuant to, or related to the implementation of, this Consent Order now in its possession or control, or in the possession of control of its contractors, subcontractors, representatives, or which come into the possession of control of the Respondent, its contractors, subcontractors, or representatives pursuant to this Consent Order. Respondent shall notify EPA, in writing, at least ninety (90) days in advance of the destruction of any such records, and shall provide EPA with the opportunity to take possession of any such records. Such written notification shall reference the caption, docket number and date of issuance of this Consent Order and shall be addressed to:

Jeffrey T. Pallas, Chief
South Enforcement and Compliance Section
Enforcement and Compliance Branch
U.S. Environmental Protection Agency
Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

Additionally, Respondent shall provide data, records and documents retained under this Section at any time before the expiration of the five (5) year period at the written request of EPA.

2. Nothing in this Consent Order limits or otherwise affects Respondent's obligation to preserve records and documentation pursuant to applicable law.

XV. INFORMATION SUBMITTED TO EPA

1. Respondent may assert a business confidentiality claim in the manner described in 40 C.F.R. § 2.203(b) covering all or part of any information submitted to EPA pursuant to this Consent Order. All submissions of documents must comply with applicable regulations including, but not limited to, 40 C.F.R. Part 2, Subpart B. Information submitted for which Respondent has asserted a claim of confidentiality as specified above shall be disclosed by EPA only to the extent and in a manner permitted by 40 C.F.R. Part 2, Subpart B. If no such confidentiality claim accompanies the information when it is submitted to EPA, the information may be made available to the public by EPA without further notice to the Respondent. Respondent agrees not to assert any confidentiality claim with respect to any physical, sampling, monitoring, or analytical data.

2. In the event that Respondent wishes to assert a privilege with regard to any document which EPA seeks to inspect or copy pursuant to this Consent Order, Respondent shall identify the document, the privilege claimed and the basis therefor in writing. For the purposes of this Consent Order, privileged documents are those documents exempt from discovery from the United States in litigation under the Federal Rules of Civil Procedure and/or any applicable case law. EPA may dispute any such claim of privilege pursuant to the dispute resolution provisions set forth in Section XVII (Dispute Resolution).

XVI. DELAY IN PERFORMANCE/STIPULATED PENALTIES

1. Unless there has been a written modification of a compliance date by EPA, or excusable delay as defined below in Section XVIII (Force Majeure), in the event that Respondent fails to comply with any requirement set forth in this Consent Order, Respondent shall pay stipulated penalties, as set forth below, upon receipt of written demand by EPA.

2. Compliance by Respondent shall include timely commencement or completion of any activity, plan, study or report required by this Consent Order and Work Plan, and in the manner required by this Consent Order and Work Plan. Stipulated penalties shall accrue as follows:

a. For any failure to commence, perform or complete work as prescribed in this Consent Order: $1,500 per day for one to seven days or part thereof of noncompliance, and $2,000 per day for each day of noncompliance, or part thereof, thereafter;

b. For any failure to submit any draft or final work plans, plans, or reports as required by this Consent Order: $1,500 per day for one to seven days or part thereof of

noncompliance, and $2,000 per day for each day of noncompliance, or part thereof, thereafter; and

c. For any failure to submit other deliverables as required by this Consent Order: $1,000 per day for one to seven days or part thereof of noncompliance, and $2,000 per day for each day of noncompliance, or part thereof, thereafter.

d. All stipulated penalties shall begin to accrue on the date that complete performance is due or a violation occurs, and shall continue to accrue through the final day of or correction of the violation. Nothing herein shall prevent the simultaneous accrual of separate stipulated penalties for separate violations of this Consent Order.

3. All stipulated penalties owed to EPA under this section shall be due within thirty (30) calendar days of receipt of a demand for payment, unless Respondent invokes the dispute resolution procedures under Section XVII (Dispute Resolution). Such demand for payment shall describe the noncompliance and shall indicate the amount of stipulated penalties due. EPA may, in its unreviewable discretion, waive the payment of stipulated penalties.

4. All stipulated penalty payments shall be made by certified or cashier's check payable to the Treasurer of the United States of America and shall be remitted to:

Regional Hearing Clerk
U.S. Environmental Protection Agency
Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

All payments shall reference the Respondent's name and address, and the EPA Docket Number of this Consent Order. Copies of the transmittal of payment shall be sent simultaneously to the EPA Project Coordinator and the Regional Hearing Clerk.

5. Respondent may dispute EPA's demand for payment of stipulated penalties for any alleged violation of this Consent Order by invoking the dispute resolution procedures below under Section XVII (Dispute Resolution). Stipulated penalties shall continue to accrue, but are not required to be paid, for any alleged noncompliance which is the subject of dispute resolution during the period of such dispute resolution. To the extent that Respondent does not prevail upon resolution of the dispute, Respondent shall remit to EPA within twenty-one (21) calendar days of receipt of EPA's written decision as to said dispute, any outstanding penalty payment in the manner described above in Paragraph 4 of this Section.

6. Neither the filing of a petition to resolve a dispute nor the payment of stipulated penalties shall alter in any way Respondent's obligation to comply with the requirements of this Consent Order.

7. The assessment of stipulated penalties set forth in this Section shall not preclude EPA from pursuing any other remedies or sanctions which may be available to EPA by reason of Respondent's failure to comply with any of the requirements of this Consent Order. If, however, EPA collects a stipulated penalty under this Consent Order and subsequently seeks and is awarded a monetary penalty pursuant to a statutory claim for penalties for the same act (s) or omission(s), Coronet shall receive a credit against the penalty for the amount of the stipulated penalty already paid by Coronet for the act or omission.

XVII. DISPUTE RESOLUTION

1. If a dispute arises under this Consent Order, the procedures of this Section shall apply. The Parties shall make reasonable efforts to informally resolve disputes at the Project Coordinator or immediate supervisor level.

2. If Respondent disagrees, in whole or in part, with any EPA disapproval, modification or other decision or directive made by EPA pursuant to this Consent Order, including Additional Work, Respondent shall notify EPA in writing of its objections, and the basis therefor, within twenty-one (21) calendar days of receipt of EPA's disapproval, decision or directive. Such notice shall set forth the specific points of the dispute, the position which Respondent asserts should be adopted as consistent with the requirements of this Consent Order, the basis for Respondent's position, and any matters which it considers necessary for EPA's determination. EPA and Respondent shall have an additional twenty-one (21) calendar days from the receipt by EPA of the notification of objection, during which time representatives of EPA and Respondent may confer in person or by telephone to resolve any disagreement. If an agreement is reached, the resolution shall be written and signed by an authorized representative of each party. In the event that resolution is not reached within twenty-one (21) days, EPA will furnish to Respondent, in writing, its decision on the pending dispute. Said written decision shall state the basis and rationale for the decision. The time periods specified herein may be extended pursuant to mutual written agreement of EPA and Respondent.

3. Except as provided above, the existence of a dispute, as defined in this section, and EPA's consideration of matters placed into dispute, shall not excuse, toll or suspend any other compliance obligation or deadline required pursuant to this Consent Order during the pendency of the dispute resolution process.

XVIII. FORCE MAJEURE

1. Respondent shall perform the requirements of this Consent Order in the manner and within the time limits set forth herein, unless the performance is prevented or delayed by events which constitute a *force majeure*. Respondent shall have the burden of proving such a *force majeure*. A *force majeure* is defined as any event arising from causes not reasonably foreseeable and beyond the control of Respondent, which cannot be overcome by due diligence and which delays or prevents performance in the manner or by a date required by this Consent Order. Such events do not include: increased costs of performance; changed economic circumstances; failure to obtain federal, state or local permits; reasonably foreseeable weather conditions unless such

weather conditions prevent implementation of the field activities required under the Work Plan and/or render such activities unsafe; or weather conditions which could have been overcome by due diligence.

2. Respondent shall notify EPA, in writing, within ten (10) calendar days after it becomes or should have become aware of any event which Respondent claims constitutes a *force majeure*. Such notice shall estimate the anticipated length of delay, including necessary demobilization and remobilization, its cause, measures taken or to be taken to prevent or minimize the delay, and an estimated time table for implementation of these measures. Failure to comply with the notice provision of this Paragraph shall constitute a waiver of Respondent's right to assert a *force majeure* claim with respect to such event. If, in EPA's sole and unreviewable discretion, EPA determines that the failure to give notice was not prejudicial to EPA, Respondent's failure to give notice shall not constitute a waiver. In addition to the above notification requirements, Respondent shall undertake all reasonable actions to prevent or to minimize any delay in achieving compliance with any requirement of this Consent Order after it becomes or should have become aware of any event which may delay such compliance.

3. If EPA determines that the failure to comply or delay has been or will be caused by a *force majeure,* the time for performance of that requirement of this Consent Order shall be extended by EPA for a period of time equal to the delay resulting from such *force majeure* or for an other appropriate period of time. This shall be accomplished through an amendment to this Consent Order pursuant to Section XXII (Subsequent Modification of Order). Such an extension shall not alter the schedule for performance or completion of any other tasks required by this Consent Order, unless these tasks are unavoidably affected by the delay. In the event that EPA and Respondent cannot agree that any delay or failure has been or will be caused by a *force majeure*, or if there is no agreement on the length of the extension, Respondent may invoke the dispute resolution procedures set forth in Section XVII (Dispute Resolution).

XIX. RESERVATION OF RIGHTS

1. EPA expressly reserves all rights and defenses that it may have, including the right both to disapprove of work performed by Respondent pursuant to this Consent Order, to require that Respondent correct and/or re-perform any work disapproved by EPA, and to request that Respondent perform Additional Work, consistent with the objectives of this Consent Order.

2. EPA hereby reserves all of its statutory and regulatory powers, authorities, rights and remedies, both legal and equitable, including any which may pertain to Respondent's failure to comply with any of the requirements of this Consent Order. This Consent Order shall not be construed as a covenant not to sue, or as a release, waiver or limitation of any rights, remedies, defenses, powers and/or authorities, civil or criminal, which EPA has under RCRA, CERCLA, the Clean Water Act, the Safe Drinking Water Act, the Clean Air Act, or any other statutory, regulatory, or common law enforcement authority of the United States.

3. EPA reserves the right to perform any portion of the work required herein or any additional monitoring, sampling, analysis, or reporting it deems necessary to protect public health

or welfare or the environment. EPA reserves the right to seek reimbursement from Respondent for costs incurred by the EPA in connection with any such actions, pursuant to any right it may have under applicable law.

4. EPA reserves the right to perform any portion of the work required herein, should Respondent fail to do so. EPA also reserves the right to perform any additional monitoring, sampling, analysis, or reporting it deems necessary to protect public health or welfare or the environment, provided EPA first requests in writing that Respondent perform such work, and Respondent fails to do so within a reasonable time following Respondent's receipt of such request from EPA. EPA reserves the right to seek reimbursement from Respondent for costs incurred by the EPA in connection with any such actions, pursuant to any right it may have under applicable law and provided that EPA has provided Respondent with the written request described in this Paragraph prior to undertaking the work for which EPA seeks reimbursement.

5. EPA reserves whatever rights it may have under any environmental law or authority, or in equity, to seek to recover from Respondent any costs incurred by EPA in overseeing the implementation of this Consent Order.

6. Except as otherwise provided herein, Coronet expressly reserves all of its rights and defenses.

XX. OTHER APPLICABLE LAWS

1. All actions required to be taken pursuant to this Consent Order shall be undertaken in accordance with the requirements of all applicable federal, state, and local laws, regulations, permits, and ordinances.

2. Compliance by Respondent with the terms of this Consent Order shall not relieve Respondent of its obligations to comply with any applicable federal, state, or local laws, regulations, permits, and ordinances.

3. This Consent Order is not and shall not be interpreted to be a permit, or as a ruling or a determination of any issue related to a permit under federal, state or local law. This Consent Order shall not in any way affect Respondent's obligation, if any, to secure such a permit, nor shall this Consent Order be interpreted in any way to affect or waive any of the conditions or requirements that may be imposed by such permit, nor of Respondent's right to appeal any conditions of such permit. Respondent shall obtain or cause its representatives to obtain all permits and approvals necessary under such laws and regulations.

XXI. OTHER CLAIMS

1. Nothing in this Consent Order shall constitute or be construed as a permit or as a release from any claim, cause of action, demand, or defense in law or equity, against any person, firm, partnership, or corporation for any liability it may have arising out of or relating in any way to the generation, storage, treatment, handling, transportation, release, or disposal of any

hazardous wastes, hazardous constituents, hazardous substances, pollutants, or contaminants found at, taken to, or migrating from the Facility.

2. Neither the United States nor EPA shall be a deemed a party to any contract involving Respondent and relating to activities at the Facility and shall not be liable for any claim or cause of action arising from or on account of any act, or the omission of Respondent, its officers, employees, contractors, receivers, trustees, agents or assigns, in carrying out the activities required by this Consent Order.

XXII. SUBSEQUENT MODIFICATION OF ORDER

1. Except as provided in Paragraph 3 of this Section, the provisions of this Consent Order may be amended only by mutual agreement of EPA and Respondent. Any such amendment shall be in writing, shall be signed by an authorized representative of each party, shall have as its effective date the date on which it is signed by EPA, and shall be incorporated into this Consent Order. Any oral agreement between EPA and Respondent, the purpose of which is to modify this Consent Order to address exigent circumstances, and which is subsequently ratified in writing by EPA and Respondent, shall have as its effective date the date of such oral agreement.

2. Any reports, plans, specifications, schedules, other submissions and attachments required by this Consent Order are, upon written approval by EPA, incorporated into this Consent Order. Any noncompliance with such EPA-approved reports, plans, specifications, schedules, other submissions, and attachments shall be considered a violation of this Consent Order and shall subject Respondent to the stipulated penalty provisions included in Section XVI (Delay in Performance/Stipulated Penalties).

3. Minor modifications in the studies, techniques, procedures, designs or schedules utilized in carrying out this Consent Order and necessary for the completion of the project may be made by written agreement of the Project Coordinators. Such modifications shall have as an effective date the date on which the agreement is signed by the EPA Project Coordinator.

4. No informal advice, guidance, suggestions, or comments by EPA regarding reports, plans, specifications, schedules, and any other writing submitted by Respondent shall be construed as relieving Respondent of its obligation to obtain written approval, if and when required by this Consent Order.

XXIII. SEVERABILITY

If any provision or authority of this Consent Order, or the application of this Consent Order to any party or circumstances, is held by any judicial or administrative authority to be invalid, the application of such provisions to other Parties or circumstances and the remainder of the Consent Order shall not be affected thereby and shall remain in full force.

XXIV. TERMINATION AND SATISFACTION

The provisions of this Consent Order shall be deemed satisfied upon Respondent's receipt of written notice from EPA that Respondent has demonstrated to the satisfaction of EPA that the terms of the Consent Order have been satisfactorily completed. Such notice shall be provided to Respondent within a reasonable time, and shall not be unreasonably withheld. This notice shall not, however, terminate Respondent's obligations to comply with any continuing obligations hereunder, including, but not limited to, Section XIV (Record Preservation); Section XIX (Reservation of Rights); Section XX (Other Applicable Laws); and Section XXI (Other Claims).

XXV. SURVIVABILITY/INTEGRATION

1. Subsequent to the issuance of this Consent Order, the parties may agree to the entry of a Consent Decree or other document incorporating the requirements of this Consent Order by reference and/or superceding the requirements of this Consent Order.

2. Any requirements of this Consent Order shall not terminate upon the issuance of a Consent Decree or other document unless relevant Consent Order requirements are expressly replaced by the requirements in the Consent Decree or other document, or all provisions of this Consent Order have been fully complied with to EPA's satisfaction in accordance with Section XIX (Reservation of Rights) of this Consent Order.

XXVI. ATTORNEYS' FEES AND COSTS

Except as otherwise provided herein, Respondent shall bear its own costs and attorneys' fees.

XXVII. EFFECTIVE DATE

The effective date of this Consent Order shall be the date it is signed by the Director of the Waste Management Division, EPA Region 4.

IT IS SO AGREED AND ORDERED:

DATE: 07/28/04 BY: Winston A. Smith

Winston A. Smith
Director,
Waste Management Division
United States Environmental Protection Agency
Region 4

FOR COMPLAINANT

IN THE MATTER OF: Coronet Industries, Inc.,
DOCKET NO: RCRA-04-2004-4250 DKD 7/23/04

IT IS SO AGREED

DATE: July 23, 2004 BY: David K Denner

David K. Denner, CEO
Coronet Industries, Inc.,
4082 Coronet Road
Plant City, Florida 33566

FOR RESPONDENT

IN THE MATTER OF: Coronet Industries, Inc.,
DOCKET NO: RCRA-04-2004-4250

CERTIFICATE OF SERVICE

I hereby certify that the original and one copy of the foregoing ADMINISTRATIVE ORDER ON CONSENT was filed with the Administrative Record, EPA Region 4, 61 Forsyth Street, Atlanta, Georgia 30303, and that a true copy of the same was deposited with Federal Express, postage prepaid to:

David K. Denner, CEO
Coronet Industries, Inc.,
4082 Coronet Road
Plant City, Florida 33566

Respondent

July 29, 2004
Date

Vicki A. Haley
[Name]

FINAL
PHASE I SITE ASSESSMENT WORK PLAN
PROCESS AND HOLDING PONDS
CORONET INDUSTRIES, INC.
PLANT CITY, FLORIDA

CORONET INDUSTRIES, INC.

JULY 23, 2004

Contents

		Page
1.0	**Introduction**	1
2.0	**Process and Holding Ponds**	2
2.1	Pond Construction	2
2.2	Water Management	2
3.0	**Site Description**	4
3.1	Site Setting	4
3.2	Geology	4
3.3	Hydrogeology	5
3.3.1	Groundwater	5
3.3.2	Surface Water	5
4.0	**Data Quality Assurance and Data Quality Objectives**	6
4.1	Data Quality Assurance	6
4.2	Data Quality Objectives	7
4.2.1	Introduction	7
4.2.2	State the Problem	7
4.2.3	Identify the Decision	8
4.2.4	Identify Inputs to the Decision	8
4.2.4.1	Surface Water Sampling and Analysis	8
4.2.4.2	Pond Sediment Sampling and Analysis	8
4.2.4.3	Pond Berms, Conveyance and Pond 6 Seepage Ditch Sampling and Analysis	9
4.2.4.4	Site Characterization Sampling and Analysis	9
4.2.5	Define the Study Boundaries	9
4.2.6	Develop a Decision Rule	9
4.2.7	Specify Limits on Decision Errors	10
4.2.8	Optimize the Design for Obtaining Data	11
5.0	**Site Surveys**	12
5.1	Photogrammetry	12
5.2	Bathymetric Survey	12
5.3	Ground Surveys	13

Contents (cont.)

		Page
6.0	**Pond Water Scope of Work**	14
6.1	Objectives	14
6.2	Sampling Program	14
6.2.1	Sample Locations and Intervals	14
6.2.1.1	Pond Sampling Locations	14
6.2.1.2	Miscellaneous Sampling Locations	16
6.2.2	Sampling Protocols	16
6.3	Analytical Program	18
6.4	Data Analysis	19
7.0	**Pond Sediment Scope of Work**	20
7.1	Objectives	20
7.2	Sediment Sampling Program	20
7.2.1	Sample Locations and Intervals	20
7.2.2	Sampling Protocols	22
7.3	Laboratory Programs	23
7.4	Data Analysis	24
7.5	Pond 6 Sediment Sampling	25
8.0	**Pond Berms, Conveyance and Pond 6 Seepage Ditches, and Miscellaneous Locations Scopes of Work**	26
8.1	Pond Berms	26
8.1.1	Objectives	26
8.1.2	Sample Locations, Intervals, and Protocols	26
8.1.3	Laboratory Programs	27
8.1.4	Data Analysis	27
8.2	Conveyance and Seepage Ditches and Miscellaneous Locations	28
8.2.1	Objectives	28
8.2.2	Sample Locations, Intervals, and Protocols	28
8.2.3	Analytical Program	29
8.2.4	Data Analysis	30
9.0	**Site Characterization**	31
9.1	Soil Investigation	31
9.1.1	Objective	31
9.1.2	Sampling Program	31
9.1.3	Analytical Program	32
9.1.4	Data Analysis	32

Contents (cont.)

		Page
9.2	Groundwater Investigation	33
9.2.1	Objectives	33
9.2.2	Existing Well and Piezometer Network	33
9.2.2.1	Well and Piezometer Locations and Construction	33
9.2.2.2	Network Evaluation	34
9.2.3	Proposed Well Installation	34
9.2.4	Groundwater Sampling Program	35
9.2.4.1	Sampling Locations and Protocols	35
9.2.4.2	Analytical Program	35
9.2.4.3	Data Analysis	36
9.2.5	Aquifer Characterization	36
10.0	**Reports**	38
10.1	Interim Reports	38
10.2	Phase I Site Assessment Report	39
11.0	**Project Schedule**	41
References		42

List of Figures

Figure 1 - Site Location
Figure 2 - Site Layout
Figure 3 - Generalized Hydrogeologic Section
Figure 4 - Proposed Surface Water Sampling Locations
Figure 5 - Proposed Sediment Sampling Locations
Figure 6 - Proposed Berm, Conveyance and Pond 6 Seepage Ditches, and Miscellaneous Sampling Locations
Figure 7 - Proposed Soil and Groundwater Investigation Locations
Figure 8 - Project Schedule

Contents (cont.)

List of Tables

Table 1 - Summary of Surface Water Sampling and Analytical Program (Ponds)
Table 2 - Summary of Surface Water Sampling and Analytical Program (Miscellaneous Locations)
Table 3 - Surface Water Sample Analytical Methods and Requirements
Table 4 - Summary of Sediment Sampling and Analytical Program
Table 5 - Soil and Sediment Sample Analytical Methods and Requirements
Table 6 - Summary of Geotechnical Samples and Test Methods (Sediments)
Table 7 - Summary of Berm Sampling and Analytical Program
Table 8 - Summary of Geotechnical Samples and Test Methods (Berms)
Table 9 - Summary of Conveyance and Pond 6 Seepage Ditches, and Miscellaneous Locations Sampling and Analytical Program
Table 10 - Summary of Soil Investigation Sampling and Analytical Program
Table 11 - Supplemental Soil Sample Analytical Methods and Requirements
Table 12 - Summary of Monitoring Well and Piezometer Construction Information
Table 13 - Summary of Groundwater Investigation Sampling and Analytical Program
Table 14 - Groundwater Sample Analytical Methods and Requirements

Appendices

Appendix A - Laboratory Statements of Qualification
Appendix B - Bathymetric Survey Scope of Work
Appendix C - Monitoring Well and Piezometer Lithologic Logs and Construction Diagrams

1.0 Introduction

Coronet Industries, Inc. formerly operated a defluorinated phosphate and potassium fluoroborate (KBF_4) production facility on a 980-acre parcel in Plant City, Florida (the "Site") (Figure 1). Production operations at the Site ceased on approximately March 31, 2004. Coronet is decommissioning the Site in accordance with the "Shutdown and Decommissioning Plan" submitted to the Florida Department of Environmental Protection (FDEP), U.S. Environmental Protection Agency (EPA), and U.S. Department of Justice (Coronet 2004a). The decommissioning work is Coronet's first step in the Site rehabilitation process. Coronet's next steps involve a comprehensive characterization and assessment of the Site conditions coupled with rehabilitation measures that provide for short-term and long-term protection of human health and the environment. Coronet outlined its approach to the assessment and rehabilitation of the Site in a plan titled "Site Assessment and Rehabilitation Plan" that was submitted to the FDEP, EPA, and U.S. Department of Justice (Coronet 2004b). The Site Assessment and Rehabilitation Plan divided the Site into three areas to be assessed during the assessment process:

- ponds (process and holding)
- process areas
- main plant area

This Phase I Site Assessment Work Plan (Work Plan) has been developed as part of a two-phased approach to the Site assessment. The first phase described herein is designed to characterize the process and holding ponds. The objective of the assessment is to gather data on the characteristics of the process and holding ponds including surface water quality, sediment quality, berm characteristics, and groundwater quality. The remaining areas of the Site (process areas and main plant areas) will be addressed in a separate work plan.

Section 2 of the Work Plan provides background information on the Site process and holding ponds. Section 3 presents a description of the Site including the Site's physical setting, geology and hydrogeology. Section 4 summarizes quality assurance (QA) and data quality objectives (DQOs) for the project. Section 5 discusses the scope of Site surveying work to be performed. Sections 6 through 8 describe the activities to be performed to characterize the nature of pond water, sediments, and berms, the conveyance system for the ponds, and the Pond 6 seepage ditch. Section 9 identifies the scope of work to be implemented to evaluate soil conditions in one area and Site groundwater characteristics, including the relationship between surface water and the surficial aquifer. Section 10 identifies the data and information that will be provided in the interim reports and the Phase I Site Assessment Report. Section 11 presents the project schedule.

2.0 Process and Holding Ponds

Section 2.1 describes available construction information for the Site process and holding ponds. Section 2.2 summarizes water management during Site operation.

2.1 Pond Construction

Phosphate mining occurred at the Site from 1906 until approximately 1940. During mining operations, surficial soils were removed to expose phosphate ore. In the Plant City area, the phosphate ore occurs principally within the Bone Valley Member of the Peace River Formation (Section 3.2). The approximate limits of the mining pits at the Site, based on historical topographic maps from 1944 and 1955, are shown in Figure 2. Coronet will conduct a search of available historical aerial photographs to confirm the information presented in Figure 2. Information generated by this activity may be used to modify the proposed scope of work, if necessary and appropriate. The following summary of the process water and holding ponds construction is based on the current information.

- Ponds 1S, 1N, 3, 7, and 8 are within the limits of former mining pits. Berms were constructed around the mined pits, reportedly from the early to mid 1900s until 1970 (BCI 2004), to increase free board and reduce potential flooding during periods of peak precipitation.

- Ponds 2, 4, and 5 include one or more mined pit areas. Berms were constructed on the ground surface around these pits to increase free board and the capacities of the ponds. The pond areas constructed above the ground surface around the mined areas are referred to as "shelf areas" in this document.

- Ponds 2A, 4A, and 6 were constructed entirely from the placement of berms on the ground surface. The northern portion of Pond 6 is believed to have been excavated to obtain materials for berm construction, but not as part of the mining operations (Figure 2).

The ponds cover approximately 350 acres and have a capacity of approximately 400 million to 600 million gallons. Flow between the ponds is controlled by a series of weirs, ditches, and pump stations (Figure 2).

2.2 Water Management

Process water that was generated in the manufacturing areas and storm water runoff from the plant has been managed in two ponds designated as Pond 1 (Ponds 1N and 1S) and Pond 6. Discharges of process water, with the exception of limited plant rinse and wash water flow, ceased in March 2004; storm water continues to enter the pond system. Process water and storm water from the main plant were routed to the main conveyance ditch to Pond 6. This water was neutralized in a single-stage liming

operation to raise the pH to a target of 3 standard units before entering Pond 6. In Pond 6, the water cooled and clarified. Calcium fluoride and other inorganic salts precipitated from the water in Pond 6. Water from Pond 6 flows by gravity through a pipe to Pond 1. Water in Pond 1 formerly was reused in the manufacturing processes.

An emergency ditch is present between Ponds 6 and 1. This ditch served to recirculate water back to the plant for use during emergencies. A seepage ditch is present along the downstream toe of the east and south sides of Pond 6. Seepage and other water collected in this ditch is pumped back to Pond 6.

During periods of heavy rainfall, excess storm water entering the process ponds has been directed to a series of holding ponds (Ponds 2, 2A, 3, 4, 4A, 5, and 8) by pumping or through a series of spillways consisting of ditches and pipes (collectively referred to as "conveyance lines"; Figure 2). These ponds primarily serve as storm water retention ponds and collect surface runoff from areas outside of the main plant area, including the adjacent golf course. Pond 7 has historically been used to manage surface water runoff from non-production areas and is not connected to the remaining holding ponds.

3.0 Site Description

The following sections summarize information on the Site setting, geology, and hydrogeology.

3.1 Site Setting

The Site occupies approximately 980 acres at 4802 Coronet Road, Plant City, Hillsborough County, Florida. The Site is bordered to the north and east by undeveloped and agricultural properties (strawberry and citrus production), to the south by residential properties, and to the west by a golf course (Figure 1).

3.2 Geology

The uppermost geologic unit in the vicinity of the Site is the Hawthorn Group, which includes the Peace River Formation that was mined and the underlying Arcadia Formation (including the lower Tampa Member). Figure 3 shows the generalized hydrogeologic section in the vicinity of the Site. The Peace River Formation consists of interbedded quartz sands, clays, and carbonates; it disconformably overlies the Arcadia Formation that consists predominantly of limestone and dolostone, with varying amounts of quartz sand, clay, and phosphate grains (USACE and SFWMD 2001).

Soils in the vicinity of the Site are comprised of Hawthorn Group Soils, and are classified as Myakka and Ona fine sands (USDA 1989). The sand becomes increasingly clayey with depth, transitioning to the sandy clay of the Peace River Formation. The clay deposit contains intervals of abundant phosphatic sand and is believed to be of the Bone Valley Member of the Peace River Formation (EST 2002).

During mining operations at the Site, the surficial soils were removed to expose phosphate ore, principally within the Bone Valley Member of the Peace River Formation. Because of the excavation and replacement of the soil, Site soils are classified as Arents soils, indicating the absence of natural soil profiles with no predictable stratification or other physical or drainage characteristics (USDA 1989). Information generated during drilling of boreholes for monitoring wells installed at the Site indicates that the upper 15 feet of soil (both disturbed and undisturbed by mining) consists of fine-grained to very fine-grained sands (EST 2002). These soils unconformably overlie the Bone Valley Member that is reportedly encountered in some areas of the Site from approximately 15 feet below ground surface (ft-bgs) to 21 ft-bgs (EST 2002). The Peace River Formation was encountered at depths of 35 ft-bgs to 40 ft-bgs during installation of monitoring wells along the south property boundary. The Arcadia Formation is anticipated to be present at depths of approximately 130 ft-bgs to 140 ft-bgs.

3.3 Hydrogeology

3.3.1 Groundwater

Two distinct water-bearing zones are known to be present in the vicinity of the Site, the surficial system and the Floridan aquifer system (Figure 3). The surficial water-bearing zone in eastern Hillsborough County is within sand deposits ranging in thickness from 5 feet to more than 85 feet from north to south across the county (EST 2002).

The sandy clay of the Peace River Formation forms confining layers that impede the movement of water from the surficial system to the underlying limestone Floridan system (EST 2002). Dolomite inter-layered with the Peace River Formation clays within the Hawthorn may constitute an intermediate aquifer between the surficial water-bearing zone and the Floridan aquifer. In the vicinity of the Site, it is believed that the dolomite (if present) would yield only minimal quantities of water (EPA 1989). The uppermost portion of the Floridan aquifer (i.e., the lower Tampa Member) is the first persistent limestone beneath the Hawthorn clays; the lower Tampa Member is believed to be present at 130 ft-bgs to 140 ft-bgs at the Site. The Floridan aquifer extends to depths greater than 1,000 ft-bgs in the vicinity of the Site.

Ground surface elevations across the Site range from approximately 130 feet mean sea level (ft-msl) to 150 ft-msl, except where affected by mining and construction of the ponds. Groundwater elevations determined during periodic sampling events at the Site vary between approximately 121 ft-msl to 138 ft-msl (approximately 5 ft-bgs to 9 ft-bgs). The direction of shallow groundwater flow is generally south, with potential components of flow to the east and west to Howell Branch and English Creek. Shallow groundwater flow within the Site may be affected by the higher surface water elevations, resulting in localized radial groundwater flow in the vicinity of the ponds.

3.3.2 Surface Water

The Site is within the Alafia River drainage basin. Howell Branch and English Creek converge approximately 3.5 miles south-southeast of the Site. English Creek converges with the North Prong of the Alafia River approximately 2 miles downstream of the convergence with Howell Branch. Howell Branch, English Creek, North Prong of the Alafia River, and Alafia River are Class III surface waters of the State of Florida as defined by Rule 62-302, F.A.C.

4.0 Data Quality Assurance and Data Quality Objectives

The following sections describe measures that will be taken to ensure the quality and utility of the data and information generated during the Phase I assessment.

4.1 Data Quality Assurance

To ensure the uniformity and quality of data generated during the Phase I assessment, all field activities will comply with the EPA Region 4 Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM; EPA 2001a).

Pace Analytical Services, Inc. has been tentatively identified to perform both the conventional chemical analysis and the radiological testing. The chemical analyses will be performed by the Pace laboratory in Export, Pennsylvania. The Export laboratory participates in the National Environmental Laboratory Accreditation Program (NELAP) and is certified by the NELAP accrediting authority in Florida (Lab ID E87683). Radiological testing will be performed by the Pace Waltz Mill laboratory in Madison, Pennsylvania. The Waltz Mill laboratory holds NELAP certification through the State of Utah (Lab ID ANTE2). Statements of qualification are presented in Appendix A.

It is very unlikely that Pace's Pittsburgh laboratory would lose its NELAC status within the timeframe of this project. Recent proficiency tests have been acceptable and the Export laboratory has just undergone a satisfactory on-site evaluation by the FDEP, its primary accrediting authority. If the accreditation is revoked during the term of this project, Pace can simply utilize another of its national network of environmental laboratories, all of which are NELAC accredited. For the radioactivity measurements, Pace would subcontract to an outside NELAC-accredited laboratory

The chemical analysis and reporting will follow the latest revision of SW-846 methodology, where applicable. The analytical data packages will be prepared in accordance with the most recent versions of the EPA Contract Laboratory Program (CLP) statement of work for organic and inorganic analyses (i.e., "CLP-like" deliverables). The data packages will be suitable for validation according to the EPA's most recent National Functional Guidelines for organic and inorganic data review (EPA 1999 and 2002a).

4.2 Data Quality Objectives

The EPA developed the DQO process to ensure that data collection is designed in a manner appropriate to support a project's decision making process (EPA 2000a). The process is comprised of seven steps:

- state the problem
- identify the decision
- identify the inputs to the decision
- define the boundaries of the study
- develop a decision rule
- specify tolerable limits on decision errors
- optimize the design for obtaining data

This section of the report provides information on these seven steps.

4.2.1 Introduction

The objective of the sampling and analysis design for the Phase I assessment is to generate data that will provide a preliminary understanding of Site conditions. Currently, there is limited comprehensive data available for the Site. The data that are available were not generated for the purpose of evaluating conditions as potentially affected by the ponds or for evaluating the need for implementation of actions to address these conditions. Details for this sampling and analysis design are presented in other sections of the Work Plan; applicable sections are referenced below as required.

4.2.2 State the Problem

As stated in Section 1.0, Coronet formerly operated a defluorinated phosphate and KBF_4 production facility at the Site. Production ceased on approximately March 31, 2004. Coronet is decommissioning the Site as Coronet's first step in the Site rehabilitation process. The Site Assessment and Rehabilitation Plan divided the Site into three areas to be assessed: the process and holding ponds; the process areas; and the main plant area. This Phase I assessment was developed to characterize the process and holding ponds, as part of a multi-phase approach to the Site assessment.

The objective of the Phase I assessment is to gather data on the characteristics of the process and holding ponds including surface water, sediment, soil, and groundwater quality. In general, the Phase I assessment is designed to provide a preliminary understanding of Site conditions as potentially affected by historical operation of the process and holding ponds, to determine the scope of subsequent investigations, and to evaluate rehabilitation alternatives.

4.2.3 Identify the Decision

The primary decisions to be made from the Phase I assessment are as follows:

- determine the volume of sediment present in the ponds and conveyance and seepage ditches
- determine if constituents of potential concern (COPCs) are present at concentrations in surface water, sediment, soil and/or groundwater samples that warrant further evaluation (i.e., develop a list of constituents of concern (COCs) for relevant media
- determine the chemical and physical nature of the pond berms
- determine aquifer characteristics
- determine the direction and scope of additional investigation or information that may be necessary as part of the Phase II assessment

4.2.4 Identify Inputs to the Decision

The primary inputs are as follows:

- develop a sampling plan that will obtain adequate samples/information to address the decisions listed above
- ensure that analytical methods are adequate to detect levels of constituents in media at or below:
  - the Florida global risk-based corrective action (RBCA) cleanup target levels (CTLs) (Rule 62-777, F.A.C.) for surface water (SWCTLs), soil, and groundwater (GWCTLs)
  - the sediment quality assessment guidelines (SQAGs) (MacDonald 1994 and MacDonald et al 2003) or EPA Region 4 Sediment Screening Values (EPA 2000b) for sediment
- conduct a bathymetric survey and probing to determine the volume of sediment present in the ponds and conveyance and seepage ditches

4.2.4.1 Surface Water Sampling and Analysis

Details of the surface water sampling and analysis plan are presented in Sections 6.2 and 6.3 of this Work Plan. These sections provide justification for the sample locations and field and laboratory parameters. Tables 1 and 2 provide a summary of this information. Table 3 presents the FDEP global RBCA SWCTLs (which default to the FDEP Surface Water Quality Standards [SWQS], Rule 62-302, F.A.C). The method detection limits and laboratory reporting limits are also provided to ensure the methods are sufficient to make Site-specific evaluations and decisions.

4.2.4.2 Pond Sediment Sampling and Analysis

Details of the pond sediment sampling and analysis plan are presented in Sections 7.2 and 7.3 of this Work Plan. These sections provide justification for the sample locations and field and laboratory chemical and radiological parameters. Table 4 provides a summary of this information; Table 5 presents

the SQAGs and the FDEP global RBCA-based CTLs for soil, and the method detection limits and reporting limits. Table 6 provides a summary of the geotechnical testing parameters.

4.2.4.3 Pond Berms, Conveyance and Pond 6 Seepage Ditch Sampling and Analysis

Details of the pond berms and ditches sampling and analysis plan are presented in Sections 8.1 and 8.2 of this Work Plan. These sections provide justification for the sample locations and field and laboratory chemical and radiological parameters. Table 7 provides a summary of the chemical and radiological parameters for the berms; Table 8 lists the geotechnical information to be gathered. Table 9 provides the chemical program for the ditches. The FDEP global RBCA-based CTLs for soil, and method detection limits and reporting limits are provided in Table 5.

4.2.4.4 Site Characterization Sampling and Analysis

The Phase I assessment includes an evaluation of media conditions in a potential historical disposal area and an evaluation of groundwater conditions Site wide. Justification for the soil sample locations and associated analyses are provided in Section 9.1. Table 10 provides a summary of the sampling and analytical program for soil. Table 11 also presents the FDEP global RBCA-based CTLs for soil, and the method detection limits and reporting limits. Details on groundwater sample locations and associated analyses are presented in Section 9.2. Table 12 provides a summary of physical information available for the existing wells; Table 13 provides a summary of the groundwater sampling and analytical program. The FDEP global RBCA GWCTLs, and method detection limits and reporting limits are provided in Table 14.

4.2.5 Define the Study Boundaries

The Site occupies approximately 980 acres at 4802 Coronet Road, Plant City, Hillsborough County, Florida. The Site is bordered to the north and east by undeveloped and agricultural properties (strawberry and citrus production), to the south by residential properties, and to the west by a golf course. Figure 1 shows the boundaries of the ponds, ditches, berms and potential historical disposal area that will be addressed in the Phase I assessment. As part of the Phase I assessment, an aerial survey of the Site will be performed (Section 5.1). This survey and subsequent ground surveys (Section 5.3) will help to better define the process and holding ponds, conveyance and seepage ditches, pond berms, and potential historical disposal area.

4.2.6 Develop a Decision Rule

The Phase I scope of work includes the generation of chemical and radiological data on Site media (surface water, sediment, soil, and groundwater) and information to be used in evaluating the physical relationship between Site media within the property boundaries. Surface water, soil, and groundwater analytical data generated during the Phase I assessment will be compared to the FDEP's global RBCA-based CTLs (Rule 62-777, F.A.C.). Sediment analytical data will be compared to SQAGs.

Preliminary decisions will be made based on a comparison of the analytical data to the screening criteria. Specifics are presented below.

- Surface water quality data for the Site ponds will be used to qualitatively evaluate the relationship between surface water, sediments, and groundwater. Surface water quality data for other areas of the Site will be used to determine the need for additional investigation and the potential need for action; these determinations will be aided by the comparison with but not solely dependent on the comparison with the FDEP global RBCA SWCTLs.

- Data for the sediment samples collected from the ponds, conveyance and seepage ditches and data for the soil samples collected from the berms and area of potential solid waste disposal will be used to determine the scope of subsequent activities (e.g., additional investigation, ecological evaluation, rehabilitation alternative evaluation) based on comparison with the applicable screening criteria.

- The groundwater quality data will be used to design the Phase II scope of investigation, based on comparison with the FDEP global RBCA GWCTLs and in conjunction with aquifer characterization information.

The Phase I sampling and analytical methods described in Sections 6 through 9 of this Work Plan are adequate to meet these objectives.

4.2.7 Specify Limits on Decision Errors

A decision error occurs when the data is misleading, resulting in the selection of an inappropriate response action, in the sense that a different response action would have been chosen if "perfect data" or absolute truth was accessible. The possibility of decision error may occur as a result of a sampling design error and/or measurement error. Although the possibility of decision error can never be totally eliminated, it can be minimized and controlled. For the Phase I assessment, sampling and measurement decision error is being controlled by:

- Biasing sample collection toward areas that are suspected as having COPCs. As described in Sections 6 through 9, sampling is biased toward areas where it is highly suspected that COPCs will be present. Therefore, by biasing the sampling toward suspected "hot spots", the Phase I findings will be used to develop a conservative understanding of Site conditions and to focus future efforts.

- Using analytical methods that achieve reporting limits less than the screening criteria. This controls measurement error by ensuring that the analytical techniques provide results that will allow for Site-specific decisions. Also, the analytical methods proposed for this project are EPA-approved methods with stringent quality assurance/quality control (QA/QC) protocols. This minimizes any error in the precision and accuracy of the analytical program.

  As shown in the tables, all of the laboratory reporting limits are less than the screening levels.

4.2.8 Optimize the Design for Obtaining Data

As described above, the Phase I assessment is the initial phase in obtaining some general information on Site conditions. Consequently, Coronet did not optimize the sample design with the intent of providing all data necessary to, for example, design specific rehabilitation measures, but rather to provide a general understanding of conditions at the Site.

5.0 Site Surveys

The Site survey activities described below include the development of a topographic base map, a bathymetric map of the Site ponds, and procedures for documenting subsequent study locations.

5.1 Photogrammetry

An aerial survey of the Site will be performed. A Florida-licensed land surveyor will be contracted to perform the ground control for the photogrammetry (horizontal datum will be Florida State Plane NAD83 and vertical datum will be NAVD29). The scale of the survey will be 1 inch equals 100 feet for the Site. The elevation contours will be at 1-foot intervals for the entire Site. The minimum coverage beyond the Site property boundaries will be 1,000 feet.

The surveyor will provide the Site base map in an electronic format (AutoCAD v.14 or compatible). The base map will be used to develop all subsequent Site maps for investigation, engineering, and remediation activities.

5.2 Bathymetric Survey

The objective of the bathymetric survey is to determine the volume of sediment present in the ponds. Meeting this objective will require determination of the elevation and contour of the top of the pond sediments and the elevation and contour of the interface between the sediment and pond bottom.

Bathymetric surveys initially will be conducted on Ponds 1N, 1S, 2, 4, and 6 because these ponds pose the greatest potential for sediment accumulation. The survey findings may be used to alter the proposed scope of the sediment sampling plan; specifically adjustment of the sampling locations. An evaluation of the analytical results for sediment samples collected from Ponds 3, 4A, 5, 7, and 8 and other Site information will be used to determine the need for or benefit of performing bathmetry on these ponds.

Appendix B provides a detailed description of the work to be performed. The information to be generated will include plan views of the contoured sediment and pond bottom surface and probe locations, cross-sections illustrating these conditions along each of the section lines, and volume calculations for the sediments. The drawings will be prepared and sealed by a Florida-registered land surveyor.

5.3 Ground Surveys

A global satellite-positioning (GPS) unit will be used to locate surface water and sediment sample locations to an accuracy of +/- 9 feet or less at the time of sample collection. Surface water elevations will be estimated at the time of sample collection based on staff gauge readings in the ponds. Sediment sample elevations will be estimated using the results of the bathymetric survey.

The locations of conveyance ditch samples will be staked and labeled (in the smaller ditches) for subsequent surveying; these locations and the locations of samples collected from the large ditches will be located with a GPS unit. The elevations will be surveyed or estimated depending on whether the locations are above or below the water line. The locations of the boreholes in the berms will be staked and labeled for subsequent surveying of the location and ground surface elevation.

The locations and ground surface and top-of-casing elevations of newly installed monitoring wells and piezometers and the locations and elevations of staff gauges in the ponds will be surveyed. Elevations and locations of select existing installations will also be surveyed to confirm the accuracy of the existing and new survey information.

All ground surveying will be performed by a Florida-registered land surveyor. The locations will be surveyed to an accuracy of +/- 0.1 foot. The elevations will be surveyed to an accuracy of +/- 0.01 foot.

6.0 Surface Water Scope of Work

The objectives of the surface water investigation are presented in Section 6.1. Sections 6.2, 6.3, and 6.4 describe the scope of field work, laboratory analytical program, and data analysis.

6.1 Objectives

Coronet proposes to collect surface water samples from the Site ponds to document water quality, to evaluate potential stratification of constituents within the water column, and to characterize conditions that are believed to be generally representative of pore water in the sediments. Coronet also proposes to collect surface water samples from several locations associated with seeps or miscellaneous areas of standing or flowing water for general characterization information.

6.2 Sampling Program

The proposed sample locations and intervals and sample collection protocols are presented in the following sections.

6.2.1 Sample Locations and Intervals

6.2.1.1 Pond Sampling Locations

The proposed pond water sampling locations are shown in Figure 4. The locations were chosen to evaluate representative conditions in the shelf and pit areas. The locations may be modified based on the findings of the bathymetric survey (where available) to ensure that representative samples are collected from both the pit and shelf areas. The pond water samples will be collected concurrent with the pond sediment sampling activities (Section 7).

The collection of surface water samples is proposed for all Site ponds. Samples will be collected from these ponds at two intervals to evaluate potential stratification and to qualitatively evaluate the potential effect of sediment on surface water. The sample intervals include one approximately 0.5 feet below the water surface and one approximately 1 foot above the surface water/sediment interface. If less than 5 feet of water is present at a location, only one sample will be collected from approximately 1 foot above the surface water/sediment interface. The anticipated water columns in the ponds for both pit and shelf areas are provided in Table 1.

The sample locations and depths are discussed below.

- Pond 1N is within a former mining pit with a surface area of approximately 10 acres. Two sample locations are identified including one near the outfall from Pond 1S.

- Pond 1S is within a former mining pit with a surface area of approximately 16 acres. Three sample locations are identified including one near the outfall from Pond 6.

- Pond 2 includes a mining pit area with an approximate surface area of 13 acres. Berms constructed for this pit increased the total surface area of the pond to approximately 40 acres. Three sample locations are identified, two in the pit area and one on the shelf. One of the pit sample locations is near the outfall from the conveyance line from Pond 1N.

- Pond 2A was constructed by the placement of a berm on the ground surface. The surface area is approximately 12.5 acres. Two sample locations are identified including one near the outfall from Pond 2.

- Pond 3 is within a mining pit, with little additional surface area provided by the berms. The surface area is approximately 18 acres. Three sample locations are identified, two within the pit and near the outfall from Pond 2A and one on a potential shelf.

- Pond 4 includes six mining pits with an approximate surface area of 39 acres; berms were constructed to increase the total pond area to approximately 113 acres. Three sample locations are identified within pit areas and four on the shelf, including one near the outfall from Pond 2.

- Pond 4A was constructed by the placement of a berm on the ground surface. The surface area of the pond is approximately 12 acres. Three sample locations are identified, including one near the outfall from Pond 4.

- Pond 5 includes two mining pits with an approximate surface area of 14 acres; berms were constructed to increase the total pond area to approximately 31 acres. Four sample locations are identified, two within pit areas and two on the shelf. One of the shelf sample locations is near the outfall from the ditch that connects to Ponds 3 and 8.

- Pond 6 was constructed by the placement of a berm on the ground surface with an approximate surface area of 54 acres. The northern portion of the pond may have been excavated to provide berm material, but is not believed to have been mined. Eight locations are identified, including two in the two western fingers, two in the excavated area, one near the outfall from the main ditch, and three on the shelf.

- Pond 7 is within a mining pit with little additional surface area provided by berms. The surface area is approximately 8 acres. Two sample locations are identified.

- Pond 8 is within a mining pit, with no additional surface area provided by the berms. The surface area is approximately 12 acres. Three sample locations are identified, including one near the outfall from Pond 4.

A summary of the sampling and analytical program is presented in Table 1.

6.2.1.2 Miscellaneous Sampling Locations

Figure 4 shows the approximate locations proposed for the collection of surface water samples from:

- select conveyance ditches:
  - the emergency return ditch from Pond 6 to Pond 1S (CS-1 and CS-2)
  - the return ditch from Pond 6 to Pond 1S (CS-3 and CS-4)
  - the main ditch, including
    - CS-8, near the scrubber water outfall
    - CS-10, near the outfall from the KBF_4 production unit
  - from Pond 6 to Pond 5 (CS-14)

- the Pond 6 seepage ditch (CS-16, CS-19, CS-21)

- miscellaneous locations
  - southwest of Pond 1S (P1SW-1)
  - west and northeast of Pond 2 (P2SW-1 and P2SW-2)
  - west of Pond 4 (P4SW-1 and P4SW-2) and east of Pond 4 (P4SW-3 and P4SW-4)
  - north of Pond 4A (P4ASW-1)
  - southeast of Pond 8 (P8SW-1)

Samples will also be collected downstream of the confluence of the small stream northeast of Pond 5 and seepage from exposed bedrock in this area (SW-1), and from the lowland area east of Pond 6 (SW-2 and SW-3). The locations of samples from seeps and seepage ditch areas (excluding Pond 6 ditches), and from streams or lowland areas will be identified in the field based on conditions observed at the time of collection and in coordination with the EPA and FDEP. Surface water samples from these locations will be collected concurrent with the investigation of the conveyance ditches and Pond 6 seepage ditch (Section 8.2). At all locations, samples will be collected from the approximate mid-point of the water column.

A summary of the sampling and analytical program is presented in Table 2.

6.2.2 Sampling Protocols

Surface water samples will be collected in accordance with the EISOPQAM. The samples will be collected from the shore or from a boat, or as otherwise appropriate. Caution will be taken if using a boat to limit turbulence in the sample areas, particularly those in shallower areas. Samples of shallow pond water will be collected using an unpreserved transfer bottle. The pond water samples from approximately 1 foot above the surface water/sediment interface will be collected using a Kemmerer or Van Dorn device to permit collection from distinct depths.

The aliquots will be placed in appropriate laboratory prepared and preserved sample bottles. The sample handling, subsequent to collection, will be performed in accordance with the EISOPQAM. QA samples including field duplicates and matrix spikes/matrix spike duplicates (MS/MSDs) (as appropriate)

will be collected at a ratio of 1:20, equipment blanks will be collected weekly, preservative blanks will be prepared at the beginning and end of the surface water sampling activity.

In addition to the laboratory analyses to be performed (Section 6.3), the following field parameters will be measured *in situ* at each of the pond water sampling locations and sample intervals: pH, temperature, specific conductance, turbidity, dissolved oxygen (DO), and oxidation/reduction potential (ORP). The ORP results will be converted to Eh for all samples. The field testing will be performed to evaluate those parameters (excluding specific conductance and turbidity) that will change *ex situ*. The data also will be used to evaluate potential stratification in conjunction with the laboratory results. Because these data are to be used for qualitative purposes (EPA 2001b), confirmatory laboratory analyses are not proposed. Field parameters that will be measured and recorded for the miscellaneous sample locations will include pH, temperature, specific conductance, and turbidity.

6.3 Analytical Program

COPCs at the Site include parameters associated with the former manufacturing operations that could pose a concern to human health or the environment. These include various metals associated with the phosphate rock formerly processed at the Site, including arsenic, boron, cadmium, chromium, copper, lead, and zinc, and parameters such as chloride, fluoride, phosphorous, pH, specific conductance, radium 226, and radium 228. To ensure a thorough evaluation of the COPCs and subsequent identification of COCs for the Site (i.e., constituents determined to represent concerns adequate to require consideration in rehabilitation decisions), the laboratory analytical program for the project includes analyses for a more substantial list of metals, specifically the target analyte list metals and boron; due to the absence of mercury, which is not related to the mining operations, analysis for this metal will not be performed. This list of metals is hereinafter referred to collectively as "metals" (Table 1). Additional analyses to be performed include:

- analyses for other inorganic constituents that may be indicative of impact from historical operations
- analysis for gross alpha, gross beta, radium 226, radium 228, and gamma spectroscopy (which can be used to quantify levels of polonium and lead isotopes)
- analyses for parameters that will be valuable in evaluating overall pond chemistry and in evaluating potential ecological conditions

The analytical parameter list for the samples collected above the surface water/sediment interface includes:

- metals
- mineral acidity
- alkalinity ($CaCO_3$)
- chloride
- fluoride
- sulfate
- sulfide
- total phosphorous
- orthophosphate
- total dissolved solids (TDS)
- total suspended solids (TSS)
- total Kjeldahl nitrogen (TKN)
- nitrate
- nitrite
- ammonia
- hardness ($CaCO_3$)
- total organic carbon (TOC)
- radiological parameters

All samples collected during the pond water sampling event will be analyzed for COPCs and for inorganic parameters for which there are FDEP global RBCA SWCTLs (Rule 62-777, F.A.C.); metals, alkalinity, chloride, fluoride, sulfate, and total phosphorous. Approximately 50 percent of the samples collected from each pond will be analyzed for the remaining chemical parameters, excluding the nitrogen compounds. For each pond, one sample representative of each of the features (i.e., pit or shelf) will be analyzed for TKN, nitrate, nitrite, and ammonia. Similarly, a minimum of one sample representative of each feature will be analyzed for gross alpha, gross beta, radium 226, radium 288, and gamma spectroscopy. Surface water samples collected from the miscellaneous sample locations will be analyzed for metals, chloride, fluoride, sulfate, total phosphorous, and hardness. For each of the 11 miscellaneous sample areas, 1 sample will be analyzed for TKN, nitrite, nitrate, ammonia, and the radiological parameters identified above.

Samples exhibiting the highest levels of radioactivity (no more than eight samples) will also be analyzed for strontium 90, thorium 228, 230 and 232, and uranium 234, 235 and 238. The results of the initial and subsequent radiological testing will be used to establish a mechanism for approximating the levels of various parameters based on the results from the general testing methods (i.e., testing for gross alpha, gross beta, and gamma spectroscopy).

Summaries of the surface water sample analytical programs for the ponds and miscellaneous locations are presented in Tables 1 and 2. Surface water analytical parameters and method requirements (e.g., bottle requirements, preservatives, and holding times) are presented in Table 3. Table 3 also provides the FDEP global RBCA SWCTLs, and method detection limits and laboratory reporting limits for the test parameters.

6.4 Data Analysis

The laboratory analytical data and appropriate field data will be compiled in an electronic database to document baseline conditions, facilitate data analysis, and generate descriptive statistics. The data will be used to evaluate conditions generally representative of pore water conditions in the pond sediments and to characterize water accumulating in the ponds following the water treatment and discharge activities. The data will also be compared to the FDEP global RBCA SWCTLs (Rule 62-777, F.A.C.) for Class III waters (Rule 62-302, F.A.C.) (Table 3), for qualitative evaluation of surface water conditions.

7.0 Pond Sediment Scope of Work

The objectives of the scope of work proposed to characterize sediments in the Site ponds are presented in Section 7.1. Sections 7.2 through 7.4 describe the scope of field work, laboratory analytical program, and data analysis.

7.1 Objectives

Coronet proposes to collect sediment samples from all of the Site ponds for chemical analysis and geotechnical testing. The results will be used to determine if COPCs are present at concentrations suggesting further evaluation is warranted and to evaluate potential rehabilitation alternatives.

7.2 Sediment Sampling Program

The sampling program presented herein is designed to determine overall Site sediment conditions and potential variability in sediment conditions within individual ponds. The results of the proposed program will be used to ascertain if additional sampling, specifically to address variability within the individual ponds, would be appropriate.

The basis for selection of sample locations and intervals and sample collection protocols are presented in the following sections.

7.2.1 Sample Locations and Intervals

Proposed sediment sampling locations are shown in Figure 5. The locations have been chosen to evaluate representative conditions in the shelf and pit areas. The locations in Ponds 1N, 1S, 2, 4, and 6 may be modified based on the findings of the bathymetric survey to ensure that representative samples are collected from these areas.

At all locations, samples will be collected from the upper 0.5-foot zone of sediment because this is the most active biotic zone for potential ecological receptor exposure. Additional samples will be collected from each subsequent depth interval in which a change in material type is observed (e.g., grain-size, color, density). To the extent possible, samples also will be collected from within the upper 2-foot interval of the native soil (historical ground surface) encountered at the pond bottoms on the shelf areas and from the base of the former mining pits. The anticipated sediment thickness in each pond for both the pit and shelf areas is provided in Table 4.

The basis of selection for the sample locations and depths are discussed below.

- Ponds 1S and 1N are within mining pits, with little additional surface area potentially provided by the berms. The combined surface area is approximately 26 acres. Three sample locations are identified in Pond 1S; two sample locations are identified in Pond 1N. One sample location in each pond is near an outfall (Pond 6 to Pond 1S and Pond 1S to Pond 1N).

- Pond 2 includes a mining pit area with an approximate surface area of 13 acres. Berms constructed for this pit increased the total surface area of the pond to approximately 40 acres. Four sample locations are identified, two each in pits and the shelf area. One of the pit locations also coincides with the outfall from Pond 1N.

- Pond 2A was constructed by the placement of a berm on the ground surface. The surface area is approximately 12.5 acres. Two sample locations are identified, including one near the outfall from Pond 2.

- Pond 3 is within a mining pit, with little additional surface area provided by the berms. The surface area is approximately 18 acres. Three sample locations are identified, two within the pit (including one near the outfall from Pond 2A) and one on the shelf.

- Pond 4 includes six mining pits with an approximate surface area of 39 acres; berms were constructed to increase the total pond area to approximately 113 acres. Samples will be collected from four locations within the pits and four locations on the shelf, including one near the outfall from Pond 2.

- Pond 4A was constructed by the placement of a berm on the ground surface with an approximate surface area of 12 acres. Three sample locations are identified, including one near the outfall from Pond 4.

- Pond 5 includes two mining pits with an approximate surface area of 14 acres; berms were constructed to increase the total pond area to approximately 31 acres. Two sample locations are identified within mining pits, including one near the outfall from Pond 6. Two sample locations are identified in the shelf area, including one near the outfall from Ponds 2A, 3, and 8.

- Pond 6 was constructed by the placement of a berm on the ground surface with an approximate surface area of 54 acres. The northern portion of the pond may have been excavated to provide berm material, but is not believed to have been mined. Samples will be collected from two locations within the pits and seven locations on the shelf, including one near the outfall from the reaction ditch (P6-8).

- Pond 7 is within a mining pit with little additional surface area provided by berms. The surface area is approximately 8 acres. Two sample locations are identified.

- Pond 8 is within a mining pit, with no additional surface area provided by the berms. The surface area is approximately 12 acres. Three sample locations are identified within the main pond area, including one near the outfall from Pond 4.

A summary of the sampling and analytical program is presented in Table 4. Sediment analytical parameters and method requirements (e.g., bottle requirements, preservatives, and holding times) are presented in Table 5.

During the sediment sampling activities, samples for geotechnical testing (i.e., mechanical properties testing) will be obtained from all of the ponds. The number of samples and geotechnical parameters are greater for Ponds 6 and 1, the process ponds, than for the holding ponds. A summary of the sediment sampling and geotechnical testing program is presented in Table 6. The table does not identify specific locations for sample collection; samples that are representative of sediments from the shelf and pit areas, based on observations made in the field, will be collected for geotechnical testing.

7.2.2 Sampling Protocols

Sediment samples will be collected in accordance with the EISOPQAM. Depending on the depth of water at the time of collection, samples will be collected from a motorized boat or as otherwise appropriate. Caution will be taken to limit turbulence in the sample areas, particularly in areas of shallow water. Sediments from the upper 0.5-foot interval sample locations will likely be collected using a stainless steel scoop or Ponar or Eckman dredge, depending on the depth of the water at the time. Sediments from deeper intervals will be collected using a coring device to enable collection of samples from the desired intervals. The devices ultimately used will be dependent on the type of material encountered.

Samples for chemical analyses will be mixed in the field before placement in the appropriate sample containers to ensure the sample is as representative as possible of the sample media (EPA 2002b). The aliquots will be placed in appropriate laboratory prepared sample bottles. The sample handling; subsequent to collection will be performed in accordance with the EISOPQAM Field duplicates and MS/MSDs (as appropriate) will be collected at a ratio of 1:20, and equipment blanks will be collected weekly.

Samples for geotechnical testing will be collected using a coring device to obtain undisturbed samples, where possible. If possible, standard penetration test borings will be advanced to determine the *in situ* relative density of the media. Samples will be collected using a Ponar or Eckman grab sampler in areas of shallow deposits and other areas of poor sample retrieval. The sediment material from the grab samples will be remolded to simulate the *in situ* properties where appropriate. Sediment samples may also be collected in thin-walled (Shelby) tubes or acetate liners for undisturbed sample testing. Shelby tubes or acetate liners will be sealed on the top and bottom with wax and duct-taped to prevent drying of the sample, in accordance with the American Society for Testing and Material (ASTM) standards. Samples that do not require undisturbed testing or samples that can not be retrieved in an undisturbed state will be placed in sealed containers (e.g., jars, buckets, or sealed plastic bags).

7.3 Laboratory Programs

Chemical sample aliquots will be submitted for laboratory analysis of the parameters identified for surface water samples, as appropriate and applicable, to obtain an understanding of general characteristics and evaluate and model the potential effect of sediments on surface water quality, and to evaluate potential ecological conditions. The parameters include the Site COPCs and other parameters that will provide an understanding of general sediment conditions. The analytical parameter list includes:

- metals
- chloride
- fluoride
- total phosphorous
- TKN
- nitrate
- nitrite
- ammonia
- TOC
- pH
- gross alpha, gross beta, gamma spectroscopy

Coronet proposes to analyze all samples collected from the ponds for COPCs and other inorganic parameters for which the FDEP has established primary or secondary drinking water standards (Rule 62-550, F.A.C); metals, chloride, fluoride, total phosphorous, and pH. Although there are drinking water standards for nitrate and nitrite, these and other nitrogen compounds are not indicative of historical facility operations but are proposed to provide general characterization information. Coronet therefore proposes to analyze one sample of each representative material encountered in an individual pond for TKN, nitrate, nitrite, and ammonia; the same samples will also be analyzed for TOC.

Similarly, one sample of each representative material encountered in an individual pond will be analyzed following extraction using the synthetic precipitation leaching procedure (SPLP) for metals and fluoride. SPLP analysis will not be conducted for chloride, total phosphorous, nitrogen compounds, or TOC because testing is only to be performed for general information purposes and because there are no standards for total phosphorous or TOC in surface water or groundwater. Additionally, SPLP is not applicable to pH or radioactivity.

Samples in which the concentrations of total metals are greater than 20 times the limits established for the toxicity characteristic leaching procedure (TCLP) (i.e., arsenic, barium, cadmium, chromium, lead, selenium, and silver, and excluding mercury for which analysis will not be performed) will be tested for leachable metals using the TCLP. If more than three samples from a single pond have metals concentrations that indicate that TCLP extraction is to be performed, pursuant to this Work Plan, the EPA and the FDEP will be contacted to identify which samples are to be tested.

For each distinct material encountered in each pond, one representative sample will be analyzed for gross alpha, gross beta, and gamma spectroscopy. Based on the results of the radiological testing, some samples also may be analyzed for additional radiological parameters (i.e., radium 226, radium 228,

strontium 90, thorium 238, 230, 232, and uranium 234, 235, and 238). The levels that will trigger the need for additional testing will be determined in coordination with the EPA and the FDEP. A summary of the sediment sampling and analytical program for the ponds is presented in Table 4. Table 5 presents the analytical parameters and method requirements (e.g., bottle requirements, preservatives, and holding times) for solids, including sediment and soil. Table 5 also provides the SQAGs and the FDEP global RBCA-based CTLs for soil, and the method detection limits and laboratory reporting limits for the test parameters. Geotechnical parameters and methods for all of the ponds are presented in Table 6.

7.4 Data Analysis

The chemical analytical data and appropriate field data will be compiled in an electronic database to document baseline conditions, facilitate data analysis, and generate descriptive statistics. The stratification of sediments will be evaluated in applicable areas to determine if spatial variability of COPCs exists with depth.

The sample results (for total analyses) will be compared with the SQAGs (MacDonald 1994 and MacDonald et al 2003) or if SQAGs have not been developed, the EPA Region 4 Sediment Screening Values (EPA 2000b) (Table 5). Because not all of the ponds were continuously used for active process water management, the sediment quality likely will vary between the ponds. The SQAGs will be used to screen the sediment quality data as a potential benthic habitat for ecological receptors. As outlined in MacDonald et al. (2003), a statistical approach including the frequency and mean exceedence of the SQAGs or Sediment Screening Values will be used to evaluate the sediment quality data to determine if areas of concern exist with respect to potential risk to aquatic receptors. The variability of the natural sediment metal concentrations will be evaluated using the interpretative tool developed by Carvalho et al. (2002) to determine whether the metals in the pond sediments exceed expected natural concentrations.

The SPLP results will be compared to the FDEP global RBCA-based CTLs for groundwater and surface water (Rule 62-777, F.A.C.) to evaluate the potential impact of sediments on these media. The TCLP results will be compared to the TCLP criteria to evaluate the potential for constituents that may leach from the sediments to impact water.

The geotechnical testing data will be used to evaluate the physical properties of the pond sediments.

The chemical and geotechnical findings will be used to determine the need for and scope of any additional investigation and to identify potential rehabilitation alternatives. Additional investigation may include the collection of supplemental samples to address potential data gaps, or modeling of the chemical relationship between sediment and surface water and groundwater.

7.5 Pond 6 Sediment Sampling

In May 2004, approximately 75 percent of the bottom of Pond 6 was exposed as a result of the transfer of water in the pond to Pond 1S, evaporation, and minimal precipitation. Because the sediment surface was exposed, in consultation with EPA and FDEP Coronet elected to proceed with the collection of samples from locations accessible by foot. On May 25 and 26, samples were collected from locations P6-5 through P6-11 (Figure 5) and submitted for chemical and radiological testing. To the extent possible (based on the use of a hand auger) the samples were collected in the manner outlined above.

8.0 Pond Berms, Conveyance and Pond 6 Seepage Ditches, and Miscellaneous Locations Scopes of Work

Sections 8.1 and 8.2 present the scopes of work designed to characterize the pond berms and sediment in the conveyance ditches and the Pond 6 seepage ditch.

8.1 Pond Berms

8.1.1 Objectives

As discussed in Section 2.3, berms were constructed around several of the pits to increase capacity beyond that afforded by the limits of the mining pits (Ponds 1S, 1N, 2, 3, 4, 5, 7, and 8). Berms were also constructed on the ground surface to form new ponds (Ponds 2A, 4A, and 6). These berms are reportedly composed of soil and sediment excavated from the ponds. Coronet proposes to characterize the chemical and physical nature of the berms. The findings will be used to determine if COPCs are present at concentrations suggesting further evaluations are warranted, and to evaluate potential rehabilitation alternatives, if necessary.

8.1.2 Sample Locations, Intervals, and Protocols

Proposed locations for the collection of samples for chemical analyses are shown in Figure 6 (i.e., BR-series locations); a spacing of one location per 1,000 feet of berm is shown. The final locations will be at a generally similar spacing, but modified as appropriate to address:

- areas of material difference identified using the Visual-Manual Procedure (ASTM 1993) and in areas of sloughing, seeping, settlement, or any other observations that may indicate a change in the geotechnical properties of the soil
- water level data for existing piezometer pairs along the berms, boreholes would be completed near those pairs with similar elevations (suggesting seepage from the pond through the berm)
- areas in which dredged materials, refractory material, sludge, or other rubble are observed
- rig accessibility

The borings will be advanced from the tops of the berms to the top of the historical ground surface, which is believed to be approximately 5 feet below the top of the berms. Split-barrel samples or acetate liners will be collected continuously from the ground surface to total depth depending on the drilling method used; standard penetration testing (i.e. blow counts) will be recorded continuously during drilling except in those locations where thin-walled tube samples will be collected for geotechnical testing.

If similar materials are encountered throughout a borehole, two samples for chemical analyses will be collected from 1 foot below the top of the berm and approximately 1 foot above the base of the berm. At all locations, where varying materials are encountered, a representative sample of each material will be collected. Criteria used to differentiate materials include changes in soil type (e.g., sand, construction rubble, refractory brick, sludge), consolidation, moisture content, and color.

The samples will be placed in appropriate laboratory sample bottles. The sample handling subsequent to collection will be performed in accordance the EISOPQAM. Field duplicates and MS/MSDs (as appropriate) will be collected at a ratio of 1:20 and equipment blanks will be prepared weekly.

A summary of the sampling and analytical program is presented in Table 7.

Samples representative of the berm material observed at Ponds 6 and 1 will be selected for geotechnical testing (Table 8). Samples that do not require undisturbed testing will be placed in sealed containers (e.g., jars, buckets, or sealed plastic bags). Where undisturbed samples are required for testing samples will be collected in thin-walled tubes. Samples for unit weight, permeability strength and consolidation testing will be collected using thin-walled tubes; no less than one thin-walled tube will be collected from each berm. The tubes will be sealed on the top and bottom with wax and duct-taped to prevent drying of the sample, in accordance with ASTM standards.

8.1.3 Laboratory Programs

Chemical sample aliquots will be submitted for laboratory analysis of metals, chloride, fluoride, and total phosphorous. Approximately 20 percent of the samples will be analyzed for pH.

For each pond berm, one sample representative of each material encountered will be analyzed for SPLP metals and fluoride.

Samples in which total concentrations of metals are greater than 20 times the limits established for the TCLP will be tested for leachable metals (arsenic, barium, cadmium, chromium, lead, selenium, silver). If more than three samples from a single berm contain metals at concentrations that indicate TCLP extraction is to be performed pursuant to this Work Plan, the EPA and the FDEP will be contacted to identify which samples are to be tested.

For each distinct material encountered in each pond berm, one representative sample will be analyzed for gross alpha, gross beta, and gamma spectroscopy. Based on the results of the radiological testing, some samples also may be analyzed for additional radiological parameters (i.e., radium 226, radium 228, strontium 90, thorium 238, 230, 232, and uranium 234, 235, and 238). The levels that will trigger the need for additional testing will be determined in coordination with the EPA and the FDEP.

A summary of the analytical program is presented in Table 7. Analytical parameters and method requirements (e.g., bottle requirements, preservatives, and holding times) are presented in Table 5 for

solids, including sediment and soil. Table 5 also provides the FDEP global RBCA-based CTLs for soil, and the method detection limits and laboratory reporting limits for the test parameters. A summary of the geotechnical testing program is presented in Table 8.

8.1.4 Data Analysis

The chemical analytical results will be compared to the FDEP global RBCA-based soil CTLs for commercial/industrial direct exposure and for the protection of groundwater and surface water (Rule 62-777, F.A.C.) (Table 5). The geotechnical testing data will be used to evaluate the physical properties of the berm material under various conditions.

8.2 Conveyance and Pond 6 Seepage Ditches and Miscellaneous Locations

8.2.1 Objectives

As discussed in Section 2.0, a variety of ditches, pipes, pumps, and weirs were used to transfer water between the process area and the ponds (Figure 6). Coronet proposes to evaluate the chemical nature of sediments in the larger conveyance ditches, the Pond 6 seepage ditch, in areas associated with seepage from other ponds, and in miscellaneous areas of standing or flowing water. The findings will be used to determine if COPCs are present at concentrations suggesting further evaluation and to evaluate potential rehabilitation alternatives. Concurrent with the collection of samples, probing of the material will be performed to approximate the thickness of the sediments. Probing will be performed at each sample location, mid-way between the sampling locations, and as otherwise deemed appropriate. The information may be used to determine the approximate volume of sediment in the ditches that may be addressed as part of Site rehabilitation.

The locations of various smaller seepage ditches present at the Site will be mapped as part of the proposed survey; the locations shown in the figures are approximate.

8.2.2 Sample Locations, Intervals, and Protocols

The proposed sampling locations are identified in Figure 6 (CS-series locations), including:

- the conveyance ditches
  - the emergency return ditch for Ponds 6 and 1S (CS-1 and CS-2)
  - the return ditch from Pond 6 to Pond 1S (CS-3 and CS-4)
  - the elevated ditch (CS-5, CS-6, and CS-7)
  - the main ditch, including
    - CS-8, near the scrubber water outfall
    - CS-9, approximately mid-point between CS-8 and CS-9
  - CS-10, near the outfall from the KBF_4 production unit
  - the Pond 4 to Pond 4A ditch (CS-11 and CS-12)
  - the Pond 6 to Pond 5 ditch (CS-13, CS-14, CS-15)
- the Pond 6 seepage ditch (CS-16 through CS-23)

- miscellaneous locations
  - southwest of Pond 1S (P1SW-1)
  - west and northeast of Pond 2 (P2SW-1 and P2SW-2)
  - west of Pond 4 (P4SW-1 and P4SW-2) and east of Pond 4 (P4SW-3 and P4SW-4)
  - north of Pond 4A (P4ASW-1)
  - southeast of Pond 8 (P8SW-1)

Samples will also be collected downstream of the confluence of the small stream northeast of Pond 5 and seepage from exposed bedrock in this area (SW-1), and from the lowland area east of Pond 6 (SW-2 and SW-3). The locations of samples from seeps and seepage ditch areas (excluding Pond 6 ditches), and from streams or lowland areas will be identified in the field based on conditions observed at the time of collection and in coordination with the EPA and the FDEP.

The thickness of the sediments in the conveyance and Pond 6 seepage ditch is not known. The upper 2 feet of material encountered will be evaluated to estimate the thickness of the sediment and to evaluate the quality of the sediment or soil encountered. At all locations a sample will be collected from the upper 0.5-foot interval. Assuming similar material is encountered at each location, a deeper sample would be collected from approximately 2 ft-bgs at each of the conveyance ditch sample locations. If changes in the materials encountered are observed (e.g., grain-size, color, consolidation), samples of these materials will be collected (to a maximum of 2 ft-bgs). The collection of samples from depths greater than 0.5 foot are not required for the miscellaneous sample locations.

The samples will be collected using a shovel or hand trowel or other appropriate equipment depending on the amount of water present at the time of sample collection. The aliquots will be placed in appropriate laboratory prepared sample bottles. The sample handling subsequent to collection will be performed in accordance with the EISOPQAM. Field duplicates and MS/MSDs (as appropriate) will be collected at a ratio of 1:20 and equipment blanks will be prepared weekly.

8.2.3 Analytical Program

Chemical sample aliquots will be submitted for laboratory analysis of COPCs; metals, chloride, fluoride, total phosphorous, TOC, and pH. A minimum of one sample from each of the 11 general areas of interest will be analyzed for gross alpha, gross beta, and gamma spectroscopy. Based on the results of the radiological testing, some samples also may be analyzed for additional radiological parameters (i.e., radium 226, radium 228, strontium 90, thorium 238, 230, 232, and uranium 234, 235, and 238). The levels that will trigger the need for additional testing will be determined in coordination with the EPA and the FDEP.

A summary of the chemical analytical program is presented in Table 9. Analytical parameters for solids (including sediment and soil) and method requirements (e.g., bottle requirements, preservatives, and holding times) are presented in Table 5. Table 5 also provides the FDEP global RBCA-based CTLs

for soil and SQAGs, and the method detection limits and laboratory reporting limits for the test parameters.

8.2.4 Data Analysis

The chemical analytical results will be compared to the FDEP global RBCA-based soil CTLs for commercial/industrial direct exposure and for the protection of groundwater and surface water (Rule 62-777, F.A.C.), and the SQAGs or EPA Region 4 sediment screening values (Table 5).

9.0 Site Characterization

Coronet proposes to evaluate soil conditions in a historical disposal area and to evaluate groundwater conditions Site-wide during the Phase I assessment. The data and information generated will be used to evaluate the potential need for rehabilitation activities and in the development of the Phase II scope of work.

9.1 Soil Investigation

9.1.1 Objective

Reportedly, waste materials and used oil may have been disposed of in the area between Pond 1S and Pond 6. A limited investigation is proposed as part of the Phase I assessment to determine the potential impact to soil and groundwater in this area. The data and information generated during the Phase I will be used to evaluate rehabilitation options and to determine the need for and focus of any Phase II assessment in this area (e.g., lateral and vertical delineation, COPCs).

9.1.2 Sampling Program

A maximum of eight borings will be advanced in the area between Ponds 1 and 6. The approximate locations for the borings (LF-1 through LF-8) are shown in Figure 7. Final locations will be modified based on accessibility and field conditions.

The borings will be advanced using hollow stem augers or direct-push methods. Samples will be collected continuously from the ground surface to the uppermost-saturated zone. If there is no indication of disposal or impact in a location, two samples will be collected; one from the upper 1 foot and one from immediately above the water table. If there are indications of potential disposal at a location, samples of different types of material observed in the field will be collected (based on the materials disposed such as solid wastes or oil, and observed conditions such as color, staining, organic vapor readings). Regardless of the depth of disposed materials, a sample will be collected from above the water table to determine potential vertical delineation of impact on soil and the potential impact on groundwater quality.

Field duplicates and MS/MSDs (as appropriate) will be collected at a ratio of 1:20 and equipment blanks will be prepared weekly. Trip blanks will be submitted with each sample cooler containing aliquots for VOC analysis.

Grab samples of groundwater will be collected from the three locations with greatest potential soil impact. If there is no indication of disposal or impact, or less than three areas in which disposal is observed, the sample collection points will be distributed evenly across the area. In addition, and regardless of soil conditions, one monitoring well (MW-14) will be installed to evaluate water levels and groundwater quality in the area. The monitoring well will be installed in the boring that represents the

greatest potential impact to water quality based on the analytical results for the grab samples (expedited analytical reporting will be requested). If there is no evidence of impact in any of the borings or based on groundwater sample data, the monitoring well will be installed in the central portion of the area of interest. Construction of the well is described in Section 9.2.

Field duplicates and MS/MSDs (as appropriate) will be collected at a ratio of 1:20. Because the activity will be completed in less than 1 week, only 1 set of equipment blanks and preservative blanks will be prepared. Trip blanks will be submitted with each sample cooler containing aliquots for VOC analysis.

9.1.3 Analytical Program

The soil analytical program will include testing for metals, chloride, fluoride, and total phosphorous. Analyses will also be performed for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and total recoverable petroleum hydrocarbons (TRPH).

Two samples will be randomly selected for analysis of SPLP metals. Samples in which total concentrations of metals are greater than 20 times the limits established for the TCLP will be tested for leachable metals (arsenic, barium, cadmium, chromium, lead, selenium, silver). If more than three samples contain metals at concentrations that indicate TCLP extraction is to be performed pursuant to this Work Plan, the EPA and the FDEP will be consulted to identify which samples are to be tested.

Two samples also will be arbitrarily selected for analysis of gross alpha, gross beta, and gamma spectroscopy. Based on the results of the radiological testing, analysis for additional parameters (i.e., radium 226, radium 228, strontium 90, thorium 238, 230, 232, and uranium 234, 235, and 238) may be performed if necessary and appropriate. The levels that will trigger the need for additional testing will be determined in coordination with the EPA and the FDEP.

A summary of the sample analytical program is presented in Table 10. Analytical parameters for solids (including sediment and soil) and method requirements (e.g., bottle requirements, preservatives, and holding times) are presented in Table 5 and Table 11.

The analytical program for the grab groundwater samples and the groundwater sample to be collected from MW-14 is described in Section 9.2.

9.1.4 Data Analysis

The soil analytical results will be compared to the FDEP global RBCA-based soil CTLs for commercial/industrial direct exposure and for the protection of groundwater and surface water (Rule 62-777, F.A.C.) (Table 5). The groundwater analytical results will be compared to the FDEP global RBCA GWCTLs (Rule 62-777, F.A.C).

9.2 Groundwater Investigation

9.2.1 Objectives

The objectives of the proposed Phase I groundwater investigation are to evaluate groundwater quality and to determine aquifer characteristics. Coronet is currently compiling existing Site groundwater data. This information and the information generated during the Phase I assessment will be used in to identify groundwater COPCs (on which to base subsequent monitoring activities) and to identify data gaps to be addressed during the Phase II.

Section 9.2.2 summarizes available information on the existing network of Site monitoring wells, production wells, and piezometers, and evaluates the network's usefulness in meeting the Phase I objectives. Sections 9.2.3 through 9.2.5 present the scopes of work to evaluate groundwater quality and aquifer characteristics.

9.2.2 Existing Well and Piezometer Network

9.2.2.1 Well and Piezometer Locations and Construction

The existing network of Site monitoring wells and piezometers is shown in Figure 7, as are Site production wells. Table 12 presents a compilation of monitoring well and piezometer construction information; available lithologic logs and construction diagrams are presented in Appendix C.

There are 15 monitoring wells on Site; 11 MW-series wells and 4 SPB-series wells (consisting of three nested wells each). Wells monitoring the uppermost portion of the water-bearing unit underlying the Site include MW-1, MW-2, MW-4, MW-5A, MW-8, MW-10R, SPB-MW-1S, SPB-MW-2S, SPB-MW-3S, and SPB-MW-4S. Wells MW-3, MW-6, MW-7, MW-9R, and MW-13R monitor deeper portions of the water-bearing unit. Wells SPB-MW-1I through SPB-MW-4I are each constructed with screen intervals monitoring two deeper zones within the water-bearing unit.

As shown in Figure 7, the majority of the monitoring wells are along Coronet's southern property boundary; shallow wells MW-1, MW-2, and MW-10R are along the western, northern and eastern property boundaries. MW-9R and MW-13R are along the eastern property boundary and in the central portion of the Site; all remaining deeper wells are along the southern property boundary.

The 14 Site piezometers (PZ-series installations) include 4 pairs comprised of one interior to pond berms (PZ-4-I, PZ-4A-I, PZ-6I, and PZ-8I) and one exterior to the berms (PZ-4-O, PZ-4A-O, PZ-6O, and PZ-8O). Piezometers PZ-1, PZ-2, PZ-3, PZ-6A, PZ-6B, and PZ-6C were installed to evaluate seepage issues. The piezometer nests near Ponds 4, 4A, 6, and 8 were used to evaluate potential seepage through the pond berms. The available information suggests the total depths of the piezometers are generally 10 ft-bgs to 15 ft-bgs with 2-foot screens. As shown in Table 12, there is no adequate ground surface elevation or total depth information for the piezometers; therefore, the elevations of the screened intervals are unclear.

Water from wells in the Floridan aquifer were used to satisfy the facility's process, potable, and sanitary needs. Groundwater use is regulated by the Southwest Florida Water Management District (SWFWMD). There are 12 production wells on the Site. Coronet has a consumptive use permit for six of the wells (SWFWMD numbers 1, 2, 3, 4, 7, and 8); the approximate locations of these wells are shown in Figure 7. Wells 7 and 8 were sold to the golf course in 1991. The remaining six wells (SWFWMD numbers 5, 6, 9, 10, 11, and 12) are capped and not permitted for withdrawals. Available information on the wells will be compiled with other Site groundwater data as part of the Phase I activities.

9.2.2.2 Network Evaluation

The existing monitoring well network is capable of providing data of relevance to the Phase I assessment, but is not sufficient to fully evaluate groundwater quality or groundwater flow across the entire Site. To improve the network's ability to meet these objectives, Coronet proposes the installation of additional shallow monitoring wells (Section 9.2.3), the collection of groundwater samples Site wide for laboratory analyses, and the monitoring of water levels in Site wells and ponds.

The results of the groundwater sampling and analytical program (9.2.4), water level monitoring data for the Site (Section 9.2.5), and evaluation of additional information on the construction information will be used to determine if the existing piezometers are appropriate for assessing the potential impact on groundwater quality from the ponds. If necessary and appropriate, Coronet would install additional monitoring wells based on the results of this evaluation as part of the Phase II.

9.2.3 Proposed Well Installation

Coronet proposes the initial installation of seven shallow monitoring wells for use in evaluating both groundwater flow and quality in the uppermost-saturated zone underlying the Site. The approximate locations are shown in Figure 7:

- MW-13 - nested with MW-13R (screened approximately 61 ft-bgs to 71 ft-bgs)
- MW-14 - between Ponds 1S and 6 (as discussed in Section 9.1)
- MW-15 - west of Pond 4
- MW-16 - west of Pond 2
- MW-17 - south of Pond 2
- MW-18 - east of Pond 5
- MW-19 - east of Pond 6

The boreholes will be advanced with a hollow-stem auger or all-terrain drilling rig (as appropriate to Site conditions) equipped with nominal 4-inch diameter hollow stem augers. Soil samples will be collected continuously from the ground surface to the total depth of the borings using split-barrel samplers to facilitate descriptions of the lithology. The borings will be advanced approximately 8 feet below the uppermost-saturated zone (i.e., the water table). The wells will be constructed of 2-inch

polyvinyl chloride casing with 10-foot screens straddling the water table. Well construction will be in accordance with the EISOPQAM.

Samples representative of the different materials encountered below the water table will be collected and submitted for grain-size analyses. The results will be incorporated into the aquifer characterization activities (Section 9.2.5).

9.2.4 Groundwater Sampling Program

Coronet proposes to collect one round of groundwater samples for laboratory analyses as part of the Phase I assessment. The sampling event will be implemented approximately 2 weeks after completion of well construction and development activities.

9.2.4.1 Sampling Locations and Protocols

As discussed in Section 9.1, a maximum of four grab samples of groundwater will be collected as part of the soil investigation.

Groundwater samples will be collected from the Site monitoring wells identified in Section 9.2.2 and production wells 1, 3, and 7. Samples will also be collected from nine piezometers: PZ-1, PZ-2, PZ-3, PZ-4-O, PZ-4A-O, PZ-6-O, PZ-6A, PZ-6C, and PZ-8-O.

In addition to the laboratory analyses to be performed (Section 9.2.4.2), the following field parameters will be measured *in situ* at each of the pond water sampling locations and sample intervals: pH, temperature, specific conductance, turbidity, DO, and ORP. The ORP results will be converted to Eh for all samples.

Groundwater sampling and sample handling will be performed in accordance with the EISOPQAM. Field duplicates and MS/MSDs (as appropriate) will be collected at a ratio of 1:20, equipment blanks will be prepared weekly, and preservative blanks will be prepared at the beginning and end of the groundwater sampling activity. Trip blanks will be submitted with each sample cooler containing aliquots for VOC analysis.

9.2.4.2 Analytical Program

Coronet proposes to analyze all groundwater samples (excluding the grab samples discussed in Section 9.1) for the conventional chemical COPCs and other inorganic parameters for which the FDEP has established primary or secondary drinking water standards (Rule 62-550, F.A.C.); metals, chloride, fluoride, total phosphorous, orthophosphate, sulfate, TDS, and pH. Analysis for TKN will be performed on all samples to evaluate nitrogen levels. Hardness will be determined for all samples for potential use in calculating water quality standards. The groundwater sample collected from MW-14 will also be analyzed for VOCs, PAHs, and TRPH, similar to the soil sample analytical program for this area (Section 9.1). Grab samples collected during the soil investigation will be submitted for analysis of total and dissolved metals, in addition to the other parameters. Due to the nature of collection, a high level of

turbidity may occur which would result in high suspended sediment levels and yield total metals results that are not representative of groundwater quality. Groundwater samples collected from the monitoring wells, pieozmeters, and production wells will be analyzed for total metals.

Groundwater samples collected from all Site wells and the nine piezometers identified above will be submitted for radiological testing, including gross alpha, gross beta, gamma spectroscopy, radium 226, and radium 228. Samples exhibiting the highest levels of radioactivity (a maximum of 10 samples) will also be analyzed for strontium 90, thorium 228, 230 and 232, and uranium 234, 235 and 238. The results of the initial and subsequent radiological testing will be used to establish a mechanism for approximating the levels of various parameters based on the results from the general testing methods.

In addition to the laboratory analyses to be performed, the following field parameters will be measured at each location: pH, temperature, specific conductance, turbidity, DO, and ORP. Because the temperature, specific conductance, turbidity, DO, and ORP are to be used for qualitative purposes (EPA 2001b), confirmatory laboratory analyses are only proposed for pH. The ORP results will be used to calculate Eh.

A summary of the sample analytical program is presented in Table 13. Groundwater analytical parameters and method requirements (e.g., bottle requirements, preservatives, and holding times) are presented in Table 14.

9.2.4.3 Data Analysis

The groundwater analytical results will be compared to the FDEP global RBCA GWCTLs (Rule 62-777, F.A.C.) to identify COCs in groundwater. The results of this comparison will be used to develop an appropriate groundwater analytical program for the Phase II assessment. These results will also be used in conjunction with the results of the aquifer characterization activities to identify the need for installation of additional monitoring wells as part of the Phase II assessment, and the locations and intervals to be monitored.

The analytical results will also be used, in conjunction with additional piezometer construction information and water level data for the wells and ponds (Section 9.2.5), to determine if water in the ponds is affecting groundwater, and if it is necessary to install additional monitoring wells to evaluate this relationship.

9.2.5 Aquifer Characterization

Coronet proposes to characterize the physical nature of the shallow portion of the water-bearing unit underlying the Site and the relationship between the ponds and groundwater as part of the Phase I assessment. The characterization information generated during the Phase I assessment will be used to develop a conceptual hydrogeologic model of the Site that will be used to develop the scope of subsequent groundwater investigation activities.

Following installation of the proposed shallow wells, periodic monitoring of water levels in the Site wells, piezometers, and ponds will begin. The water level data will be used to determine the direction of groundwater flow (including the vertical hydraulic head between the shallow and deeper portions of the saturated zone underlying the Site) and the hydraulic gradient (i). Water level monitoring will continue after completion of the Phase I activities in order to evaluate seasonal fluctuations; the Phase I and post-Phase I water level monitoring data will be used to design the scope of any Phase II groundwater investigation activities.

In situ rising-head permeability tests will be performed in all newly installed monitoring wells. The objective of the tests is to create instantaneous changes in the water levels by withdrawing a slug of water. The rate of change in the water level as it returns to the equilibrium water level is determined and used to calculate the hydraulic conductivity of the water-bearing zone in the immediate vicinity of the well. The Bouwer and Rice method for determining the hydraulic conductivity (K) of unconfined aquifers with partially penetrating wells will be used to evaluate the test data collected.

The average seepage velocity of the shallow water-bearing zone will be calculated using the hydraulic gradient (i), and hydraulic conductivity of the material (K), and an estimated effective porosity (based on the lithologic information and grain-size testing).

10.0 Reports

The following sections summarize information that will be included the Phase I interim reports and the Phase I Site Assessment Report. The reports will be submitted to the EPA and the FDEP in accordance with the Administrative Order on Consent to which this Work Plan is attached. The Phase I Site Assessment Report will be signed and sealed by a State of Florida certified professional geologist or professional engineer; the interim reports are not required to be signed and sealed by a professional geologist or professional engineer.

10.1 Interim Reports

Interim reports will be prepared following completion of major tasks and receipt of the analytical data or other generated information as provided below. Interim reports will be submitted electronically, if practicable. Otherwise a single hard copy will be submitted. The purpose of these interim reports is to inform the EPA and the FDEP on the progress of the investigation and the findings. The reports will include a summary of the work performed and appropriate associated data and information; no interpretations or conclusions will be provided. The reports will also provide updates to the project schedule (Section 11). All interim reports will be submitted electronically, if practicable. Interim reports will address the following activities and will be submitted according to the schedule set forth below.

- the Pond 6 sediment sampling and analytical work performed in May 2004 (Section 7.5)
- the bathymetric survey (Section 5.2)
- the surface water and sediment evaluations for the ponds (Sections 6 and 7)
- the surface water evaluations for areas beyond the ponds (Section 6.2.1) and sediment evaluations in the conveyance ditches and Pond 6 seepage ditch (Section 8.2)
- the berm evaluation activities (Section 8.1)
- the soil investigation (Section 9.1), excluding groundwater quality information for MW-14
- the well installation and water quality monitoring activities (Sections 9.2.3 and 9.2.4)
- the *in situ* permeability testing activities, including calculations of hydraulic conductivity, and initial water level monitoring data (Section 9.2.5)

The first report (regarding the Pond 6 sediment sampling completed in May 2004) report will be submitted within 2 weeks of receipt of the radiological data. All subsequent interim reports will be submitted within 2 weeks of completion of the activity (where sample analysis is not part of the activity)

or within 2 weeks of receipt of the conventional chemical laboratory results (where sample analysis is part of the activity). Radiological reports will be submitted separately, within 2 weeks of receipt of the laboratory results. In addition, water level monitoring information will be provided intermittently based on monitoring dates; the information may be included with unrelated interim or progress reports.

The reports will include (as appropriate) confirmation of field methodologies, field notes, photographs, separate field forms (e.g. lithologic logs, well construction diagrams, groundwater sample logs), survey information, tabulated results, laboratory deliverables, and figures illustrating sample locations.

The information presented in these reports will also be incorporated into the Phase I Site Assessment Report.

10.2 Phase I Site Assessment Report

The Phase I Site Assessment Report will include the following (where applicable), consistent with the FDEP's draft Contaminated Site Cleanup Criteria (Rule 62-780, F.A.C.).

- a summary of Site history and operations as appropriate to the scope of the Phase I assessment, including a summary of the water treatment and discharge activities completed

- a summary of all tasks completed, including documentation of conformance with protocols

- a description of the Site setting, addressing
  - local land and potable well use
  - geology
  - hydrology, including an evaluation of the surface water/groundwater relationship, direction of groundwater flow, vertical and lateral hydraulic gradients, and groundwater seepage velocities

- figures illustrating Site conditions, including but not limited to:
  - the Site location on a U.S. Geologic Survey topographic map
  - the Site layout, based on the aerial photogrammetry mapping showing pertinent surface and subsurface features
  - sections illustrating the findings of the bathymetric survey
  - the locations of samples and including presentation of sample concentrations that exceed the FDEP global RBCA-based CTLs or other potentially applicable screening levels for various media
  - the Site stratigraphy, including (where appropriate) concentrations of constituents that exceed the FDEP global RBCA-based CTLs or other potentially applicable screening levels, and isoconcentration lines
  - locations of identified water supply wells
  - the groundwater elevation contours including inferred groundwater flow direction(s)

- tabular information, including but not limited to:
  - well and piezometer construction information
  - groundwater and surface water levels and elevations
  - sample analytical results for each media, including identification of samples in which constituents are detected at concentrations above the FDEP global RBCA-based CTLs or other potentially applicable screening levels, as appropriate
  - compilation of historical water quality information

Appended information will include lithologic logs, well and piezometer construction diagrams, field sampling data sheets, laboratory data analysis summaries, electronic data deliverables for chemical and radiological parameters, and calculations of hydraulic permeabilities and groundwater flow velocity.

The report will include a preliminary conceptual model for the Site that describes potential constituent migration pathways, potential human and ecological receptors, and potentially complete exposure pathways. The Phase I Site Assessment Report will provide a summary evaluation of Site conditions and present recommendations for additional activities, based on the conceptual model and data gaps identified relative to delineation or future Site rehabilitation. Four hard copies and one electronic copy of the final report will be submitted to the EPA.

11.0 Project Schedule

Implementation of these Phase I activities will commence within 2 weeks of final approval of the Work Plan (defined as the date on which the EPA signs the Administrative Order on Consent to which this Work Plan is attached). The activities required in Sections 4 through 9 of this Work Plan (excluding periodic groundwater monitoring) will be completed within approximately 16 weeks of final approval of the Work Plan. The interim reports will be submitted in accordance with Section 10.1. The Phase I Site Assessment Report will be submitted within 6 weeks of completing the activities required in Sections 4 through 9 of this Work Plan. A non-binding project schedule reflecting Coronet's preliminary task-by-task schedule for implementation of this Work Plan is presented as Figure 8. The schedule includes a 2-week mobilization period following final approval of the Work Plan to allow for finalization of Site-specific health and safety plans and completion of contracting activities.

The preliminary schedule assumes the following:

- subcontractor availability
- completion of the bathymetric survey for Ponds 1N, 1S, 2, 4, and 6
- preliminary chemical laboratory turn-around-time of 10 days (full deliverables within 20 days)
- preliminary radiological laboratory turn-around-times of 15 days and 20 days for aqueous and solid samples (full deliverables within 25 and 30 days)
- timely concurrence of the EPA and the FDEP on matters requiring consultation

The Work Plan identifies a phased approach to laboratory testing such that analyses for some samples are dependent on the receipt and review of data for other samples. The schedule does not account for the time necessary to reach agreement with the EPA and the FDEP regarding the analytical program or implementation of the program.

Coronet will make every reasonable attempt to adhere to the preliminary schedule; however, uncontrollable conditions and situations could occur that may impact the schedule. It is not anticipated that the resulting delays will be greater than 2 weeks for any given situation.

The preliminary schedule will be updated periodically and the most recent update will be provided in each of the interim reports (Section 10.1). Updates to the preliminary schedule will not require approval by the EPA unless an update would change the date for commencement of implementing the Work Plan as set forth above; the date for completion of the activities required in Sections 4 through 9 of the Work Plan as set forth above; the date for submission of any interim report as set forth in Section 10.1; or the date for submission of the Phase I Site Assessment Report as set forth above.

References

American Society for Testing and Materials (ASTM). 1993. Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). D2488.

BCI Engineers & Scientists, Inc. (BCI). 2004. 2003 Annual Dam Safety Inspection, Process Water Storage and Treatment Ponds, Coronet Plant City Facility. March.

Carvalho, A., S.J. Schropp, G.M. Sloane, T.P. Biernacki, and T.L. Seal. 2002. Development of an Interpretive Tool for Assessment of Metal Enrichment in Florida Freshwater Sediment. Florida Department of Environmental Protection, Tallahassee, Florida.

Coronet Industries, Inc. 2004a. Shutdown and Decommissioning Plan, Coronet Industries, Inc., Plant City, Florida. February 13.

Coronet Industries, Inc. 2004b. Site Assessment and Rehabilitation Plan, Coronet Industries, Inc., Plant City, Florida. March 5.

Environmental Sciences & Technologies, Inc. (EST). 2002. Contamination Assessment Report, Coronet Industries, Inc., Plant City, Florida. June.

MacDonald, D.D. 1994. Approach to the Assessment of Sediment Quality in Florida Coastal Waters. Technical Report prepared for Florida Department of Environmental Protection. Tallahassee, Florida.

MacDonald, D.D., C.G. Ingersoll, D.E. Smorong, R.A. Lindskoog, G. Sloane, and T. Biernacki. 2003. Development and Evaluation of Numerical Sediment Quality Assessment Guidelines for Florida Inland Waters. Technical Report prepared for Florida Department of Environmental Protection. Tallahassee, Florida.

U.S. Army Corps of Engineers (USACE) and South Florida Water Management District (SFWMD). 2001. Central and Southern Florida Project, Comprehensive Everglades Restoration Plan, Project Management Plan, Western Hillsborough Aquifer Storage and Recovery Pilot Project.

U.S. Department of Agriculture (USDA), Soil Conservation Service. 1989. Soil Survey of Hillsborough County, Florida. May.

U.S. Environmental Protection Agency (EPA). 2002a. EPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. EPA/540/R-01/008. July.

U.S. Environmental Protection Agency (EPA), Region 4. 2002b. Ecological Assessment Standard Operating Procedures and Quality Assurance Manual. January.

U.S. Environmental Protection Agency (EPA). 2001a. Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM). November.

U.S. Environmental Protection Agency (EPA). 2001b. Requirements for Quality Assurance Project Plans (EPA QA/R-5). EPA/240/B-01/003. March.

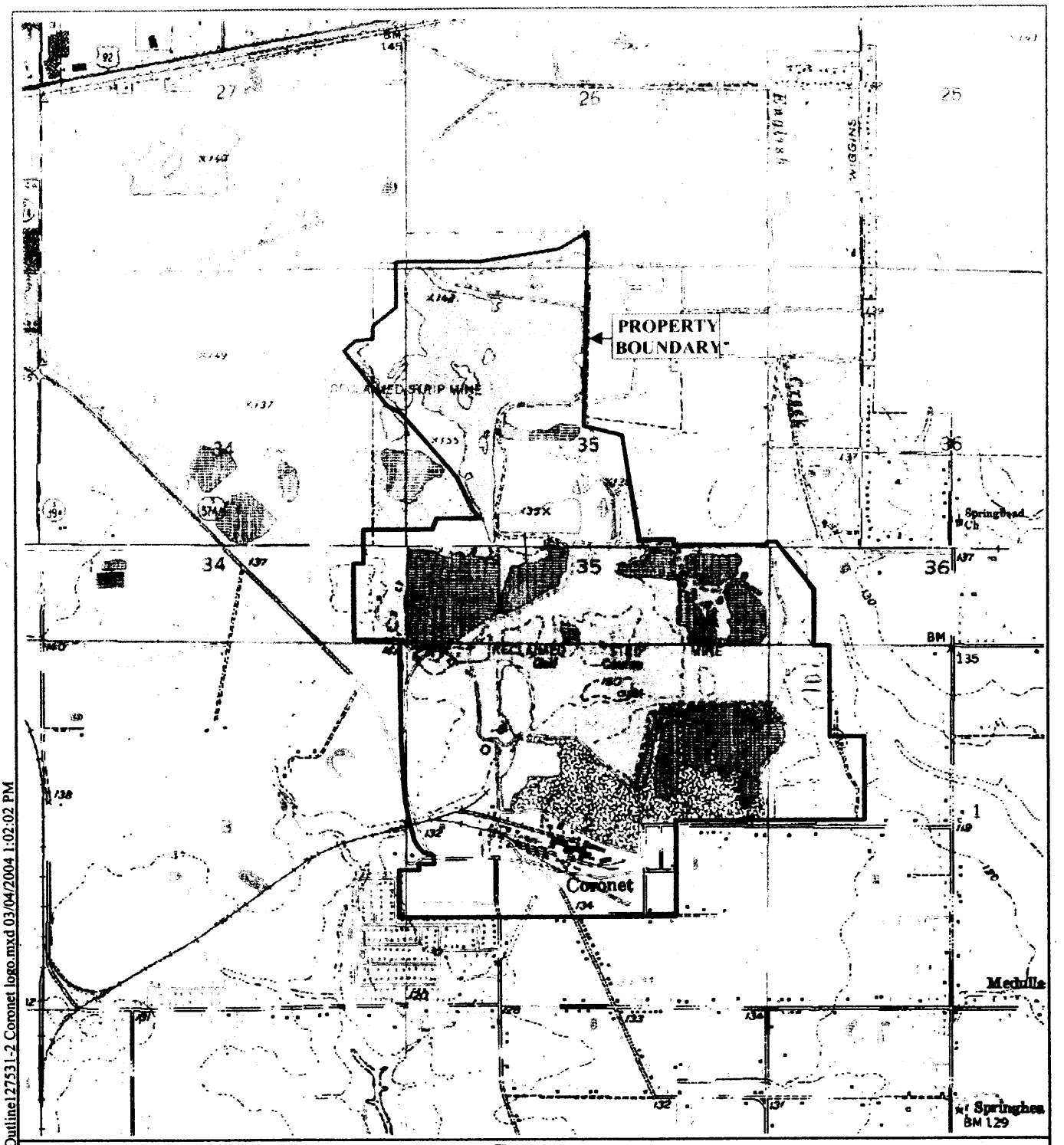
References (continued)

U.S. Environmental Protection Agency (EPA). 2000a. Guidance for the Data Quality Objectives Process (EPA QA/G-4). EPA/600/R-96/005. August.

U.S. Environmental Protection Agency (EPA), Region 4. 2000b. Region 4 Memorandum: Amended Guidance on Ecological Risk Assessment at Military Bases: Process Considerations, Timing of Activities, and Inclusion of Stakeholders. Office of Technical Services. Atlanta, Georgia. June 23.

U.S. Environmental Protection Agency (EPA). 1999. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review. EPA/540/R-99/008. October.

Figures



REFERENCE:
USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE,
PLANT CITY EAST AND NICHOLS, FLORIDA
PHOTOREVISED 1987
SCALE 1:24000

N

Quadrangle Location

2,000 1,000 0 2,000

Scale in Feet

CORONET INDUSTRIES, INC.

Figure 1
Site Location
Coronet Industries, Inc.
Plant City, Florida

127531/02

M:\GISFiles\Figure 1s\Coronet\SiteOutline127531-2 Coronet logo.mxd 03/04/2004 1:02:02 PM

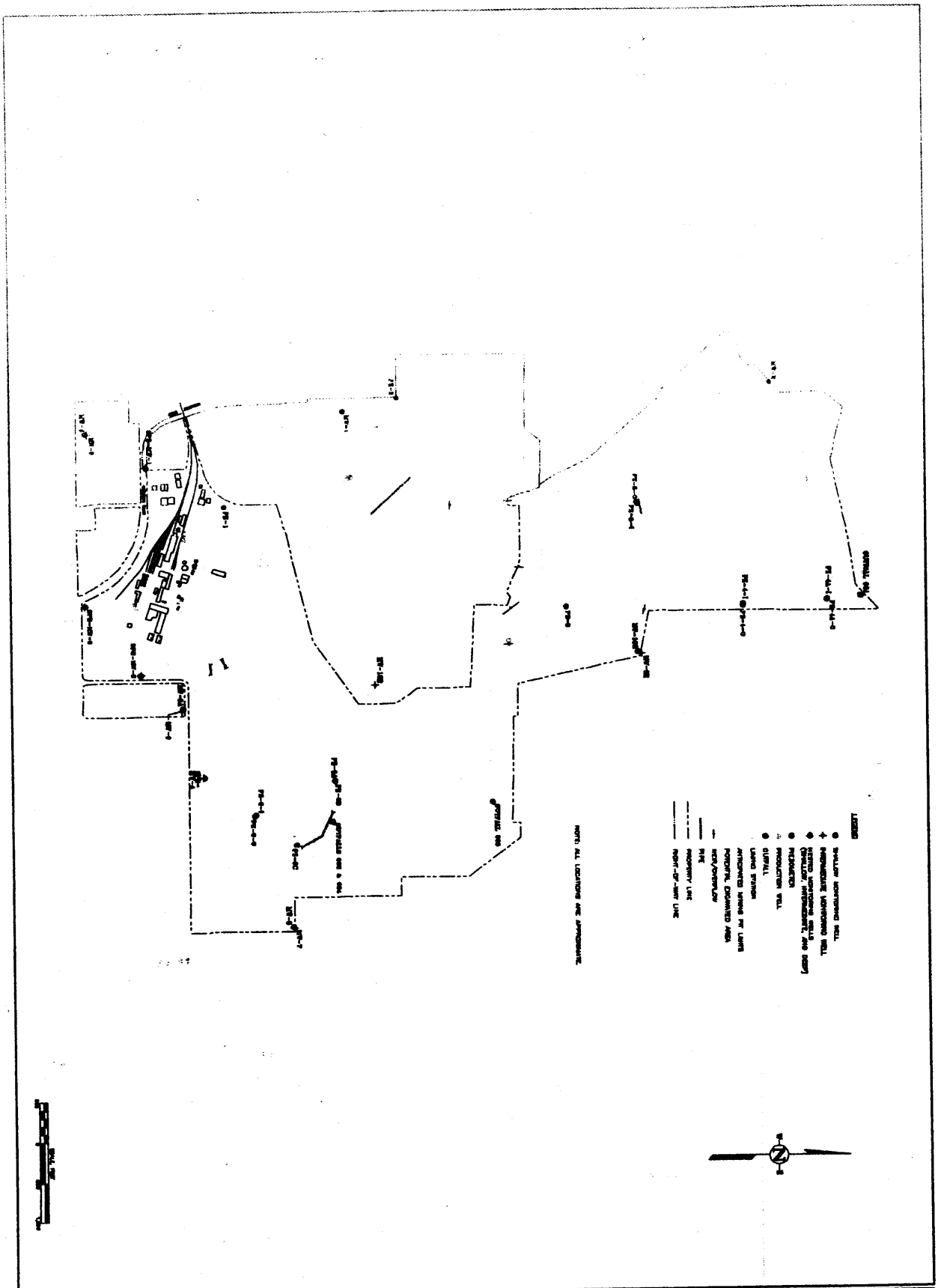
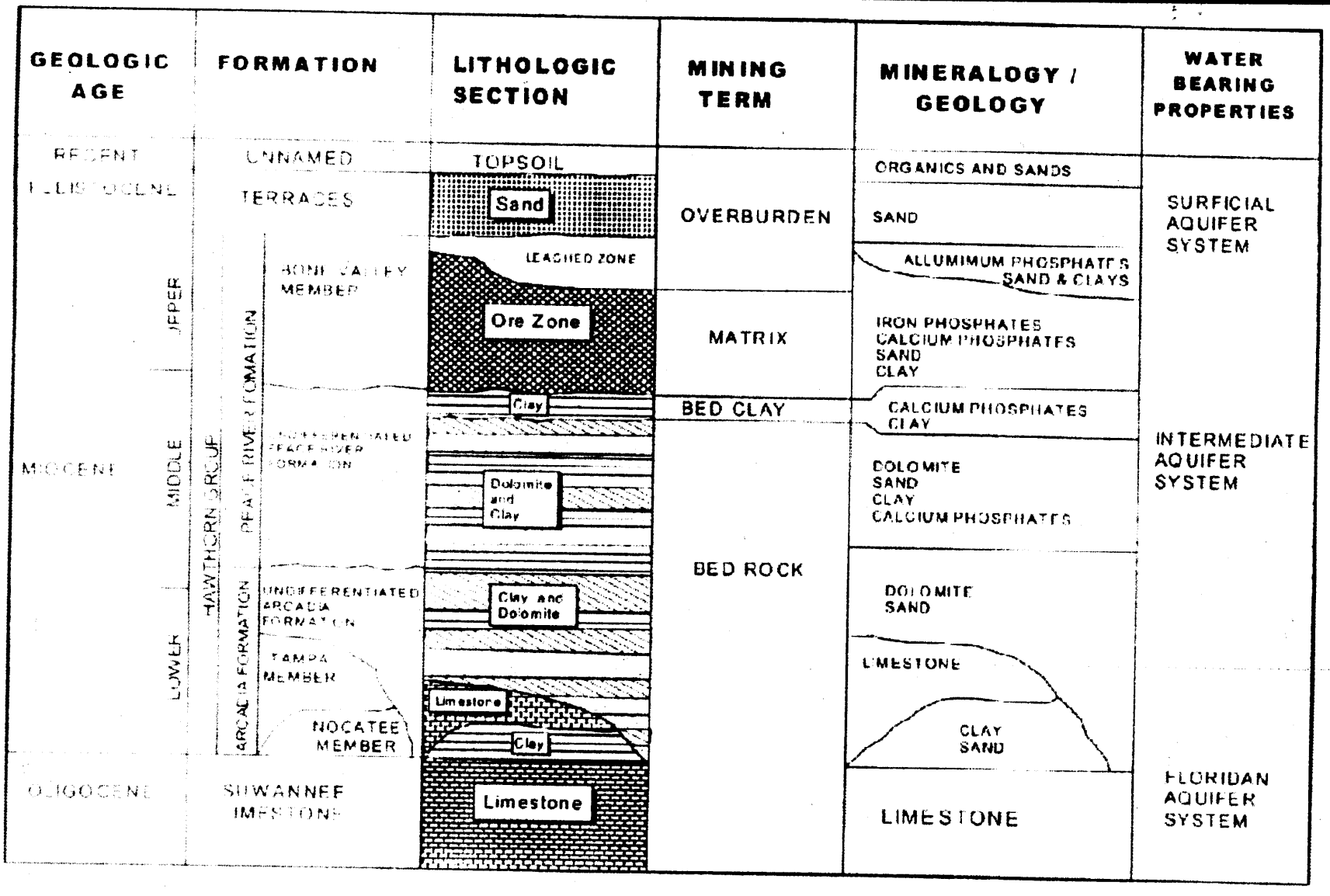


FIGURE 2 Drawing Name 127531-D12	CORONET INDUSTRIES, INC.	SITE LAYOUT CORONET INDUSTRIES, INC. FACILITY PLANT CITY, FLORIDA	DRAWN BY DESIGNED APPROVED	REVISIONS REV / DESCRIPTION



REFERENCES: KENNETH M. CAMPBELL. 1986. GEOLOGY OF POLK COUNTY, FLORIDA. FLORIDA GEOLOGIC SURVEY.
WILLIAM S. YON. 1983. STATUS OF PHOSPHATIC CLAY WASTE DISPOSAL. FLORIDA GEOLOGIC SURVEY.

CORONET INDUSTRIES, INC.

FIGURE 3

GENERALIZED HYDROGEOLOGIC SECTION

CORONET INDUSTRIES, INC. FACILITY
PLANT CITY, FLORIDA

Drawn By: RAZ March 2004
Checked:
Approved:
DWG Name: 127531-A01

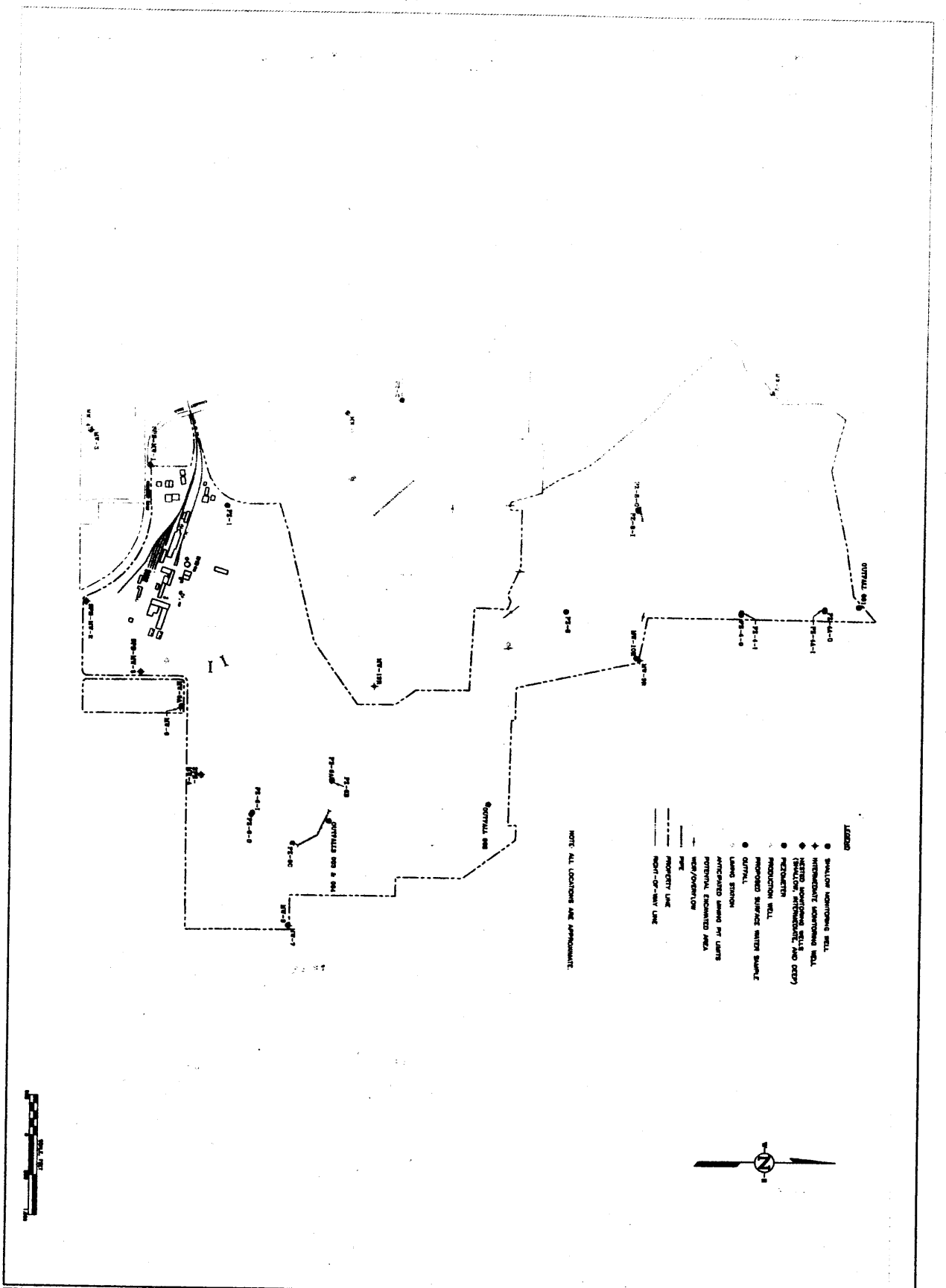
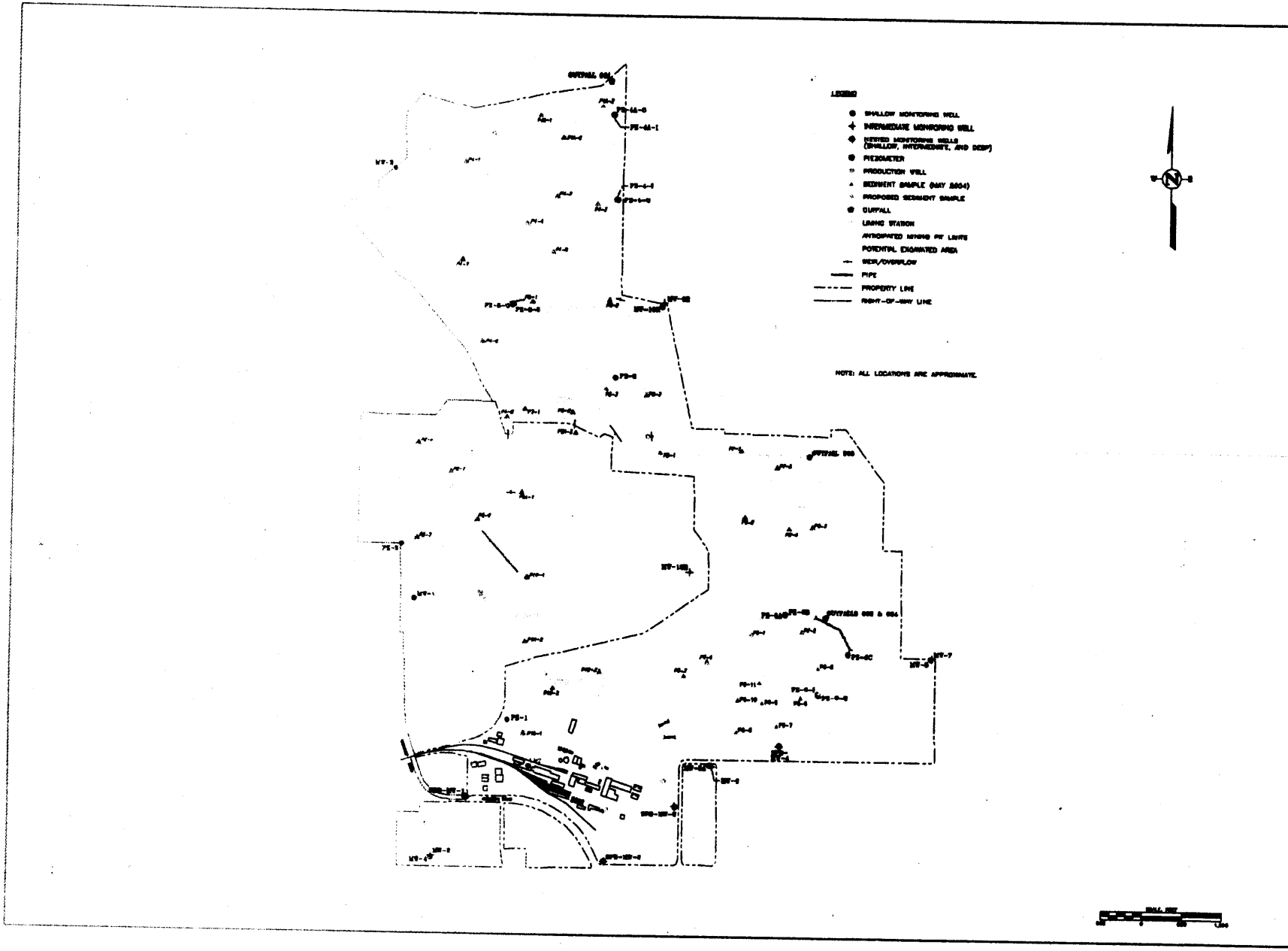


FIGURE 4 Drawing Name 127531-D04	CORONET INDUSTRIES, INC.	PROPOSED SURFACE WATER SAMPLING LOCATIONS CORONET INDUSTRIES, INC. FACILITY PLANT CITY, FLORIDA	DRAWN BY CHECKED APPROVED	SEAL DATE

REVISIONS

REV	DESCRIPTION



REVISIONS

PROPOSED SEDIMENT SAMPLING LOCATIONS

CORONET INDUSTRIES, INC. FACILITY
PLANT CITY, FLORIDA

CORONET INDUSTRIES, INC.

FIGURE 5

Drawing Name
127531-D15

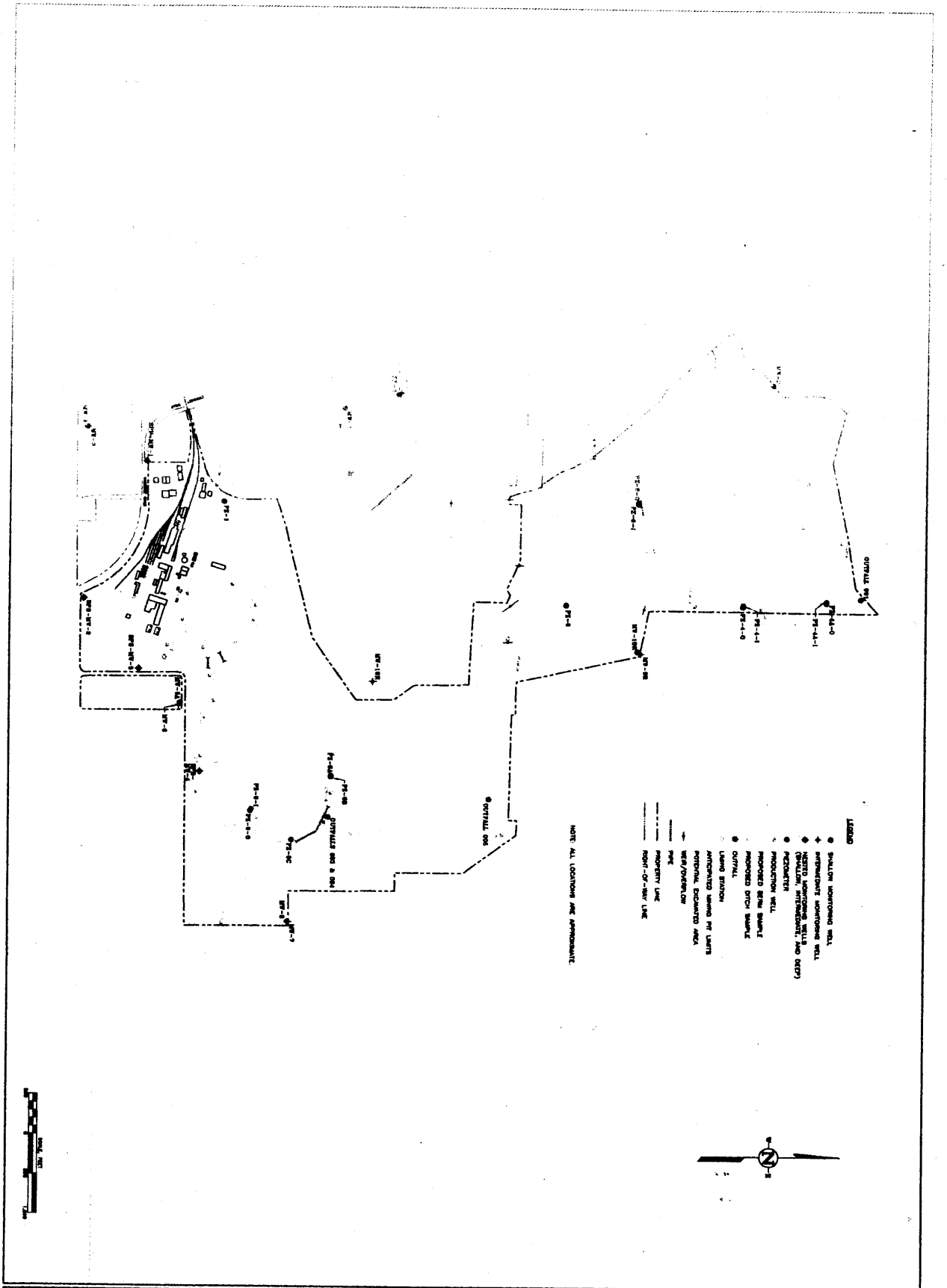
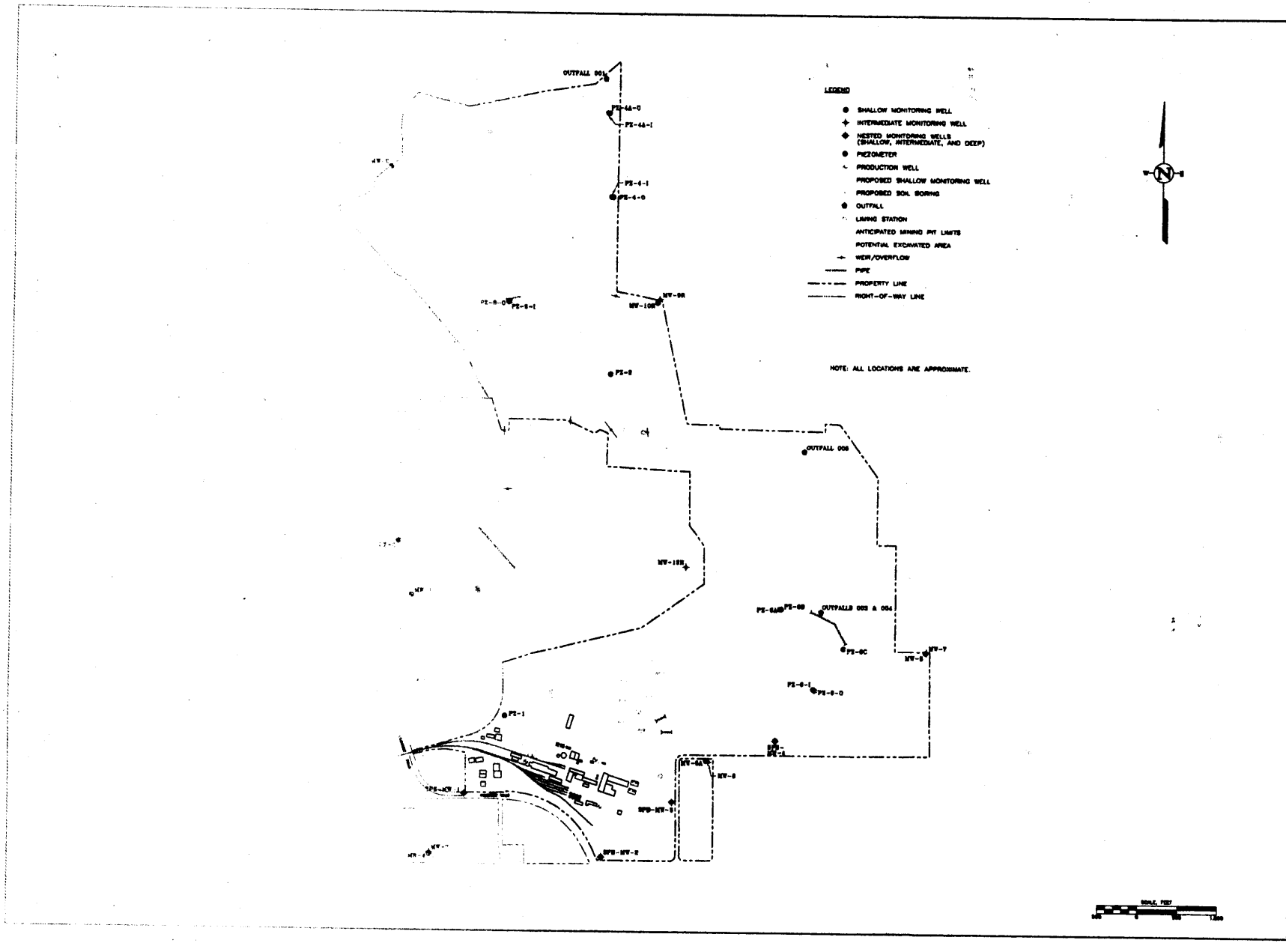


FIGURE 6 Drawing Name 127531-D16	CORONET INDUSTRIES INC	PROPOSED BERM, CONVEYANCE AND POND 6 SEEPAGE DITCHES, AND MISCELLANIOUS SAMPLING LOCATIONS CORONET INDUSTRIES, INC. FACILITY PLANT CITY, FLORIDA	DRAWN BY: AKS 081484 CHECKED APPROVED	SEAL DATE

REVISIONS

REV	DESCRIPTION		



REVISIONS

REV	DESCRIPTION

DRAWN BY
CHECKED
APPROVED

PROPOSED SOIL AND GROUNDWATER INVESTIGATION LOCATIONS

CORONET INDUSTRIES, INC. FACILITY
PLANT CITY, FLORIDA

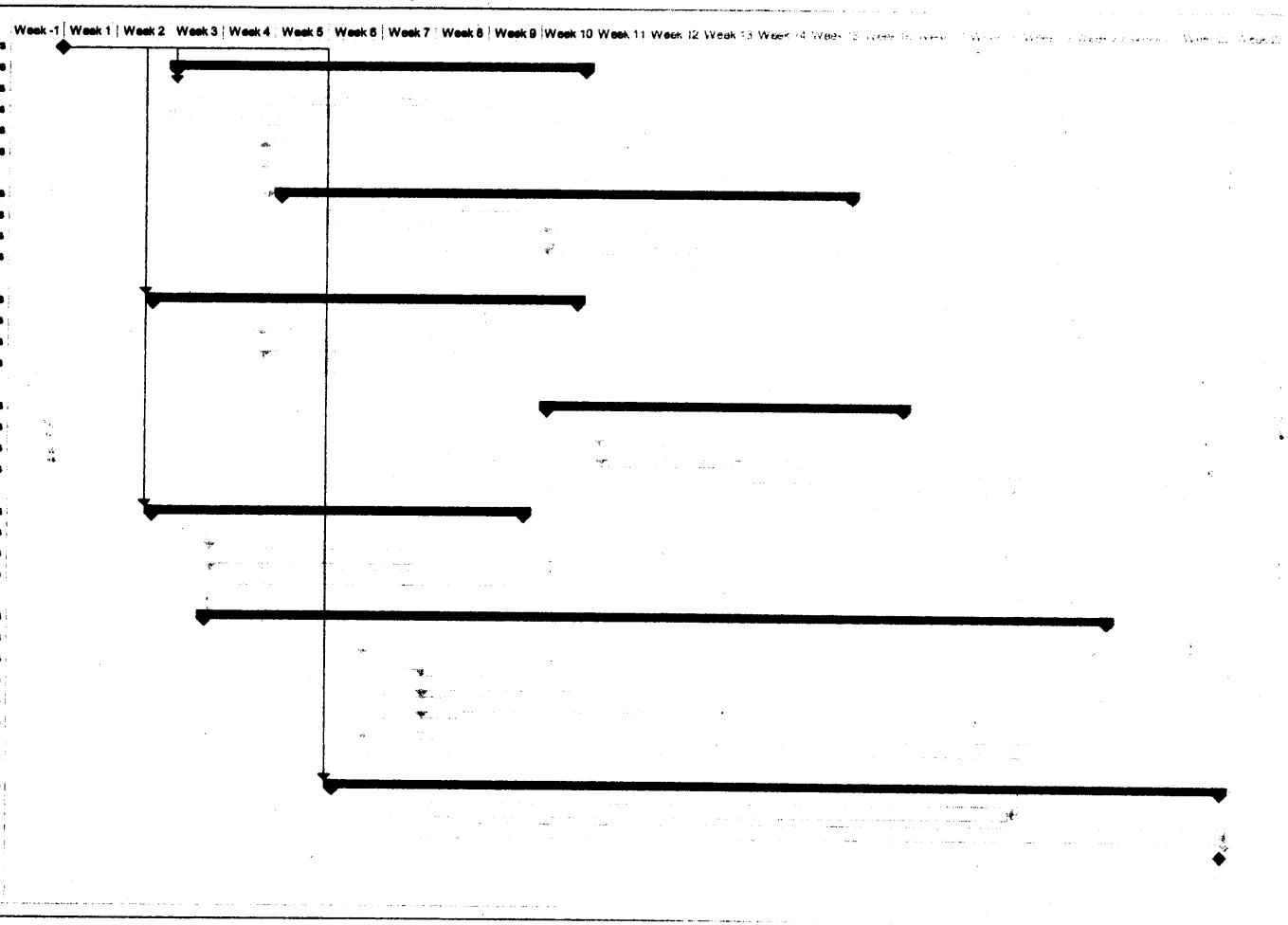
CORONET INDUSTRIES, INC.

FIGURE 7

Drawing Name
127531-D11

Figure 8
Project Schedule
Phase I Site Assessment
Coronet Industries, Inc.
Plant City, Florida

ID	Task Name	Duration
1	**Work Plan Approval**	0 days
2	**Site Surveys**	40 days
3	Photogrammetry	25 days
4	Bathymetry	40 days
5	Well Location Survey	3 days
6	Soil/Sediment Location Survey	5 days
7		
8	**Surface Water and Sediment Sampling and Analysis**	55 days
9	Surface Water and Sediment Sampling	25 days
10	Chemical Analyses	20 days
11	Radiological Analyses	30 days
12		
13	**Berm Sampling and Analysis**	40 days
14	Soil Boring and Sampling	10 days
15	Chemical Analyses	20 days
16	Radiological Analyses	30 days
17		
18	**Conveyance/Seepage Ditches Sampling and Analysis**	35 days
19	Sampling	5 days
20	Chemical Analyses	20 days
21	Radiological Analyses	30 days
22		
23	**Soil Investigation**	35 days
24	Soil Sampling	5 days
25	Chemical Analyses	20 days
26	Radiological Analyses	30 days
27		
28	**Groundwater Investigation**	85 days
29	Well Installation	5 days
30	Groundwater Sampling	5 days
31	Chemical Analyses	20 days
32	Radiological Analyses	25 days
33	In Situ Permeability Testing	5 days
34	Periodic Water Level Monitoring	70 days
35		
36	**Report**	85 days
37	Interim Reports	65 days
38	Phase I Report Preparation	76 days
39	Phase I Report Submittal	0 days
40		
41	**Health and Safety Plan**	10 days



Project: dateless
Date: Fri 7/9/04

Task | Progress | Milestone | Summary | Rolled Up Task | Rolled Up Milestone | Rolled Up Progress | Split | External Tasks | Project Summary

Tables

Table 1

Summary of Surface Water Sampling and Analytical Program
Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Pond	Sample Location	Anticipated Water Column Shelf (feet)	Anticipated Water Column Pit (feet)	Anticipated Sample Intervals	Laboratory Analytical Parameters (b): TAL Metals plus B	Mineral Acidity	Alkalinity	Chloride	Fluoride	Sulfate	Sulfide	Phosphorous Total	Phosphorous Ortho	TDS	TSS	Nitrite-Nitrate	TKN	Hardness	TOC	Radio-activity	Field Parameters (c)
Pond 1S	P1S-1	-	13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2
	P1S-2	-	13	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2
	PIS-3	-	13	2	2	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	2
Pond 1N	P1N-1	-	13	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2
	P1N-2	-	13	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2
Pond 2	P2-1	<5	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	P2-2	-	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2
	P2-3	-	16	2	2	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	2
Pond 2A	P2A-1	<5	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	P2A-2	<5	-	1	1	-	-	-	-	-	-	1	1	-	-	-	-	-	-	1	1
Pond 3	P3-1	-	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2
	P3-2	-	12	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2
	P3-3	5	-	1	1	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1
Pond 4	P4-1	-	16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2
	P4-2	-	16	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2
	P4-3	<5	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	1
	P4-4	<5	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	1
	P4-5	<5	-	1	1	0	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1
	P4-6	<5	-	1	1	0	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1
	P4-7	-	16	2	2	0	-	-	-	-	-	2	2	-	-	-	-	-	-	-	2
Pond 4A	P4A-1	6	-	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2
	P4A-2	6	-	2	2	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	2
	P4A-3	6	-	2	2	0	-	-	-	-	-	2	2	-	-	-	-	-	-	-	2
Pond 5	P5-1	<5	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	P5-2	-	12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2
	P5-3	-	12	2	2	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	2
	P5-4	<5	-	1	1	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	1
Pond 6	P6-1	-	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	P6-2	-	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	P6-3	3	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	1
	P6-4	3	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-	1
	P6-5	3	-	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	1
	P6-6	3	-	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	1
	P6-7	3	-	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	1
Pond 7	P7-1	<5	-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	P7-2	<5	-	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	-	1	1
Pond 8	P8-1	-	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	P8-2	-	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	P8-3	-	4	1	1	-	-	-	-	-	1	1	1	-	-	-	-	-	-	-	1

a/ TAL = target analyte list (metals); B = boron; Ortho = orthophosphate; TDS = total dissolved solids; TSS = total suspended solids; TKN = total Kjeldahl nitrogen; TOC = total organic carbon; "-" indicates sample collection, or sample analysis not intended.

Table 1 (continued)

Summary of Surface Water Sampling and Analytical Program (Ponds)
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida

Reference Sections 6.2.1 and 6.3 for additional information.

a/ Total = total phosphorous; Ortho = orthophosphate; TDS = total dissolved solids; TSS = total suspended solids; TOC = total organic carbon; "-" indicates sample collection, or sample analysis not intended.
b/ Metals include the target analyte list metals (excluding mercury) and boron.
Analyses for mineral acidity, sulfide, orthophosphate, TSS, nitrogen compounds (total Kjeldahl nitrogen, nitrate, nitrite, and ammonia), hardness, and TOC will be performed on 50 percent of the samples from each pond.
The locations shown in the table are for illustrative purposes only.
c/ A minimum of one sample will be collected from each of the two potential representative areas of construction (shelf or pit) for analyses of nitrogen compounds (total Kjeldahl nitrogen, nitrate, nitrite, and ammonia).
d/ A minimum of one sample will be collected from each of the two potential representative areas of construction (shelf or pit) for radiological testing. The initial tests will incolude gross alpha, gross beta, radium 226, radium 228, and gamma spectroscopy. The samples with the highest levels of radioactivity (maximum of 8 locations, including miscellaneous locations) will also be tested for strontium 90, thorium (228, 230, 232), and uranium (234, 235, 238).
e/ Field parameters include pH, temperature, specific conductance, turbidity, dissolved oxygen, and oxidation/reduction potential (ORP); Eh will be calculated using the ORP readings.

Table 2

Summary of Surface Water Sampling and Analytical Program (Miscellaneous Locations)
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Sample Location	Chemical Parameters (b)							Radiological Parameters (c)	Field Parameters (d)
	Metals	Chloride	Fluoride	Sulfate	Total Phosphorous	Nitrogen Compounds (c)	Hardness		
Conveyance and Seepage Ditches									
Emergency return ditch									
CS-1	1	1	1	1	1	1	1	1	1
CS-2	1	1	1	1	1	-	1	-	1
Return ditch									
CS-3	1	1	1	1	1	1	1	1	1
CS-4	1	1	1	1	1	-	1	-	1
Main Ditch									
CS-8	1	1	1	1	1	1	1	1	1
CS-10	1	1	1	1	1	-	1	-	1
Pond 6 seepage ditch									
CS-16	1	1	1	1	1	1	1	1	1
CS-19	1	1	1	1	1	-	1	-	1
CS-21	1	1	1	1	1	-	1	-	1
Seeps and Miscellaneous Locations									
Pond 1S									
P1SW1	1	1	1	1	1	1	1	1	1
Pond 2									
P2SW-1	1	1	1	1	1	1	1	1	1
P2SW-2	1	1	1	1	1	;-	1	;-	1
Pond 4									
P4SW-1	1	1	1	1	1	1	1	1	1
P4SW-2	1	1	1	1	1	-	1	-	1
P4SW-3	1	1	1	1	1	-	1	-	1
P4SW-4	1	1	1	1	1	1	1	1	1
P4SW-5	1	1	1	1	1	-	1	-	1
Pond 4A									
P4ASW-1	1	1	1	1	1	1	1	1	1
Pond 8									
P8SW-1	1	1	1	1	1	1	1	1	1
Pond 5									
SW-1	1	1	1	1	1	1	1	1	1
Pond 6									
SW-2	1	1	1	1	1	1	1	1	1
SW-3	1	1	1	1	1	-	1	-	1

Reference Sections 6.2.1.2 and 6.3 for additional information.

a/ TSS = total suspended solids; "-" indicates sample collection, or sample analysis not intended.
b/ Metals include the target analyte list metals and boron.
c/ One sample from each of the 11 miscellaneous sample areas will be analyzed for nitrogen compounds (total Kjeldahl nitrogen, nitrate, nitrite, and ammonia). Similarly, one sample from each of these areas will be analyzed for radiological parameters. The initial radiological tests will include gross alpha, gross beta, radium 226, radium 228, and gamma spectroscopy.
The samples with the highest levels of radioactivity (maximum of 8 and including the pond water sample locations) will also be tested for strontium 90, thorium (228, 230, 232), and uranium (234, 235, 238).
d/ Field parameters include; pH, temperature, specific conductance, and turbidity.

Table 3

Surface Water Sample Analytical Methods and Requirements
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Parameters	Method (b)	Method Detection Limit (mg/l)	Laboratory Reporting Limit (mg/l)	FDEP RBCA SWCTLs (mg/l) (c)	Container	Sample Quantity (ml)	Preservative	Holding Time
Chemical Parameters								
Metals					P	600	4°C; HNO_3 <2 s.u.	6 months
aluminum	SW-846 6020	0.002	0.004	0.013				
antimony	SW-846 6020	0.00005	0.0001	4.3 (d)				
arsenic	SW-846 6020	0.0001	0.0002	0.05 (d)				
barium	SW-846 6020	0.000075	0.00015	- (e)				
beryllium	SW-846 6020	0.0001	0.0002	0.00013				
boron	SW-846 6020	0.001	0.002	0.66 (f)				
cadmium	SW-846 6020	0.00005	0.0001	- (g)				
calcium	SW-846 6020	0.01	0.02	-				
chromium	SW-846 6020	0.00025	0.0005	- (g)				
cobalt	SW-846 6020	0.00005	0.0001	-				
copper	SW-846 6020	0.00005	0.0001	- (g)				
iron	SW-846 6020	0.025	0.05	1				
lead	SW-846 6020	0.00005	0.0001	- (g)				
magnesium	SW-846 6020	0.0025	0.005	-				
manganese	SW-846 6020	0.0001	0.0002	-				
nickel	SW-846 6020	0.00005	0.0001	- (g)				
potassium	SW-846 6020	0.01	0.02	-				
selenium	SW-846 6020	0.0001	0.0002	0.005				
silver	SW-846 6020	0.00005	0.0001	0.00007				
sodium	SW-846 6020	0.005	0.01	- (h)				
thallium	SW-846 6020	0.00005	0.0001	0.0063				
vanadium	SW-846 6020	0.00005	0.0001	-				
zinc	SW-846 6020	0.0025	0.005	- (g)				
Mineral Acidity	EPA 305.1	10	2.0	-	P	100	4°C	14 days
Alkalinity ($CaCO_3$)	EPA 310.1	1.0	2.0	≥20	P	100	4°C	14 days
Chloride	EPA 325.2	0.25	1.00	-	P	100	4°C	28 days
Fluoride	EPA 340.2	0.05	0.1	10	P	500	4°C	28 days
Sulfate	EPA 375.4	5	10	- (i)	P	500	4°C	28 days
Sulfide	EPA 376.1	0.5	1.0	-	P	500	4°C; NaOH+Zn acetate >9 s.u.	7 days
Total Phosphorous	EPA 365.2	0.005	0.01	-	P	100	4°C; H_2SO_4 <2 s.u.	28 days
Orthophosphate	EPA 365.2	0.005	0.01	-	P	100	4°C	48 hours
TDS	EPA 160.1	5.0	10	-	P	100	4°C	7 days
TSS	EPA 160.2	2.0	4	-	P	500	4°C	7 days
TKN	351.1 SM	0.5	1	-	P	500	4°C; H_2SO_4 <2 s.u.	28 days
Nitrate	EPA 353.2	0.05	0.1	-	P	1,000	4°C; H_2SO_4 <2 s.u.	14 days
Nitrite	EPA 354.1	0.005	0.01	-	P	1,000	4°C	48 hours
Ammonia	350.1 SM	0.05	0.05	0.02	P	500	4°C; H_2SO_4 <2 s.u.	28 days
Hardness ($CaCO_3$)	314A SM	(calculation)	2	-	P	250	4°C; HNO_3 <2 s.u.	6 months
Total Organic Carbon	EPA 415.1	0.1	1	-	G, Amber	1,000	4°C; H_2SO_4 <2 s.u.	28 days
Radiological Parameters (pCi/l)					P	5 liters		6 months
Gross alpha	EPA 900	3	3	15 (j)				
Gross beta	EPA 900	2	2	50				
Radium 226	EPA 903.1	1	1	5 (j)				
Radium 228	EPA 904	3	3	5 (j)				
Gamma spectroscopy	EPA 901.1	- (k)	- (k)	-				
Strontium 90	EPA 905	2	2	-				
Thorium 228	HASL-300	1	1	-				
Thorium 230	HASL-300	1	1	-				
Thorium 232	HASL-300	1	1	-				
Uranium 234	HASL-300	0.5	0.5	300 µg/l (l)				
Uranium 235	HASL-300	0.5	0.5	300 µg/l (l)				
Uranium 238	HASL-300	0.5	0.5	300 µg/l (l)				

Table 3 (continued)

Surface Water Sample Analytical Methods and Requirements
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida

Reference Sections 6.3 and 6.4 for additional information.

a/ mg/l = milligrams per liter; FDEP = Florida Department of Environmental Protection; RBCA = risk-based corrective action; SWCTLs = surface water cleanup target levels; ml = milliliter; P = plastic; G = glass; 4°C = 4 degrees Celsius; HNO_3 = nitric acid; H_2SO_4 = sulfuric acid; $CaCO_3$ = calcium bicarbonate; NaOH+Zn acetate = sodium hydroxide plus zinc acetate; TKN= total Kjeldahl nitrogent; s.u. = standard units; TDS = total dissolved solids; TSS = total suspended solids; pCi/l = picoCuries per liter; "-" indicates not applicable or standard not developed. Concentrations in mg/l, unless otherwise noted.

b/ SW-846 source: EPA. 1986. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. As updated and revised.
SM source: American Public Health Association. 1998. Standard Methods for Examination of Water and Wastewater. As updated and revised.
EPA sources:
EPA. 1983. Methods for Chemical Analysis of Water and Waste. EPA 600/4-70-020. As updated and revised.
EPA. 1980. EPA Prescribed Procedures for Measurement of Radioactivity in Drinking Water. EPA 600 4-80-032. As updated and revised.
HASL source: U.S. Department of Energy. EML Procedures Manual (HASL-300). Environmental Measurements Laboratory. 28th Edition.
Methods for sample preparation include SW-846 3005A for metals.

c/ FDEP global RBCA-based CTLs (Rule 62-777, F.A.C.) for surface water (SWCTLs).

d/ Denotes the surface water standards for Class III criteria (62-302.530, F.A.C.), default criteria for Rule 62-777, F.A.C.
The standard for arsenic is for total arsenic.
The range of acceptable pH has been simplified; refer to 62-302.530, F.A.C., for additional explanation.

e/ Not greater than 10 percent above background.

f/ Anticipated limit for boron.

g/ Standard is hardness dependent:

cadmium - $e^{(0.7852[\ln H]-3.49)}$	copper - $e^{(0.8545[\ln H]-1.465)}$	nickel - $e^{(0.846[\ln H]+1.1645)}$
chromium - $e^{(0.819[\ln H]+1.561)}$	lead - $e^{(1.273[\ln H]-4.705)}$	zinc - $e^{(0.8473[\ln H]+0.7614)}$

ln H is the natural logarithm of total hardness expressed as mg/l of $CaCO_3$.

h/ Sodium shall not be more than 50 percent above background, or 1,275 mg/l, whichever is greater.

i/ Sulfate shall not be greater than 10 percent above background.

j/ The gross alpha limit includes gross apha partical activity including radium 226, but excluding radon and uranium.
The radium limit is for combined radium 226 and radium 228.

k/ Benchmark limits are cobalt 60 (10 pCi/l) and cesium 137 (10 pCi/l).

l/ The drinking water criteria for uranium (300 µg/l) is for total uranium.

Table 4

Summary of Sediment Sampling and Analytical Program
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Pond	Sample Location	Anticipated Sediment Thickness: Shelf (feet)	Anticipated Sediment Thickness: Pit (feet)	Anticipated Sample Intervals	Chemical Parameters (b): Metals	Chloride	Fluoride	Total Phosphorous	Nitrogen Compounds	TOC	pH	SPLP (c)	TCLP (d)	Radiological Parameters (e)
Pond 1S	P1S-1	1	3	3	3	3	3	3	1	1	3	1	1	1
	P1S-2	-	3	3	3	3	3	3	1	1	3	1	-	1
	PIS-3	-	3	3	3	3	3	3	1	1	3	1	-	1
Pond 1N	P1N-1	-	3	2	2	2	2	2	1	1	2	1	1	1
	P1N-2	-	3	2	2	2	2	2	1	1	2	1	-	1
Pond 2	P2-1	2	-	2	2	2	2	2	1	1	2	1	1	1
	P2-2	-	5	2	2	2	2	2	1	1	2	1	1	1
	P2-3	-	5	2	2	2	2	2	-	-	2	-	-	-
	P2-4	2	-	2	2	2	2	2	-	-	2	-	-	-
Pond 2A	P2A-1	2	-	2	2	2	2	2	1	1	2	1	1	1
	P2A-2	2	-	2	2	2	2	2	1	1	2	1	-	1
Pond 3	P3-1	-	2	2	2	2	2	2	1	1	2	1	-	1
	P3-2	-	2	2	2	2	2	2	1	1	2	1	-	1
	P3-3	1	-	2	2	2	2	2	1	1	2	1	-	1
Pond 4	P4-1	-	6	3	3	3	3	3	1	1	3	1	1	1
	P4-2	-	6	3	3	3	3	3	1	1	3	1	1	1
	P4-3	2	-	2	2	2	2	2	1	1	2	1	-	1
	P4-4	2	-	3	3	3	3	3	-	-	3	-	-	-
	P4-5	2	-	3	3	3	3	3	-	-	3	-	-	-
	P4-6	2	-	2	2	2	2	2	-	-	2	-	-	-
	P4-7	-	6	3	3	3	3	3	-	-	3	-	-	-
	P4-8	-	6	3	3	3	3	3	-	-	3	-	-	-
Pond 4A	P4A-1	6	-	2	2	2	2	2	1	1	2	1	1	1
	P4A-2	6	-	2	2	2	2	2	1	1	2	1	1	1
	P4A-3	6	-	2	2	2	2	2	-	-	2	-	-	-
Pond 5	P5-1	1	-	2	2	2	2	2	1	1	2	1	-	1
	P5-2	-	3	2	2	2	2	2	1	1	2	1	-	1
	P5-3	-	3	2	2	2	2	2	1	1	2	1	-	1
	P5-4	1	-	2	2	2	2	2	-	-	2	-	-	-
Pond 6	P6-1	-	10	4	4	4	4	4	1	1	4	1	1	1
	P6-2	-	10	4	4	4	4	4	1	1	4	1	1	1
	P6-3	<5	-	3	3	3	3	3	1	1	3	1	-	1
	P6-4	<5	-	3	3	3	3	3	1	1	3	1	-	1
	P6-5	<5	-	3	3	3	3	3	-	-	3	-	-	-
	P6-6	<5	-	2	2	2	2	2	-	-	2	-	-	-
	P6-7	<5	-	2	2	2	2	2	-	-	2	-	-	-
	P6-8	<5	-	3	3	3	3	3	-	-	3	-	-	-
	P6-9	<5	-	2	2	2	2	2	-	-	2	-	-	-
	P6-10	<5	-	3	3	3	3	3	-	-	3	-	-	-
	P6-11	<5	-	2	2	2	2	2	-	-	2	-	-	-
Pond 7	P7-1	-	<5	3	3	3	3	3	1	1	3	1	-	1
	P7-2	-	<5	3	3	3	3	3	2	2	3	2	-	2
Pond 8	P8-1	-	3	2	2	2	2	2	1	1	2	1	-	1
	P8-2	-	3	2	2	2	2	2	1	1	2	1	-	1
	P8-3	-	3	2	2	2	2	2	1	1	2	1	-	1

Reference Sections 7.2.1 and 7.3 for additional information.

a/ TOC = total organic carbon; SPLP = synthetic precipitation leaching procedure; TCLP = toxicity characteristic leaching procedure; "-" indicates sample collection or analysis not intended.

b/ Metals include the target analyte list metals (excluding mercury) and boron.
Analysis for the nitrogen compounds (total Kjeldahl nitrogen, nitrate, nitrite, and ammonia), TOC, SPLP, and radiological testing will be performed on at least one sample for each representative material observed in an individual pond. The number of sample intervals and sample intervals identified are for illustrative purposes only.

c/ SPLP extraction and testing will be performed for metals and fluoride.

d/ Samples will be identified for TCLP extraction and analysis of the TCLP metals based on the results of the total metals concentrations.

e/ One sample of each representative material encountered in an individual pond will be submitted for radiological testing of gross alpha, gross beta, and gamma spectroscopy. Based on the results of the initial analyses, additional testing may be necessary. The levels that would trigger the need for additional testing have not yet been determined.

Table 5

Soil and Sediment Sample Analytical Methods and Requirements
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Parameters	Method (b)	Method Detection Limit (mg/kg)	Laboratory Reporting Limit (mg/kg)	Criteria: Guidelines for Sediment (d,e)	Criteria: FDEP Global RBCA-Based CTLs for Soil (c): Commercial/ Industrial	Criteria: FDEP Global RBCA-Based CTLs for Soil (c): Protection of Groundwater	Criteria: FDEP Global RBCA-Based CTLs for Soil (c): Protection of Surface Water	Container	Sample Quantity (grams)	Preservative	Holding Time
Chemical Parameters											
Metals								G	200	4°C	6 months
aluminum	SW-846 6010B	1	10	-	- (f)	- (g)	- (g)				
antimony	SW-846 6010B	0.05	0.5	12 (e)	240	5	- (g)				
arsenic	SW-846 6010B	0.05	0.5	9.79 (d)	3.7	29	- (g)				
barium	SW-846 6010B	0.2	2	-	87,000	1,600	- (g)				
beryllium	SW-846 6010B	0.02	0.2	-	800	63	- (g)				
boron	SW-846 6010B	0.1	5	-	160,000	- (g)	-				
cadmium	SW-846 6010B	0.02	0.2	0.99 (d)	1,300	8	- (g)				
chromium	SW-846 6010B	0.05	0.05	43.4 (d)	420 (h)	38 (h)	- (g)				
cobalt	SW-846 6010B	0.1	1	-	110,000	- (g)	-				
copper	SW-846 6010B	0.1	1	31.6 (d)	76,000	- (g)	- (g)				
iron	SW-846 6010B	0.5	5	-	39,000	40	- (g)				
lead	SW-846 6010B	0.05	0.5	35.8 (d)	920	- (g)	- (g)				
magnesium	SW-846 6010B	5	50	-	-	-	-				
manganese	SW-846 6010B	0.1	1	-	22,000	- (g)	-				
nickel	SW-846 6010B	0.2	2	22.7 (d)	28,000	130	- (g)				
potassium	SW-846 6010B	10	100	-	-	-	-				
selenium	SW-846 6010B	0.1	0.5	-	10,000	5	- (g)				
silver	SW-846 6010B	0.02	0.2	2 (e)	9,100	17	- (g)				
sodium	SW-846 6010B	50	500	-	-	-	-				
thallium	SW-846 6010B	0.01	2	-	-	-	-				
vanadium	SW-846 6010B	0.1	1	-	7,400	980	-				
zinc	SW-846 6010B	0.1	1	121 (d)	560,000	6,000	- (g)				
Chloride	EPA 325.2	0.25	1	-	-	-	-	G	200	4°C	28 days
Fluoride	EPA 340.2	0.88	1	-	120,000	- (g)	- (g)	G	200	4°C	28 days
Total Phosphorous	EPA 365.2	0.40	0.01	-	-	-	-	G	200	4°C	28 days
TKN	351.1 SM	5	10	-	-	-	-	G	200	-	28 days
Nitrate	SW-846 9200	5	10	-	- (f)	- (g)	- (g)	G	200	-	14 days
Nitrite	EPA 354.1	0.5	1	-	180,000	- (g)	- (g)	G	200	-	48 hours
Ammonia	350.1 SM	0.5	1	-	3,700	570	4	G	200	-	28 days
Total Organic Carbon	Walkey-Black	-	-	-	-	-	-	-	-	4°C	-
pH (s.u.)	SW-846 9045	-	-	-	-	-	-	G	200	4°C	immediate
SPLP (mg/l)	SW-846 1312			- (i)	- (i)	- (i)	- (i)	- (j)	- (j)	- (j)	- (j)
metals	- (i)	- (i)	- (i)								
fluoride	EPA 340.2	- (i)	- (i)								
TCLP (mg/l)	SW-846 1311			- (k)	- (k)	- (k)	- (k)	- (j)	- (j)	- (j)	- (j)
arsenic	SW-846 6010	0.005	0.05								
barium	SW-846 6010	0.1	1								
cadmium	SW-846 6010	0.005	0.05								
chromium	SW-846 6010	0.005	0.05								
lead	SW-846 6010	0.005	0.05								
selenium	SW-846 6010	0.01	0.1								
silver	SW-846 6010	0.005	0.05								

Table 5 (continued)

Soil and Sediment Sample Analytical Methods and Requirements
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida

Parameters	Method	Method Detection Limit	Laboratory Reporting Limit	Criteria (mg/kg): Guidelines for Sediment	Criteria (mg/kg): FDEP Global RBCA-Based CTLs for Soil: Industrial	Criteria (mg/kg): FDEP Global RBCA-Based CTLs for Soil: Protection of Groundwater	Criteria (mg/kg): FDEP Global RBCA-Based CTLs for Soil: Protection of Surface Water	Container	Sample Quantity (ounces)	Preservative	Holding Time
Radiological Parameters (pCi/g)											
Gross alpha	EPA 900	10	10	-	-	-	-	P	8		6 months
Gross beta	EPA 900	5	5	-	-	-	-				
Radium 226	EPA 901/HASL-300	0.2	0.2	-	-	-	-				
Radium 228	EPA 901/HASL-300	0.2	0.2	-	-	-	-				
Gamma spectroscopy	EPA 901/HASL-300	- (l)	- (l)	-	-	-	-				
Strontium 90	HASL - 300	1	1	-	-	-	-				
Thorium 228	HASL - 300	0.1	0.1	-	-	-	-				
Thorium 230	HASL - 300	0.1	0.1	-	-	-	-				
Thorium 232	HASL - 300	0.1	0.1	-	-	-	-				
Uranium 234	HASL - 300	0.1	0.1	-	-	-	-				
Uranium 235	HASL - 300	0.1	0.1	-	-	-	-				
Uranium 238	HASL - 300	0.1	0.1	-	-	-	-				

Reference Sections 7.3, 7.4, 8.1, and 9.1 for additional information.

a/ mg/kg = milligrams per kilogram; FDEP = Florida Department of Environmental Protection; RBCA = risk-based corrective action; CTL = cleanup target level; P = plastic; G = glass; 4 = 4 degrees Celsius; TKN = total Kjeldahl nitrogen; s.u. = standard units; mg/l = milligrams per liter; pCi/g = picoCuries per gram; "-" indicates not applicable or standard not developed. Concentrations reported in mg/kg unless otherwise noted.

b/ SW-846 source: EPA. 1986. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. As updated and revised.
SM source: American Public Health Association. 1998. Standard Methods for Examination of Water and Wastewater. As updated and revised.
EPA sources: EPA. 1983. Methods for Chemical Analysis of Water and Waste. EPA 600/4-70-020. As updated and revised.
EPA. 1980. EPA Prescribed Procedures for Measurement of Radioactivity in Drinking Water. EPA 600 4-80-032. As updated and revised
HASL source: U.S. Department of Energy. EML Procedures Manual (HASL-300). Environmental Measurements Laboratory. 28th Edition.
Methods for sample preparation include SW-846 3050B for metals.
AST M D3987-85, Standard Test Method for Shake Extraction of Solid Waste with Water, will be used to prepare samples for analysis of chloride, fluoride, total phosphourous, and orthophosphate usin the aqueous methods shown.

c/ FDEP global RBCA-based CTLs (Rule 62-777, F.A.C.) for commercial/industrial soil.

d/ FDEP Sediment Quality Assessment Guidelines (SQAGs) are provided. SQAGs identified are the consensus-based threshold effects concentrations.
SQAGs source: MacDonald, D.D., C.G. Ingersoll, D.E. Smorong, R.A. Lindskoog, G. Sloane, and T. Biernacki. 2003. Development and Evaluation of Numerical Sediment Quality Assessment Guidelines for Florida Inland Waters. Technical Report prepared for Florida Department of Environmental Protection. Tallahassee, Florida.

e/ EPA Region 4 Ecological Benchmark Screening Values for Sediment; FDEP SQAG not available.
Region 4 source: EPA Region 4. 2000. Region 4 Memorandum: Amended Guidance on Ecological Risk Assessment at Military Bases: Process Considerations, Timing of Activities, and Inclusion of Stakeholders. Office of Technical Services, Atlanta, Georgia. June 23.

f/ Constituent is not a health concern for this exposure scenario.

g/ Leachability values may be derived using the synthetic leaching procedure (SPLP) test to calculate a site-specific soil cleanup target level.

h/ The FDEP global RBCA-based CTL RBCA for chromium is for hexavalent chromium.

i/ The SPLP results will be compared to the FDEP global RBCA-based CTLs for groundwater (Table 14) and surface water (Table 3).
The methods, method detection limits and laboratory reporting limits for metals are as shown in Tables 3 and 14 for water.
The method detection limit and laboratory reporting limit for fluoride is pending.

j/ Sample bottle requirements for SPLP and TCLP are similar to those for total analyses.

k/ The TCLP limits are as follows:

arsenic -	5 mg/l	lead -	5 mg/l
barium -	100 mg/l	selenium -	1 mg/l
cadmium -	1 mg/l	silver -	5 mg/l
chromium -	5 mg/l		

l/ Benchmark limits are cobalt 60 (0.2 pCi/g) and cesium 137 (0.2 pCi/g).

Table 6

Summary of Geotechnical Samples and Test Methods (Sediments)
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Location	Area (acres)	Unconfined Compressive Strength D-2166	One Dimensional Consolidation D-2435	Particle Size D-422	Atterberg Limits D-4318	Flexible Wall Permeability D-5084	Consolidated Undrained Triaxial D-4767	Unit Weight	Moisture Content D-2216
Pond 1S	15.6	4	4	4	4	4	2	4	4
Pond 1N	10	4	4	4	4	4	2	4	4
Pond 2/2A	26	-	-	4	4	-	-	4	4
Pond 3	12.5	-	-	4	4	-	-	4	4
Pond 4	113	-	-	4	4	-	-	6	6
Pond 4A	12	-	-	-	-	-	-	-	-
Pond 5	31	-	-	4	4	-	-	4	6
Pond 6	54	4	4	8	8	4	4	8	8
Pond 7	8	-	-	4	4	-	-	-	-
Pond 8	12	-	-	4	4	-	-	4	4

Reference Sections 8.1.2 and 8.1.3 for additional information.

a/ ASTM = American Society for Testing and Materials; "-" indicates analysis not to be performed.
Sample locations will be selected on the representative nature of the materials encountered.

Table 7

Summary of Berm Sampling and Analytical Program
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Sample Location	Anticipated Sample Intervals	Chemical Parameters (b)							Radiological Parameters (e)
		Metals	Chloride	Fluoride	Total Phosphorous	pH	SPLP (c)	TCLP (d)	
Ponds 1S and 1N									
BR1-1	3	3	3	3	3	1	1	1	1
BR1-2	2	2	2	2	2	1	1	-	1
BR1-3	3	3	3	3	3	1	1	-	1
BR1-4	2	2	2	2	2	-	-	-	-
BR1-5	3	3	3	3	3	-	-	-	-
BR1-6	2	2	2	2	2	-	-	-	-
Ponds 2 and 2A									
BR2-1	3	3	3	3	3	1	1	1	1
BR2-2	2	2	2	2	2	1	1	1	1
BR2-3	3	3	3	3	3	1	1	-	1
BR2-4	2	2	2	2	2	1	-	-	-
BR2-5	3	3	3	3	3	-	-	-	-
BR2-6	2	2	2	2	2	-	-	-	-
BR2-7	3	3	3	3	3	-	-	-	-
Pond 3									
BR3-1	2	2	2	2	2	1	1	1	1
BR3-2	3	3	3	3	3	1	1	1	1
BR3-3	2	2	2	2	2	-	-	-	-
BR3-4	3	3	3	3	3	-	-	-	-
Pond 4									
BR4-1	3	3	3	3	3	1	1	1	1
BR4-2	2	2	2	2	2	1	1	1	1
BR4-3	3	3	3	3	3	1	1	1	1
BR4-4	2	2	2	2	2	1	1	-	1
BR4-5	3	3	3	3	3	1	1	-	1
BR4-6	2	2	2	2	2	1	1	-	-
BR4-7	3	3	3	3	3	-	-	-	-
BR4-8	2	2	2	2	2	-	-	-	-
BR4-9	3	3	3	3	3	-	-	-	-
BR4-10	2	2	2	2	2	-	-	-	-
BR4-11	3	3	3	3	3	-	-	-	-

Sample Location	Anticipated Sample Intervals	Chemical Parameters							Radiological Parameters
		Metals	Chloride	Fluoride	Total Phosphorous	pH	SPLP	TCLP	
Pond 5									
BR5-1	3	3	3	3	3	1	1	1	1
BR5-2	2	2	2	2	2	1	1	-	1
BR5-3	3	3	3	3	3	1	1	-	1
BR5-4	2	2	2	2	2	1	-	-	-
BR5-5	3	3	3	3	3	-	-	-	-
BR5-6	2	2	2	2	2	-	-	-	-
BR5-7	3	3	3	3	3	-	-	-	-
Pond 6									
BR6-1	2	2	2	2	2	1	1	1	1
BR6-2	3	3	3	3	3	1	1	-	1
BR6-3	2	2	2	2	2	1	1	-	1
BR6-4	3	3	3	3	3	1	-	-	-
BR6-5	2	2	2	2	2	-	-	-	-
BR6-6	3	3	3	3	3	-	-	-	-
BR6-7	2	2	2	2	2	-	-	-	-
BR6-8	3	3	3	3	3	-	-	-	-
Pond 8									
BR8-1	2	2	2	2	2	1	1	1	1
BR8-2	3	3	3	3	3	1	1	-	1
BR8-3	2	2	2	2	2	-	1	-	1
BR8-4	3	3	3	3	3	-	-	-	-

Reference Sections 8.1.2 and 8.1.3 for additional information.

a/ SPLP = synthetic precipitation leaching procedure; TCLP = toxicity characteristic leaching procedure.
b/ Metals include the target analyte list metals (excluding mercury) and boron. Approximatley 20 percent of the samples will be analyzed for pH.
c/ One sample representative of each material encountered in each berm will be submitted for SPLP metals and fluoride. The number of sample intervals, and the locations shown for SPLP are for illustrative purposes only.
d/ Samples will be identified for TCLP extraction and analysis of the TCLP metals based on the results of the total metals concentrations. The number of sample intervals, and the locations shown for TCLP are for illustrative purposes only.
e/ One sample of each representative material encountered in an individual berm will be submitted for radiological testing of gross alpha, gross beta, and gamma spectroscopy. Based on the results of the initial analyses, additional testing may be necessary. The levels that would trigger the need for additional testing have not yet been determined.

Table 8

Summary of Geotechnical Samples and Test Methods (Berms)
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Location	Area (acres)	Particle Size D-422	Atterberg Limits D-4318	Flexible Wall Permeability D-5084	Consolidated Undrained Triaxial D-4767	Specific Gravity D-854	Unit Weight	Moisture Content D-2216
Pond 1S Berms	15.6	4	4	4	2	4	4	4
Pond 1N Berms	10	4	4	4	2	4	4	4
Pond 6 Berms	54	8	8	8	4	8	8	8

Reference Sections 8.1.2 and 8.1.3 for additional information.

a/ ASTM = American Society for Testing and Materials; "-" indicates analysis not to be performed.
Sample locations will be selected on the basis of the representative nature of the material encountered or indications of potential instability in the area.

Table 9

Summary of Conveyance and Pond 6 Seepage Ditches and Miscellaneous Locations
Sampling and Analytical Program
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida

Sample Location	Anticipated Sample Intervals	Chemical Parameters (a)						Radiological Parameters (b)
		Metals	Chloride	Fluoride	Total Phosphorous	TOC	pH	
Emergency Return Ditch (Pond 6 to Pond 1S)								
CS-1	2	2	2	2	2	2	2	1
CS-2	2	2	2	2	2	2	2	-
Return Ditch (Pond 6 to Pond 1S)								
CS-3	2	2	2	2	2	2	2	1
CS-4	2	2	2	2	2	2	2	-
Elevated Ditch								
CS-5	2	2	2	2	2	2	2	1
CS-6	2	2	2	2	2	2	2	-
CS-7	2	2	2	2	2	2	2	-
Main Ditch								
CS-8	2	2	2	2	2	2	2	1
CS-9	2	2	2	2	2	2	2	-
CS-10	2	2	2	2	2	2	2	-
Conveyance Ditch (Pond 4 to Pond 4A)								
CS-11	2	2	2	2	2	2	2	1
CS-12	2	2	2	2	2	2	2	-
Conveyance Ditch (Pond 6 to Pond 5)								
CS-13	2	2	2	2	2	2	2	1
CS-14	2	2	2	2	2	2	2	-
CS-15	2	2	2	2	2	2	2	-
Seepage Ditch (Pond 6)								
CS-16	2	2	2	2	2	2	2	1
CS-17	2	2	2	2	2	2	2	-
CS-18	2	2	2	2	2	2	2	-
CS-19	2	2	2	2	2	2	2	-

Sample Location	Anticipated Sample Intervals	Chemical Parameters						Radiological Parameters
		Metals	Chloride	Fluoride	Total Phosphorous	TOC	pH	
Seepage Ditch (Pond 6)								
CS-20	2	2	2	2	2	2	2	-
CS-21	2	2	2	2	2	2	2	-
CS-22	2	2	2	2	2	2	2	-
CS-23	2	2	2	2	2	2	2	-
Pond 1S								
P1SW1	1	1	1	1	1	1	1	1
Pond 2								
P2SW-1	1	1	1	1	1	1	1	1
P2SW-2	1	1	1	1	1	1	1	-
Pond 4								
P4SW-1	1	1	1	1	1	1	1	1
P4SW-2	1	1	1	1	1	1	1	-
P4SW-3	1	1	1	1	1	1	1	-
P4SW-4	1	1	1	1	1	1	1	-
P4SW-5	1	1	1	1	1	1	1	-
Pond 4A								
P4ASW-1	1	1	1	1	1	1	1	1
Pond 8								
P8SW-1	1	1	1	1	1	1	1	1
Pond 5								
SW-1	1	1	1	1	1	1	1	1
Pond 6								
SW-2	1	1	1	1	1	1	1	1
SW-3	1	1	1	1	1	1	1	-

Reference Section 8.2.2 and 8.2.3 for additional information.

a/ Metals include the target analyte list metals (excluding mercury) and boron.
b/ One sample from each of the 11 miscellaneous areas of interest will be selected for radiological testing of gross alpha, gross beta, and gamma spectroscopy. Based on the results of the initial analyses, additional testing may be necessary. The levels that would trigger the need for additional testing have not yet been determined.

Table 10

Summary of Soil Investigation Sampling and Analytical Program
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Sample Location	Anticipated Sample Intervals	Chemical Parameters (b)									Radiological Parameters (e)
		Metals	Chloride	Fluoride	Total Phosphorous	TCL VOCs	PAHs	TRPH	SPLP (c)	TCLP (d)	
LF-1	2	2	2	2	2	2	2	2	1	1	1
LF-2	2	2	2	2	2	2	2	2	1	1	1
LF-3	2	2	2	2	2	2	2	2	-	-	-
LF-4	2	2	2	2	2	2	2	2	-	-	-
LF-5	2	2	2	2	2	2	2	2	-	-	-
LF-6	2	2	2	2	2	2	2	2	-	-	-
LF-7	2	2	2	2	2	2	2	2	-	-	-
LF-8	2	2	2	2	2	2	2	2	-	-	-

Reference Sections 9.1.2 and 9.1.3 for additional information.

a/ TCL VOC = target compound list volatile organic compound; PAH = polynuclear aromatic hydrocarbon; TRPH = total recoverable petroleum hydrocarbons; SPLP = synthetic precipitation leaching procedure; TCLP = toxicity characteristic leaching procedure.
b/ Metals include the target analyte list metals (excluding mercury) and boron.
Refer to Table 11 for a complete listing of TCL VOCs and PAHs.
c/ Two samples will be arbitrarily selected for analysis of SPLP metals and fluoride. The number of sample intervals and the locations shown for SPLP are for illustrative purposes only.
d/ Samples will be identified for TCLP extraction and analysis of the TCLP metals based on the results of the total metals concentrations. The number of sample intervals, and the locations shown for TCLP are for illustrative purposes only.
e/ Two samples will be arbitrarily selelcted for radiological testing of gross alpha, gross beta, and gamma spectroscopy. Based on the results of the initial analyses, additional testing may be necessary. The levels that would trigger the need for additional testing have not yet been determined.

Table 11

Supplemental Soil Sample Analytical Methods and Requirements
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Parameters	Method (b)	Method Detection Limit (µg/kg)	Laboratory Reporting Limit (µg/kg)	FDEP Global RBCA-Based CTLs for Soil (c) Commercial/ Industrial	Protection of Groundwater	Protection of Surface Water	Container	Sample Quantity	Preservative	Holding Time
TCL VOCs (µg/kg)							G	3 x 40 ml	4°C, (1) MeOH (2) Na_2SO_4	14 days
acetone	SW-846 8260B	1.22	0.01	5,500	2.8	6.8				
benzene	SW-846 8260B	0.13	0.005	1.6	0.007	0.5				
bromochloromethane	SW-846 8260B	0.19	0.005	390	0.6	-				
bromodichloromethane	SW-846 8260B	0.21	0.005	2	0.004	0.1				
bromoform	SW-846 8260B	0.33	0.005	84	0.03	2.7				
bromomethane	SW-846 8260B	0.39	0.005	15	0.05	0.2				
2-butanone	SW-846 8260B	0.32	0.01	21,000	17	490				
carbon disulfide	SW-846 8260B	0.11	0.005	1,400	5.6	0.8				
carbon tetrachloride	SW-846 8260B	0.16	0.005	1	0.04	0.06				
chlorobenzene	SW-846 8260B	0.14	0.005	200	1.3	0.2				
chloroform	SW-846 8260B	0.11	0.005	0.5	0.03	2.8				
chloromethane	SW-846 8260B	0.18	0.005	2	0.01	2.3				
chloroethane	SW-846 8260B	0.29	0.005	4	0.06	-				
cyclohexane	SW-846 8260B	0.16	0.01	-	-	-				
1,2-dibromo-3-chloropropane	SW-846 8260B	58	0.005	2.7	0.001	-				
1,2-dibromoethane	SW-846 8260B	0.21	0.005	0.04	0.0001	0.07				
1,2-dichlorobenzene	SW-846 8260B	0.14	0.005	4,600	17	2.8				
1,3-dichlorobenzene	SW-846 8260B	0.21	0.005	180	0.3	2.8				
1,4-dichlorobenzene	SW-846 8260B	0.14	0.005	9	2.2	2.9				
dichlorobenzene	SW-846 8260B		0.005	6.3	0.4	0.002				
dichlorodifluoromethane	SW-846 8260B	0.12	0.005	370	44	-				
1,1-dichloroethane	SW-846 8260B	0.11	0.005	2,000	0.4	-				
1,2-dichloroethane	SW-846 8260B	0.22	0.005	0.7	0.01	0.02				
1,1-dichloroethene	SW-846 8260B	0.2	0.005	0.1	0.06	0.03				
cis-1,2-dichloroethene	SW-846 8260B	0.25	0.005	130	0.4	-				
trans-1,2-dichloroethene	SW-846 8260B	0.11	0.005	210	0.7	75				
1,2-dichloropropane	SW-846 8260B	0.14	0.005	0.8	0.03	15				
cis-1,3-dichloropropene	SW-846 8260B	0.14	0.005	-	-	-				
trans-1,3-dichloropropene	SW-846 8260B	0.17	0.005	0.2	0.001	0.09				
ethylbenzene	SW-846 8260B	0.19	0.005	8,400	0.6	12				
2-hexanone	SW-846 8260B	0.24	0.01	-	-	-				
isopropylbenzene	SW-846 8260B	0.11	0.005	-	-	-				
methyl acetate	SW-846 8260B	0.3	0.05	28,000	26	-				
methyl isobutyl ketone	SW-846 8260B	0.16	0.01	1,500	2.6	110				
methyl cyclohexane	SW-846 8260B	0.18	0.01	-	-	-				
methyl tert-butyl ether	SW-846 8260B	0.11	0.005	22,000	0.2	150				
methylene chloride	SW-846 8260B	0.13	0.005	-	-	-				
styrene	SW-846 8260B	0.13	0.005	21,000	3.6	16				
1,1,2,2-tetrachloroethane	SW-846 8260B	0.26	0.005	1.1	0.002	0.08				
tetrachloroethene	SW-846 8260B	0.2	0.005	17	0.03	0.1				
toluene	SW-846 8260B	0.11	0.005	2,600	0.5	5.6				
Freon 113	SW-846 8260B	0.13	0.1	88,000	27,000	-				
1,2,3-trichlorobenzene	SW-846 8260B	0.43	0.005	7,400	4.6	5.6				
1,2,4-trichlorobenzene	SW-846 8260B	0.27	0.005	7,500	5.3	1.7				
1,1,1-trichloroethane	SW-846 8260B	0.13	0.005	3,300	1.9	2.6				
1,1,2-trichloroethane	SW-846 8260B	0.23	0.005	2	0.03	0.2				
trichloroethene	SW-846 8260B	0.19	0.005	9	0.03	0.9				
trichlorofluoromethane	SW-846 8260B	0.31	0.005	1,300	33	-				
vinyl chloride	SW-846 8260B	0.1	0.005	0.04	0.007	-				
total xylenes	SW-846 8260B	0.16	0.005	40,000	0.2	3.9				

Table 11 (continued)

Supplemental Soil Sample Analytical Methods and Requirements
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida

Parameters	Method	Method Detection Limit (µg/kg)	Laboratory Reporting Limit (µg/kg)	FDEP Global RBCA-Based CTLs for Soil: Commercial/ Industrial	Protection of Groundwater	Protection of Surface Water	Container	Sample Quantity	Preservative	Holding Time
PAHs (µg/kg)							G	8 grams	4°C	14 days
acenaphthylene	SW-846 8270C	0.01	0.333	11,000	27	0.7				
benzo(a)anthracene	SW-846 8270C	0.01	0.333	5	3.2	0.7				
benzo(a)pyrene	SW-846 8270C	0.01	0.333	0.5	8	1.2				
benzo(b)fluoranthene	SW-846 8270C	0.01	0.333	4.8	10	1.6				
benzo(ghi)perylene	SW-846 8270C	0.01	0.333	41,000	32,000	4.8				
benzo(k)fluoranthene	SW-846 8270C	0.01	0.333	52	25	1.6				
chrysene	SW-846 8270C	0.01	0.333	450	77	0.7				
dibenzo(a,h)anthracene	SW-846 8270C	0.01	0.333	0.5	30	4.7				
indeno(1,2,3-cd)pyrene	SW-846 8270C	0.01	0.333	5.3	28	4.3				
phenanthrene	SW-846 8270C	0.01	0.333	30,000	0.05	0.03				
TRPH (mg/kg)	EPA 418.1	20	40	2,500	340	340	G	8 grams	4°C	28 days

Reference Sections 9.1.3 and 9.1.4 for additional information.

a/ µg/kg = micrograms per kilogram; FDEP = Florida Department of Environmental Protection; RBCA = risk-based corrective action; CTL = cleanup target level; TCL = target compound list; VOC = volatile organic compound; PAH = polynuclear aromatic hydrocarbon; TRPH = total recoverable petroleum hydrocarbons; µg/kg = micrograms per kilogram; mg/kg = milligrams per kilogram; P = plastic; G = glass; 4°C = 4 degrees Celsius; MeOH = methanol; Na_2SO_4 = sodium bisulfate; "-" indicates not applicable or standard not developed. Concentrations reported in µg/kg unless otherwise noted.

b/ SW-846 source: EPA. 1986. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. As updated and revised. EPA sources: EPA. 1983. Methods for Chemical Analysis of Water and Waste. EPA 600/4-70-020. As updated and revised. Methods for sample preparation include SW-846 5035 for VOCs and SW-846 3500 for PAHs.

c/ FDEP global RBCA-based CTLs (Rule 62-777, F.A.C.) for commercial/industrial soil.

Table 12

Summary of Monitoring Well and Piezometer Construction Information
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Monitoring Wells/ Piezometers	Northing	Easting	Elevations (b) Ground Surface (ft-msl)	Elevations (b) Top-of-Casing (ft-msl)	Approximate Screened Interval (ft-bgs)	Approximate Screened Interval (ft-msl)	Well Diameter (inches)	Screen Length (ft)
Monitoring Wells								
MW-1 (c)	1330711.5652	627803.4933	140.00	140.92	6 - 35	134 - 105	4	29
MW-2	1336011.8935	627457.1270	146.6	147.87	6 - 33.5	140.6 - 113.1	4	28
MW-3	1327549.7399	628034.5954	130.1	131.64	35 - 45	95.1 - 85.1	4	10
MW-4	1327539.4725	628034.3000	130.2	131.93	8 - 18	122.2 - 112.2	4	10
MW-5A	1328683.6441	631467.8770	135.6	138.21	8 - 18	127.6 - 117.6	4	10
MW-6	1328682.9421	631482.6029	136.0	137.56	58 - 68	78.0 - 68.0	4	10
MW-7	1330111.1160	634170.2699	123.8	126.42	48 - 58	75.8 - 65.8	4	10
MW-8	1330106.1229	634161.0471	125.8	127.44	8 - 18	117.8 - 107.8	4	10
MW-9R	1334395.8140	630821.8838	138.2	140.22	60 - 70	78.2 - 68.2	4	10
MW-10R	1334407.1910	630813.8701	138.8	140.40	10 - 20	128.8 - 118.8	4	10
MW-13R	1331089.0662	631167.9127	145.0	147.45	61 - 71	84.0 - 74.0	4	10
SPB-MW-1S	1328338.8829	628460.8792	132	135.80	1 - 26	131 - 106	2	25
SPB-MW-1I								
upper interval	1328340.8939	628478.1617	132	135.91	48 - 68	84 - 64	2	20
lower interval	1328340.8939	628478.1617	132	135.91	83 - 113	49 - 19	2	30
SPB-MW-2S	1327558.1014	630155.1717	134.5	135.92	1 - 26	133.5 - 108.5	2	25
SPB-MW-2I								
upper interval	1327593.4399	630170.7372	134	136.57	50 - 70	84 - 64	2	20
lower interval	1327593.4399	630170.7372	134	136.57	80 - 85	54 - 49	2	5
SPB-MW-3S (d)	1328296.5328	631019.3201	136.5	140.56	4 - 29	132.5 - 107.5	2	25
SPB-MW-3I (d)								
upper interval	1328296.5328	631019.3201	136	140.56	39 - 59	97 - 77	2	20
lower interval	1328296.5328	631019.3201	136	140.56	69 - 89	67 - 47	2	20
SPB-MW-4S	1328851.0228	632312.9011	140.5	141.74	5 - 30	135.5 - 110.5	2	25
SPB MW-4I								
upper interval	1328925.4242	632258.2282	149	150.48	60.5 - 80.5	89 - 69	2	20
lower interval	1328925.4242	632258.2282	149	150.48	90.5 - 100.5	59 - 49	2	10
Piezometers (e)								
PZ-1	1329282.2735	628925.2100	-	142.28	- -	- -	2	2
PZ-2	1331445.8359	627577.0613	-	151.12	- -	- -	2	-
PZ-3	1333539.6165	630191.1975	-	147.58	- -	- -	2	2
PZ-4-I	1335739.7203	630180.0968	-	150.67	- -	- -	2	-
PZ-4-O	1335738.7020	630200.3273	-	150.11	- -	- -	2	-
PZ-4A-I	1336780.6396	630126.9869	-	147.76	- -	- -	2	-
PZ-4A-O	1336779.5694	630143.1455	-	147.65	- -	- -	2	-
PZ-6A	1330638.5573	632351.0960	-	149.96	- -	- -	2	2
PZ-6B	1330638.0544	632335.6252	-	149.73	- -	- -	2	2
PZ-6C	1330149.9215	633141.0465	-	148.48	- -	- -	2	2
PZ-6-I	1329648.0719	632761.2481	-	149.49	- -	- -	2	-
PZ-6-O	1329634.9369	632784.3778	-	148.91	- -	- -	2	-
PZ-8-I	1334431.7081	628932.2058	-	150.23	- -	- -	2	-
PZ-8-O	1334429.1171	628913.5347	-	149.69	- -	- -	2	-

Reference Section 9.2 for additional information.

a/ ft-msl = feet mean sea level; ft-bgs = feet below ground surface; "-" indicates information not available. State Plan Coordinates are NAD83; elevations are NVGD 1929.

b/ All ground surface elevations are approximate.

c/ MW-1 was modified; the stickup, and ground surface and screen elevations are estimates.

d/ Only one of the SPB-3-series wells was surveyed; it is not presently clear whether it was SPB-3S or SPB-3I.

e/ There are either no logs or incomplete logs available for the piezometers.

Table 13

Summary of Groundwater Investigation Sampling and Analytical Program
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Sample Location	Chemical Parameters (b)													Radiological Parameters (c)	Field Parameters (d)
	Metals	Chloride	Fluoride	Phosphorous Total	Phosphorous Ortho	TKN	Sulfate	TDS	Hardness	pH	TCL VOCs	PAHs	TRPH		
Grab Samples	6	-	3	3	-	-	-	-	-	3	3	3	3	-	3
Monitoring Wells															
MW-1	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-2	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-3	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-4	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-5A	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-6	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-7	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-8	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-9R	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-10R	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-13	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-13R	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MW-15	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-16	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-17	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-18	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
MW-19	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
SPB-MW-1S	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
SPB-MW-1I	2	2	2	2	2	2	2	2	2	2	-	-	-	2	2
SPB-MW-2S	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
SPB-MW-2I	2	2	2	2	2	2	2	2	2	2	-	-	-	2	2
SPB-MW-3S	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
SPB-MW-3I	2	2	2	2	2	2	2	2	2	2	-	-	-	2	2
SPB-MW-4S	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
SPB-MW-4I	2	2	2	2	2	2	2	2	2	2	-	-	-	2	2
Piezometers															
PZ-1	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
PZ-2	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
PZ-3	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
PZ-4-O	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
PZ-4A-O	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
PZ-6A	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
PZ-6C	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
PZ-6-O	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
PZ-8-O	1	1	1	1	1	1	1	1	1	1	-	-	-	1	1
Production Wells															
1	1	1	1	1	1	1	1	1	1	1	-	-	-	-	1
3	1	1	1	1	1	1	1	1	1	1	-	-	-	-	1
7	1	1	1	1	1	1	1	1	1	1	-	-	-	-	1

Table 13 (continued)

Summary of Groundwater Investigation Sampling and Analytical Program
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida

Reference Sections 9.2.4.1 and 9.2.4.2 for additional information.

a/ Total = total phosphorous; Ortho = orthophosphate; TKNK = total Kjehdahl nitrogent; TDS = total dissolved solids; TCL VOC = target compound list volatile organic compound; PAH = polynuclear aromatic hydrocarbon; TRPH = total recoverable petroleum hydrocarbons; "-" indicates sample collection, or sample analysis not intended.

b/ Metals include the target analyte list metals (excluding mercury) and boron. Grab samples will be analyzed for both total and dissolved metals; well and piezometer samples will be analyzed for total metals Refer to Table 14 for a complete listing of TCL VOCs and PAHs.

c/ The initial radiological tests will include gross alpha, gross beta, radium 226, radium 228, and gamma spectroscopy. The samples with the highest levels of radioactivity (maximum of 10 wells) will also be tested for strontium 90, thorium (228, 230, 232), and uranium (234, 235, 238).

d/ Field parameters include pH, temperature, specific conductance, turbidity, dissolved oxygen, and oxidation/reduction potential (ORP); Eh will be calculated using the ORP readings.

Table 14

Groundwater Sample Analytical Methods and Requirements
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida (a)

Parameters	Method (b)	Method Detection Limit	Laboratory Reporting Limit	FDEP RBCA GWCTLs (c)	Container	Sample Quantity (ml)	Preservative	Holding Time
Chemical Parameters								
Metals (mg/l)					P	250	4°C; HNO_3 <2 s.u.	6 months
aluminum	SW-846 6020	0.002	0.004	0.2				
antimony	SW-846 6020	0.00005	0.0001	0.006				
arsenic	SW-846 6020	0.0001	0.0002	0.05				
barium	SW-846 6020	0.000075	0.00015	2				
beryllium	SW-846 6020	0.0001	0.0002	0.004				
boron	SW-846 6020	0.001	0.002	0.63 (d)				
cadmium	SW-846 6020	0.00005	0.0001	0.005				
calcium	SW-846 6020	0.01	0.02	-				
chromium	SW-846 6020	0.00025	0.0005	0.1				
cobalt	SW-846 6020	0.00005	0.0001	0.42 (d)				
copper	SW-846 6020	0.00005	0.0001	1				
iron	SW-846 6020	0.025	0.05	0.3				
lead	SW-846 6020	0.00005	0.0001	0.015				
magnesium	SW-846 6020	0.0025	0.005	-				
manganese	SW-846 6020	0.0001	0.0002	0.05				
nickel	SW-846 6020	0.00005	0.0001	0.1				
potassium	SW-846 6020	0.01	0.02	-				
selenium	SW-846 6020	0.0001	0.0002	0.05				
silver	SW-846 6020	0.00005	0.0001	0.1				
sodium	SW-846 6020	0.005	0.01	160				
thallium	SW-846 6020	0.00005	0.0001	0.002				
vanadium	SW-846 6020	0.00005	0.0001	0.049 (d)				
zinc	SW-846 6020	0.0025	0.005	5				
Chloride (mg/l)	EPA 325.2	0.25	1.0	250	P	100	4°C	28 days
Fluoride (mg/l)	EPA 340.2	0.05	0.1	2	P	500	4°C	28 days
Total Phosphorous (mg/l)	EPA 365.2	0.005	0.01	-	P	100	4°C; H_2SO_4 <2 s.u.	28 days
Orthophosphate (mg/l)	EPA 365.2	0.005	0.01	-	P	100	4°C	48 hours
TKN (mg/l)	351.1 SM	0.5	1	-	P	100	4°C; H_2SO_4 <2 s.u.	28 days
Sulfate (mg/l)	EPA 375.4	5	10	250	P	500	4°C	28 days
TDS (mg/l)	EPA 160.1	5	10	500	P	100	4°C	7 days
Hardness ($CaCO_3$)	314A SM	(calculation)	2	-	P	250	4°C; HNO_3 <2 s.u.	6 months
pH (s.u.)	EPA 150.1	-	-	6.5 - 8.5	P	100	4°C	immediate

Table 14 (continued)

Groundwater Sample Analytical Methods and Requirements
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida

Parameters	Method	Method Detection Limit	Laboratory Reporting Limit	FDEP RBCA GWCTLs	Container	Sample Quantity (ml)	Preservative	Holding Time
TCL VOCs (µg/l)					G	3 x 40 ml	4°C; HCl <2 s.u.	14 days
acetone	SW-846 8260B	1.22	0.01	700 (d)				
benzene	SW-846 8260B	0.13	0.001	1				
bromochloromethane	SW-846 8260B	0.19	0.001	91 (d)				
bromodichloromethane	SW-846 8260B	0.21	0.001	1 (d)				
bromoform	SW-846 8260B	0.33	0.001	4 (d)				
bromomethane	SW-846 8260B	0.39	0.001	9.8 (d)				
2-butanone	SW-846 8260B	0.32	0.01	4,200 (d)				
carbon disulfide	SW-846 8260B	0.11	0.001	700 (d)				
carbon tetrachloride	SW-846 8260B	0.16	0.001	3				
chlorobenzene	SW-846 8260B	0.14	0.001	100				
chloroform	SW-846 8260B	0.11	0.001	5.7 (d)				
chloromethane	SW-846 8260B	0.18	0.001	2.7 (d)				
chloroethane	SW-846 8260B	0.29	0.001	12 (d)				
cyclohexane	SW-846 8260B	0.16	0.01	-				
1,2-dibromo-3-chloropropane	SW-846 8260B	0.58	0.005	0.2				
1,2-dibromoethane	SW-846 8260B	0.21	0.001	0.02				
1,2-dichlorobenzene	SW-846 8260B	0.14	0.001	600				
1,3-dichlorobenzene	SW-846 8260B	0.21	0.001	10 (d)				
1,4-dichlorobenzene	SW-846 8260B	0.14	0.001	75				
dichlorobenzene	SW-846 8260B	1.5	15	12				
dichlorodifluoromethane	SW-846 8260B	0.12	0.001	1,400 (d)				
1,1-dichloroethane	SW-846 8260B	0.11	0.001	70 (d)				
1,2-dichloroethane	SW-846 8260B	0.22	0.001	3				
1,1-dichloroethene	SW-846 8260B	0.20	0.001	7				
cis-1,2-dichloroethene	SW-846 8260B	0.25	0.001	70				
trans-1,2-dichloroethene	SW-846 8260B	0.11	0.001	100				
1,2-dichloropropane	SW-846 8260B	0.14	0.001	5				
cis-1,3-dichloropropene	SW-846 8260B	0.14	0.001	0.2 (d)				
trans-1,3-dichloropropene	SW-846 8260B	0.17	0.001	0.2 (d)				
ethylbenzene	SW-846 8260B	0.19	0.001	700				
2-hexanone	SW-846 8260B	0.24	0.01	280 (d)				
isopropylbenzene	SW-846 8260B	0.11	0.001	-				
methyl acetate	SW-846 8260B	0.3	0.05	5,000 (d)				
methyl isobutyl ketone	SW-846 8260B	0.16	0.01	560 (d)				
methyl cyclohexane	SW-846 8260B	0.18	0.01	-				
methyl tert-butyl ether	SW-846 8260B	0.11	0.001	50 (d)				
methylene chloride	SW-846 8260B	0.13	0.001	5				
styrene	SW-846 8260B	0.13	0.001	100				
1,1,2,2-tetrachloroethane	SW-846 8260B	0.26	0.001	0.2 (d)				
tetrachloroethene	SW-846 8260B	0.20	0.001	3				
toluene	SW-846 8260B	0.11	0.001	1,000				
Freon 113	SW-846 8260B	0.13	0.05	500,000 (d)				
1,2,3-trichlorobenzene	SW-846 8260B	0.43	0.001	70 (d)				
1,2,4-trichlorobenzene	SW-846 8260B	0.27	0.001	70				
1,1,1-trichloroethane	SW-846 8260B	0.13	0.001	200				
1,1,2-trichloroethane	SW-846 8260B	0.23	0.001	5				
trichloroethene	SW-846 8260B	0.19	0.001	3				
trichlorofluoromethane	SW-846 8260B	0.31	0.001	2,100 (d)				
vinyl chloride	SW-846 8260B	0.10	0.002	1				
total xylenes	SW-846 8260B	0.16	0.003	10,000				

Table 14 (continued)

Groundwater Sample Analytical Methods and Requirements
Phase I Site Assessment Work Plan
Process and Holding Ponds
Coronet Industries, Inc.
Plant City, Florida

Parameters	Method	Method Detection Limit	Laboratory Reporting Limit	FDEP RBCA GWCTLs	Container	Sample Quantity (ml)	Preservative	Holding Time
PAHs (µg/l)					G		4°C	7 days
acenaphthylene	SW-846 8310C	1.28	0.1	210 (d)				
benzo(a)anthracene	SW-846 8310C	0.01	0.1	0.2 (d)				
benzo(a)pyrene	SW-846 8310C	0.01	0.1	0.2				
benzo(b)fluoranthene	SW-846 8310C	0.02	0.1	0.2 (d)				
benzo(ghi)perylene	SW-846 8310C	0.02	0.1	210 (d)				
benzo(k)fluoranthene	SW-846 8310C	0.04	0.1	0.5 (d)				
chrysene	SW-846 8310C	0.01	0.1	4.8 (d)				
dibenzo(a,h)anthracene	SW-846 8310C	0.07	0.1	0.2 (d)				
indeno(1,2,3-cd)pyrene	SW-846 8310C	0.02	0.1	0.2 (d)				
phenanthrene	SW-846 8310C	0.04	0.1	210 (d)				
TRPH (mg/l)	EPA 418.1	2.5	5	5,000 (d)	G		4°C; HCl <2 s.u.	28 days
Radiological Parameters (pCi/l)					P	5 liters		6 months
Gross alpha	EPA 900.0	3	3	15 (e)				
Gross beta	EPA 900.0	2	2	50 (e)				
Gamma spectroscopy	EPA 901.1	- (f)	- (f)	-				
Radium 226	EPA 903.1	1	1	5 (e)				
Radium 228	EPA 904.0	3	3	5 (e)				
Strontium 90	EPA 905.0	2	2	-				
Thorium 228	HASL-300	1	1	-				
Thorium 230	HASL-300	1	1	-				
Thorium 232	HASL-300	1	1	-				
Uranium 234	HASL-300	0.5	0.5	300 µg/l (g)				
Uranium 235	HASL-300	0.5	0.5	300 µg/l (g)				
Uranium 238	HASL-300	0.5	0.5	300 µg/l (g)				

Reference Sections 9.2.4.2 and 9.2.4.3 for additional information.

a/ mg/l = milligrams per liter; FDEP = Florida Department of Environmental Protection; RBCA = risk-based corrective action; GWCTLs = groundwater cleanup target levels; mL = milliliter; P = plastic; G = glass; 4°C = 4 degrees Celsius; HNO_3 = nitric acid; H_2SO_4 = sulfuric acid; HCl = hydrochloric acid; TKN = total Kjehdahl nitrogen; TDS = total dissolved solids; s.u. - standard unit; TCL = target compound list; VOC = volatile organic compound; PAH = polynuclear aromatic hydrocarbon; TRPH = total recoverable petroleum hydrocarbons. µg/l = micrograms per liter; pCi/l = picoCuries per liter; "-" indicates not applicable or standard not developed.

b/ SW-846 source: EPA. 1986. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. As updated and revised.
EPA sources:
EPA. 1983. Methods for Chemical Analysis of Water and Waste. EPA 600/4-70-020. As updated and revised.
EPA. 1980. EPA Prescribed Procedures for Measurement of Radioactivity in Drinking Water. EPA 600 4-80-032. As updated and revised.
HASL source: U.S. Department of Energy. EML Procedures Manual (HASL-300). Environmental Measurements Laboratory. 28th Edition.
Methods for sample preparation include SW-846 5030 for VOCs and SW-846 3500 for PAHs.

c/ FDEP global RBCA-based CTLs (Rule 62-777, F.A.C.) for groundwater (GWCTLs) unless otherwise shown.

d/ Denotes a primary or secondary drinking water standard. Source: Rule 62-550, F.A.C., default criteria for Rule 62-777, F.A.C.

e/ The gross alpha limit includes gross apha partical activity including radium 226, but excluding radon and uranium. The radium limit is for combined radium 226 and radium 228.

f/ Benchmark limits are cobalt 60 (10 pCi/l) and cesium 137 (10 pCi/l).

g/ The drinking water criteria for uranium (300 µg/l) is for total uranium.

Appendix A

Laboratory Statements of Qualification

Pace Analytical Services, Inc.

National
Statement of Qualifications

Prepared by:

Pace Analytical Services, Inc.
Corporate Office
1700 Elm Street, Suite 200
Minneapolis, MN 55414

December, 2003

Appendix B

Bathymetric Survey Scope of Work

Bathymetric Survey Scope of Work

Bathymetric surveys will initially be conducted on Ponds 1N, 1S, 2, 4, and 6. The survey findings may be used to alter the proposed scope of the sediment sampling plan, specifically adjustment of the sampling locations. Evaluation of the analytical results for sediment samples collected from Ponds 3, 4A, 5, 7, and 8 and other Site information will be used to determine the need for or benefit of performing bathmetry on these ponds.

Horizontal and vertical control will be established at each pond (if existing control is not available). Locations and elevations of the section lines, water levels, and probing locations will be tied to these control points which will, in turn, be tied to the Site datum.

The survey will be performed using echo sounding technology. A dual-frequency depth sounder will be used to determine the top and bottom of the sediment. The 200 kilohertz (kHz) will identify the sediment surface; the 28 kHz will identify the base of the sediments and the ponds. The 28 kHz will only identify materials with little or no consistency. Coronet does not anticipate that this type of material (known in the industry as "fluff") is present or typical to the Site ponds. Therefore, the interface of the sediment and pond bottom will concurrently be determined using ground penetrating radar (GPR). To confirm the results of the echo sounding and GPR, mechanical sounding (probing) of the ponds will also be performed. Probing will include penetrating the sediments with rods to refusal and collecting clear plastic tubes to refusal. The tubes would then be retrieved, photographed and measured for comparison to the sonar and GPR data. The retrieved materials will be classified by an engineer or geologist and the soil type, color, consistency, moisture content and thickness of various materials (i.e., layers) recorded.

Section lines for the sonar and GPR will typically be east-west at approximate 100-foot intervals; in some areas it may be necessary to run the lines north-south. The section intervals will be modified (increased or decreased) as needed and appropriate for each pond based on its physical characteristics. Use of 100-foot intervals would result in approximately 10 and 12 section lines in Ponds 1N and 1S, 15 lines in Pond 2, and 35 lines in Pond 4. Approximately 10 section lines will be completed in Pond 6, 2 each (north-south) in the western fingers and potentially 6 within the larger portion of the pond.

The elevations of the pond surface will either be determined during the aerial photogrammery if completed before the rainy season, or be determined using the sonar and GPR along a maximum of three section lines in water-accessible areas in the southern portion of the pond.

In areas where a minimum of 2 feet of water is not present or if vegetation is present, leadline or pole sounding will be used. The water levels at the time of the survey will be used to convert the depth information generated using these methods to elevations.

Mechanical sounding and the collection of samples for visual confirmation will be performed intermittently. Locations for mechanical sounding will be selected to determine relative conditions in shelf and former pit areas and to document consistency with the GPR data. The minimum number of soundings for each pond and general locations discussed below.

- Ponds 1N and 1S – A minimum of 3 locations will be sounded in each of these ponds, which are believed to entirely confirm with former mining pits.

- Pond 2 – A minimum of 5 locations will be sounded in this pond; 2 within the western pit area, 1 within the eastern pit area, and 3 on the shelf.

- Pond 4 – A minimum of 12 locations will be sounded; 1 within each of the 6 former mining pits and 6 on the shelf.

- Pond 6 – A maximum of 8 locations will be sounded; 1 in each of the 2 western fingers, 3 within the former excavated area, and potentially 3 on the shelf. Probing on the Pond 6 shelf will be contingent on whether sufficient water is present in the pond at the time. Probing in this area as part of the bathymetric survey is not believed to be critical because the thickness of the material in the southern portion of the pond was determined during the collection of sediment samples in this area in May 2004.

Hydrographic survey methods will comply with the standards of the U.S. Army Corps of Engineers (USACE) Hydrographic Survey Manual EM 1110-2-1003. Horizontal and vertical accuracies shall be +/- 2 foot horizontal and +/-0.2 foot vertical.

The information to be generated will include plan views of the contoured sediment and pond bottom surface and probe locations, cross-sections illustrating these conditions along each of the section lines, and volume calculations for the sediments. The drawings will be prepared and sealed by a Florida-registered land surveyor.

Appendix C

Monitoring Well and Piezometer Lithologic Logs and Construction Diagrams

Table A-1. Lithologic Log of Monitor Well AEM-3

Description	Depth (ft)	Thickness (ft)
Sand, fine-grained, silty, brown.....	0 - 7	7
Clay, sandy, white; sand, fine-grained, brown, limestone fragments.....	7 - 15	8
Clay, soft, white; limestone fragments....	15 - 20	5
Clay, sandy, soft, white; limestone, hard, white.....	20 - 37	17
Limestone, hard, white and tan.....	37 - 45	8

Table A-2. Lithologic Log of Monitor Well AEM-4

Description	Depth (ft)	Thickness (ft)
Sand, fine-grained, silty, brown.....	0 - 7	7
Sand, fine-grained, brown; clay, soft, white.....	7 - 9	2
Clay, sandy, soft, white.....	9 - 12	3
Clay, sandy, soft, white; limestone fragments.....	12 - 20	8

Table A-3. Lithologic Log of Monitor Well AEM-5

Description	Depth (ft)	Thickness (ft)
Sand, fine-grained, silty, gray.....	0 - 5	5
Sand, fine-grained, cemented, tan to gray.	5 - 7	2
Sand, fine-grained, tan to gray.....	7 - 15	8
Sand, fine-grained, tan to gray; cemented sand nodules.....	15 - 18	3
Sand, fine-grained, tan to gray, phosphorite; blue-green clay.....	18 - 21	3

Table A-4. Lithologic Log of Monitor Well AEM-6

Description	Depth (ft)	Thickness (ft)
Sand, fine-grained, silty, gray.....	0 - 5	5
Sand, fine-grained, cemented tan to gray..	5 - 10	2
Sand, fine-grained, tan to gray.....	10 - 15	5
Sand, fine-grained, gray; blue-green sandy clay.....	15 - 20	5
Clay, soft, blue-green and yellow; fine-grained sand; limestone fragments.....	20 - 34	14
Limestone, hard, yellow and white.....	34 - 37	3
Clay, slightly sandy, soft; limestone fragments.....	37 - 46	9
Limestone, hard, white and tan; phosphorite.....	46 - 50	4
Clay, hard, white; limestone fragments....	50 - 55	5
Limestone, hard, white to tan.....	55 - 58	3
Clay, slightly sandy, firm, white; white limestone.....	58 - 60	2
Limestone, granular, moderately hard, white to tan; white clay.....	60 - 70	
Clay, slightly sandy, soft white; white limestone.....	70 - 80	10

Table A-5. Lithologic Log of Monitor Well AEM-7

Description	Depth (ft)	Thickness (ft)
Sand, fine-grained, silty, brown.....	0 - 5	5
Sand, fine-grained, gray.....	5 - 8	3
Clay, sandy, soft, gray; sand, fine-grained, gray.....	8 - 15	7
Clay, soft, blue-green; limestone fragments.....	15 - 22	7
Clay, soft, gray; sand, fine-grained, brown; limestone fragments.....	22 - 27	5
Clay, stiff, blue-green and yellow; limestone fragments.....	27 - 33	6
Clay, soft, yellow.....	33 - 40	7
Clay, soft, yellow; limestone.....	40 - 45	5
Clay, stiff, yellow.....	45 - 50	5
Clay, soft, yellow, limestone fragments...	50 - 54	4
Limestone, white and yellow; clay, soft, gray.....	54 - 60	6
Clay, soft, yellow; limestone fragments...	60 - 66	6

Table A-6. Lithologic Log of Monitor Well AEM-8

Description	Depth (ft)	Thickness (ft)
Sand, fine-grained, silty, brown.....	0 - 5	5
Sand, fine-grained, silty, gray.....	5 - 8	3
Clay, sandy, soft, gray.....	8 - 10	2
Sand, fine-grained, gray; clay, sandy, soft, gray, limestone fragments.....	10 - 17	7
Clay, soft, blue-green and yellow; limestone fragments.....	17 - 20	3

P:\PROJECTS\030710\Xsect.dwg

Mar 19, 2004 – 3:45pm by gsharp

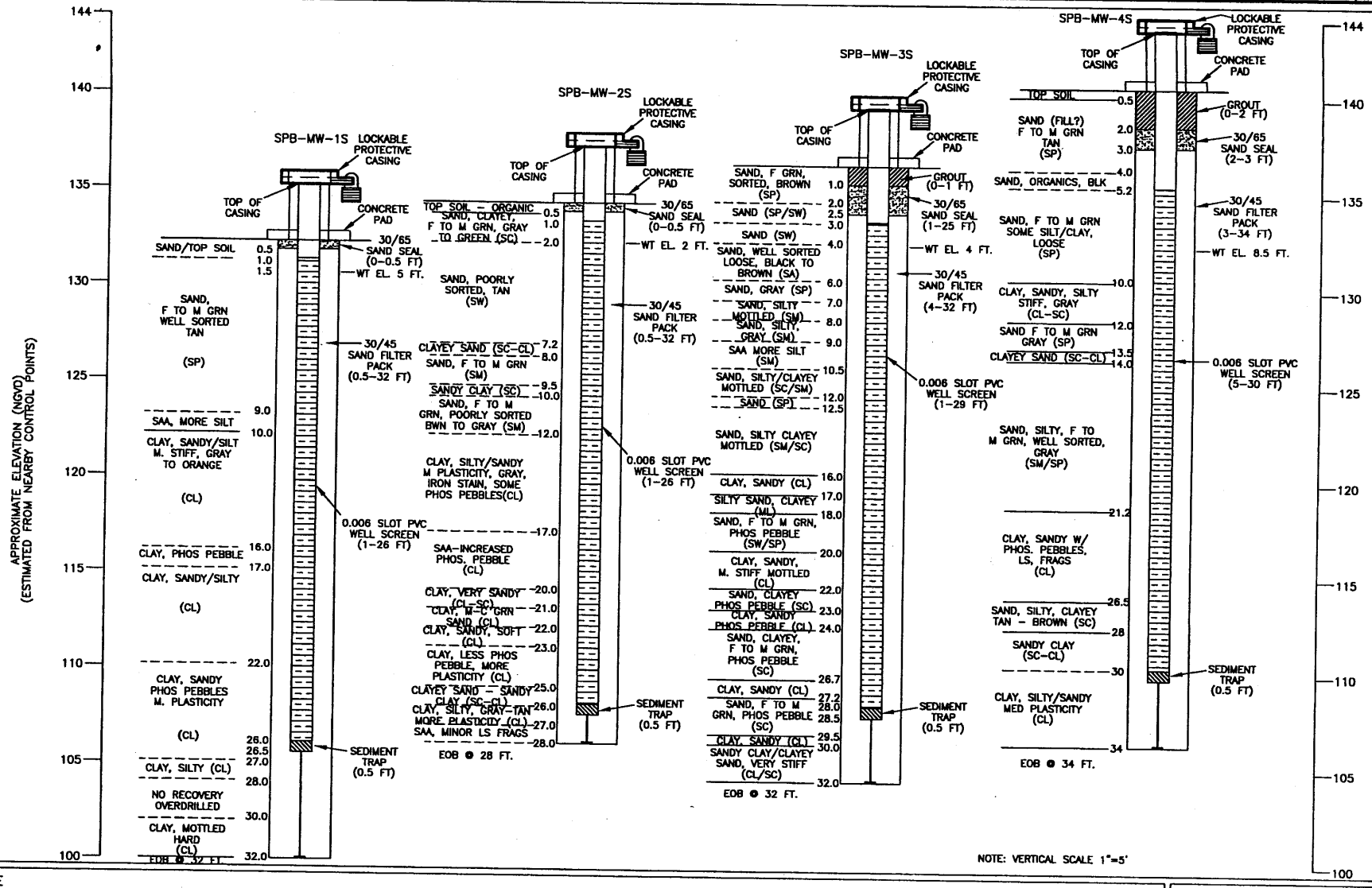


FIGURE
SUMMARY ILLUSTRATION OF SOUTHERN PROPERTY BOUNDARY SURFICIAL AQUIFER SOIL BORING AND MONITORING WELL DETAILS
CORONET INDUSTRIES, INC.
PLANT CITY, HILLSBOROUGH COUNTY, FLORIDA

Source: ECT, 2003.

ECT
Environmental Consulting & Technology, Inc.

P:\PROJECTS\030710\Xsect_Mw_11.dwg

Mar 19, 2004 – 3:46pm by gsharp

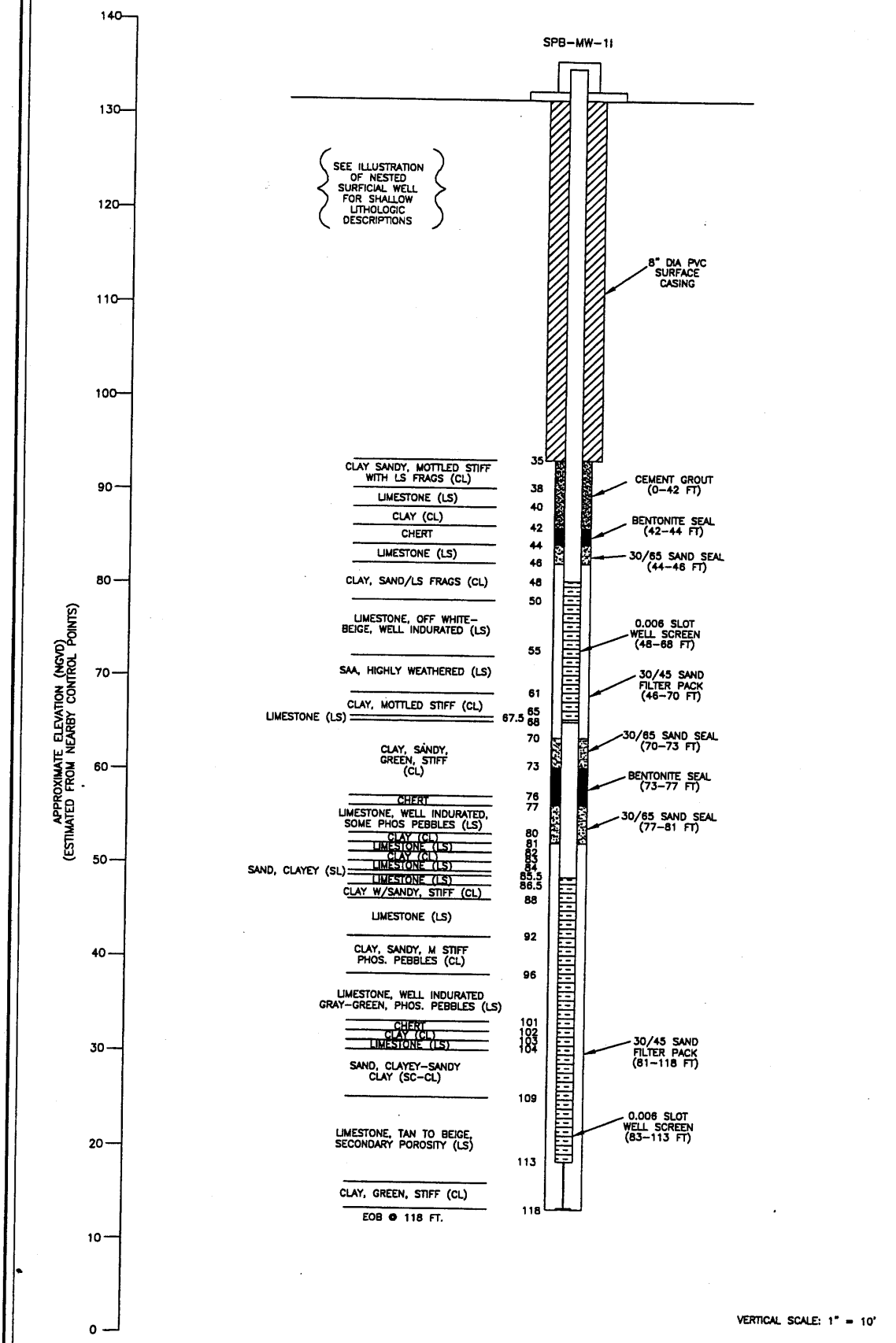


FIGURE
SUMMARY ILLUSTRATION OF SOUTHERN PROPERTY BOUNDARY INTERMEDIATE INTERVAL AND MONITORING WELL DETAIL (SPB–MW–11)
CORONET INDUSTRIES, INC.
PLANT CITY, HILLSBOROUGH COUNTY, FLORIDA
Source: ECT, 2003.

ECT
Environmental Consulting & Technology, Inc.

P:\PROJECTS\030710\Xsect_Mw_2I.dwg

Mar 19, 2004 – 3:46pm by gsharp

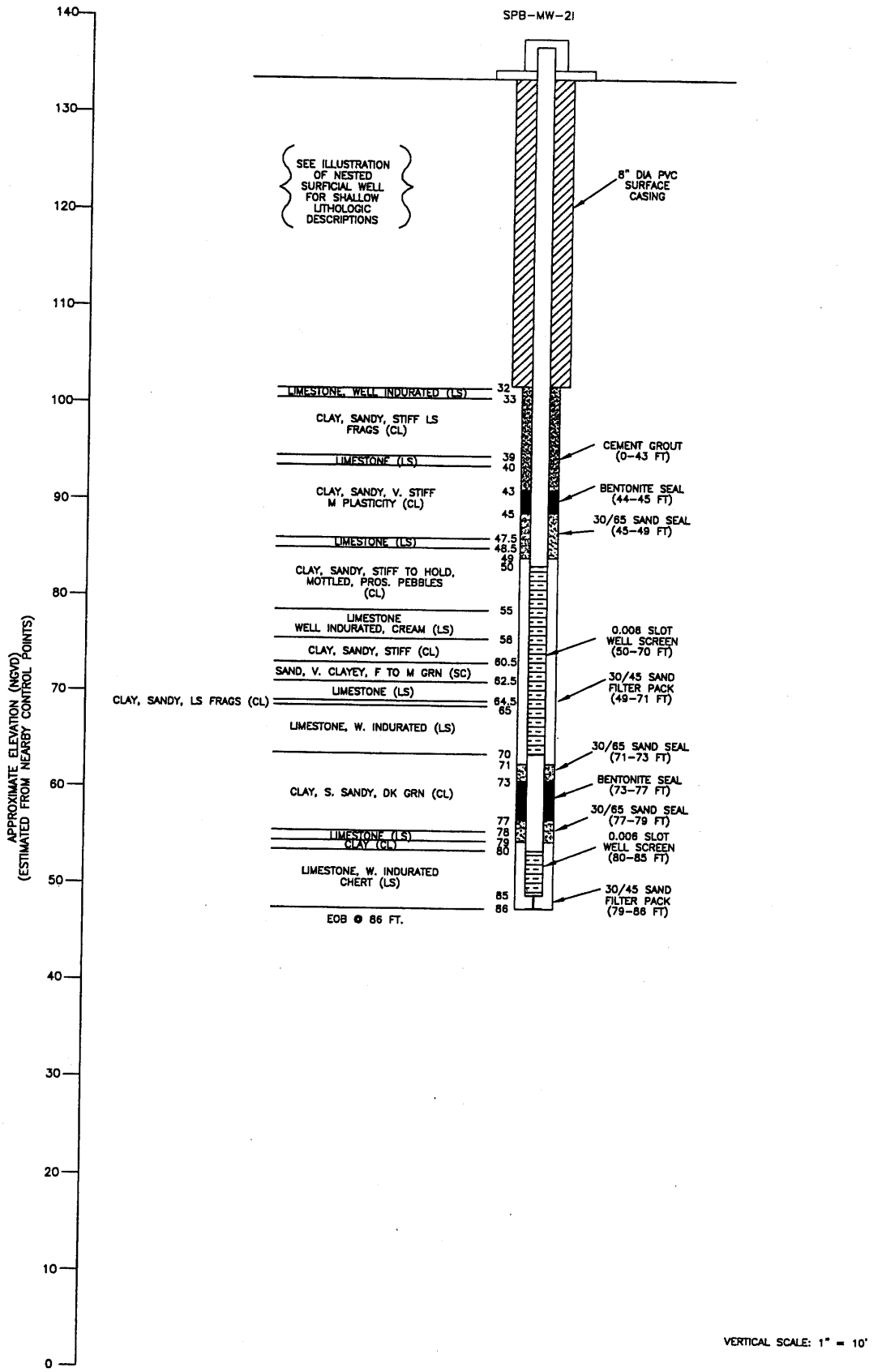


FIGURE
SUMMARY ILLUSTRATION OF SOUTHERN PROPERTY BOUNDARY INTERMEDIATE INTERVAL AND MONITORING WELL DETAIL (SPB-MW-2I)
CORONET INDUSTRIES, INC.
PLANT CITY, HILLSBOROUGH COUNTY, FLORIDA
Source: ECT, 2003.

ECT
Environmental Consulting & Technology, Inc.

P:\PROJECTS\030710\Xsect_Mw_3I.dwg

Mar 19, 2004 - 3:46pm by gsharp

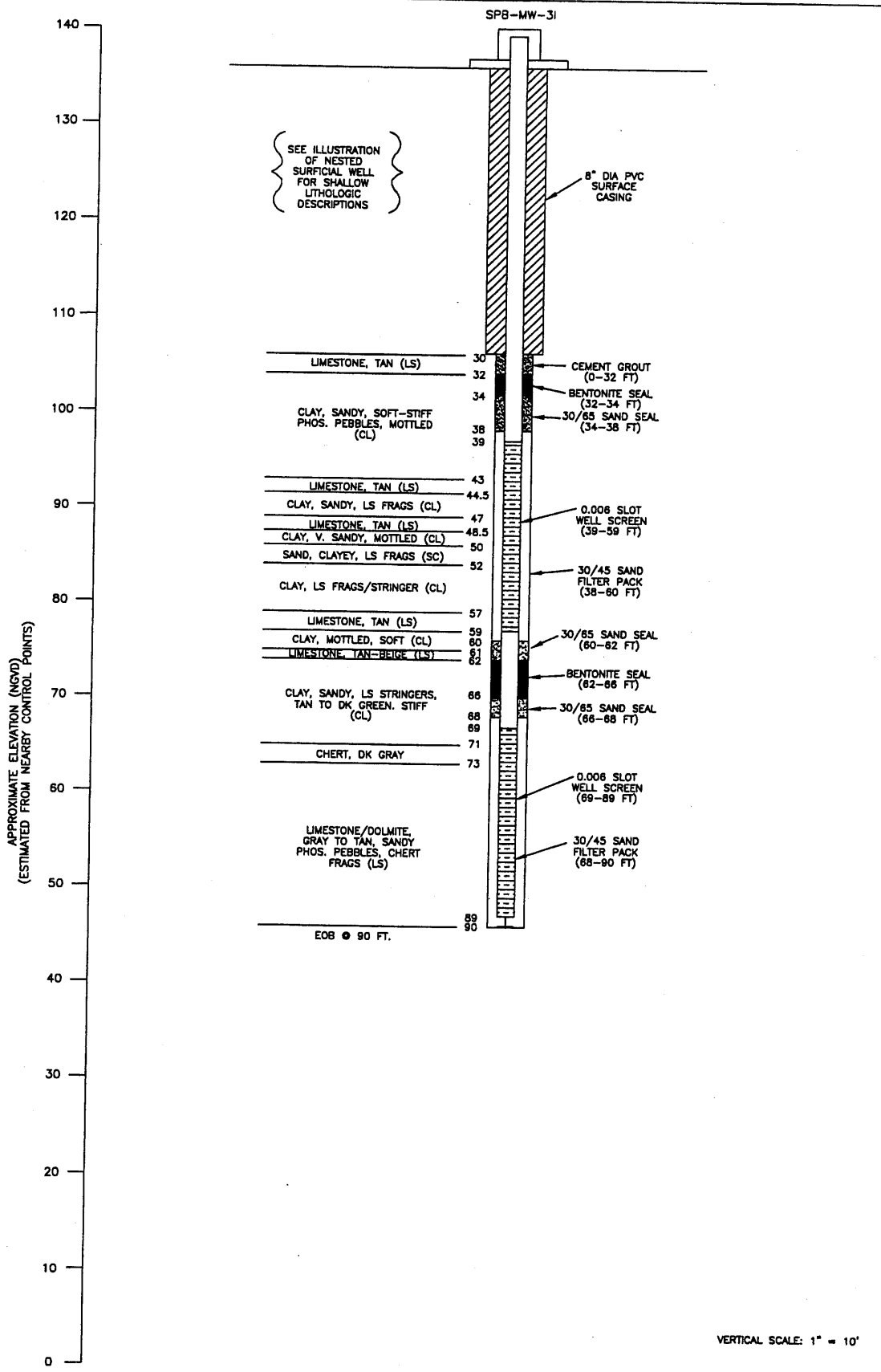


FIGURE
SUMMARY ILLUSTRATION OF SOUTHERN PROPERTY BOUNDARY INTERMEDIATE INTERVAL AND MONITORING WELL DETAIL (SPB-MW-3I)
CORONET INDUSTRIES, INC.
PLANT CITY, HILLSBOROUGH COUNTY, FLORIDA
Source: ECT, 2003.

ECT
Environmental Consulting & Technology, Inc.

P:\PROJECTS\030710\Xsect_Mw_4I.dwg

Mar 19, 2004 – 3:47pm by gsharp

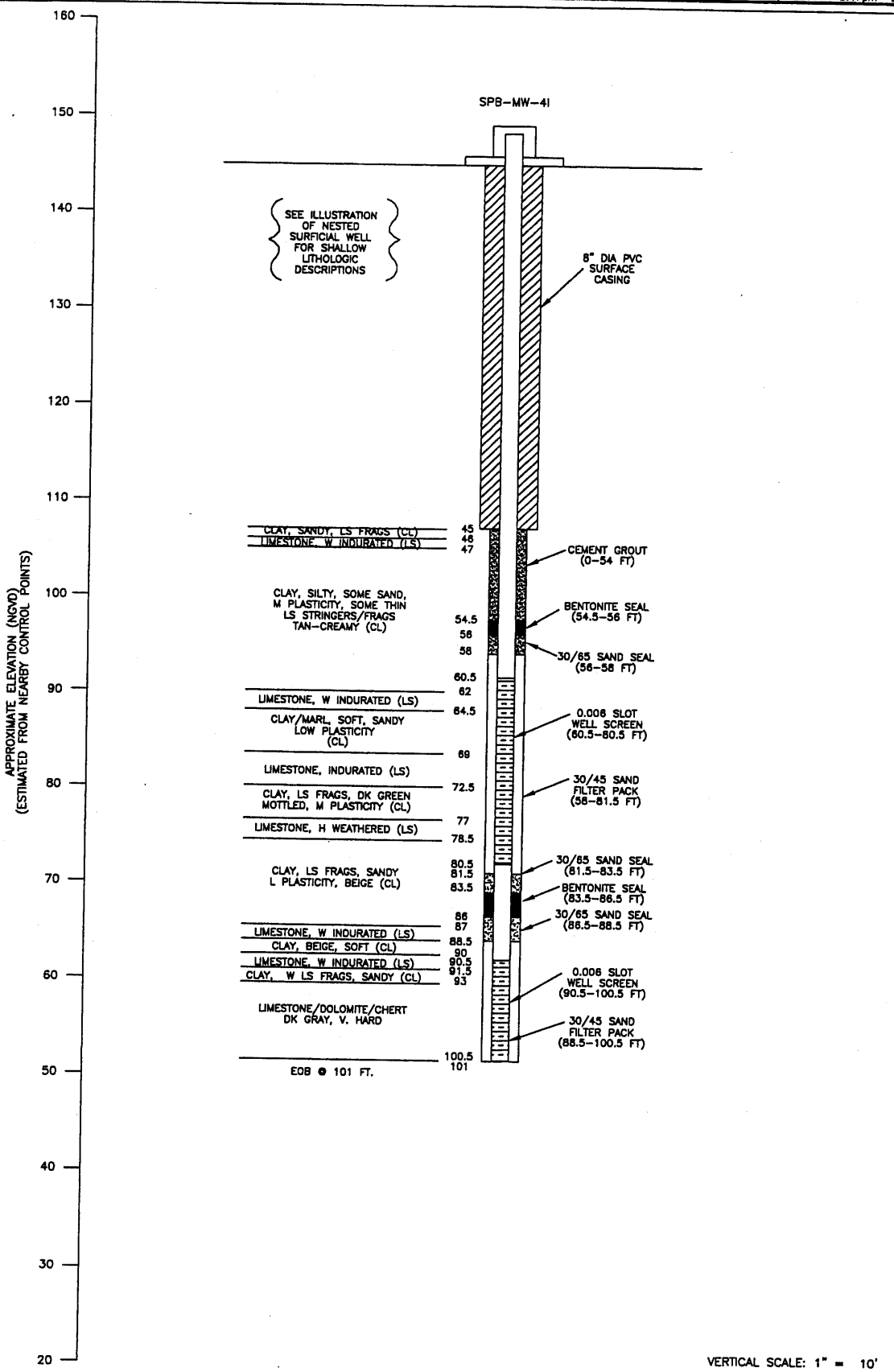
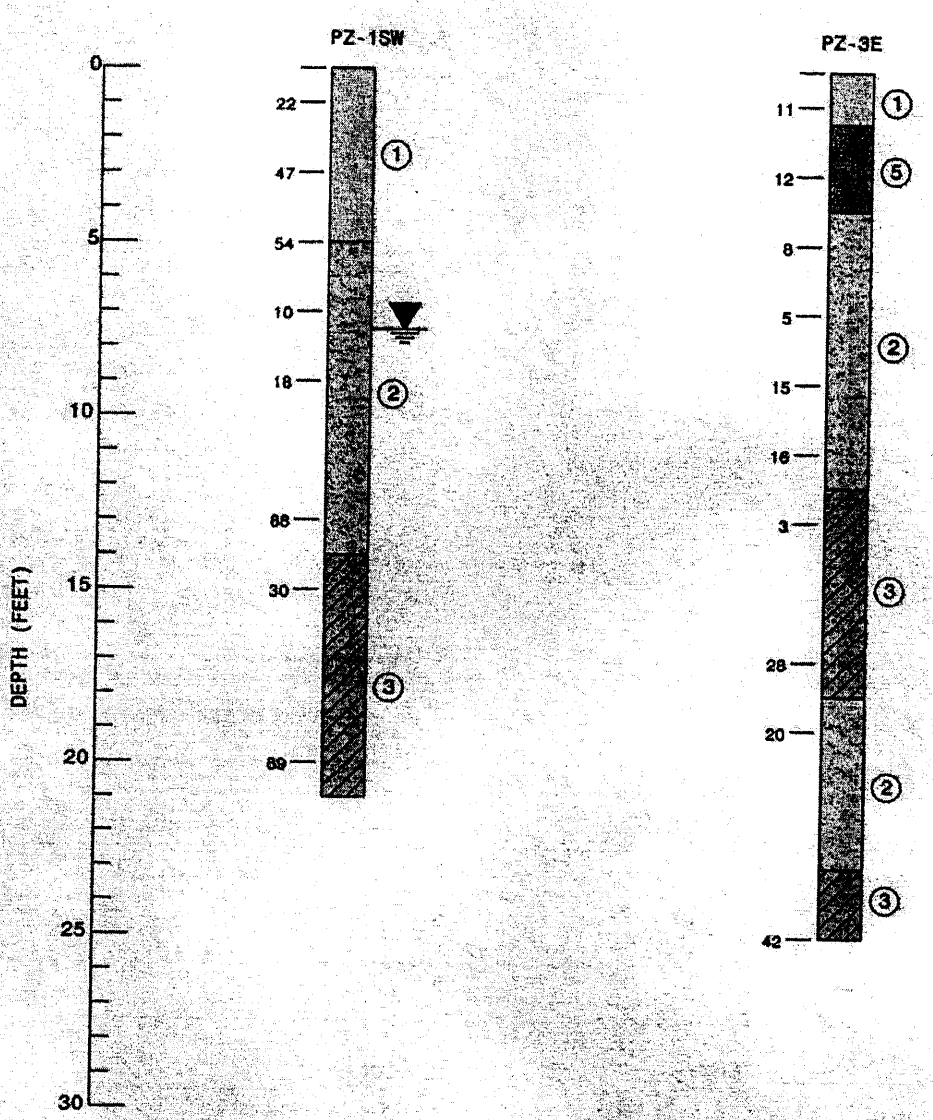


FIGURE
SUMMARY ILLUSTRATION OF SOUTHERN PROPERTY BOUNDARY INTERMEDIATE INTERVAL AND MONITORING WELL DETAIL (SPB–MW–4I)
CORONET INDUSTRIES, INC.
PLANT CITY, HILLSBOROUGH COUNTY, FLORIDA
Source: ECT, 2003.

ECT
Environmental Consulting & Technology, Inc.



① **SAND TAILINGS (FILL)**; pale yellowish brown, fine grained quartz (SP)

② **SAND**; brownish gray to light gray to dark yellowish brown to moderate brown, variably silty, fine grained quartz (SP, SP-SM)

③ **CLAYEY SAND**; pale yellowish green to yellowish gray to pale olive, variably clayey, fine grained quartz (SC)

④ **SANDY CLAY**; greenish gray, variably sandy clay, trace phosphorite (CH)

⑤ **CLAYEY SLIMES**; yellowish gray, variably sandy, highly plastic clay slimes

100% C — Loss of Circulation

SP — UNIFIED SOIL CLASSIFICATION SYSTEM classification

18 — SPT blow count

Depth of water table

BCI ENGINEERS & SCIENTISTS, INC.
2000 E. EDGEWOOD DRIVE, LAKELAND, FL 33803
PHONE: (863) 667-2345
WEB SITE: www.BCIENG.com
EB-0007867

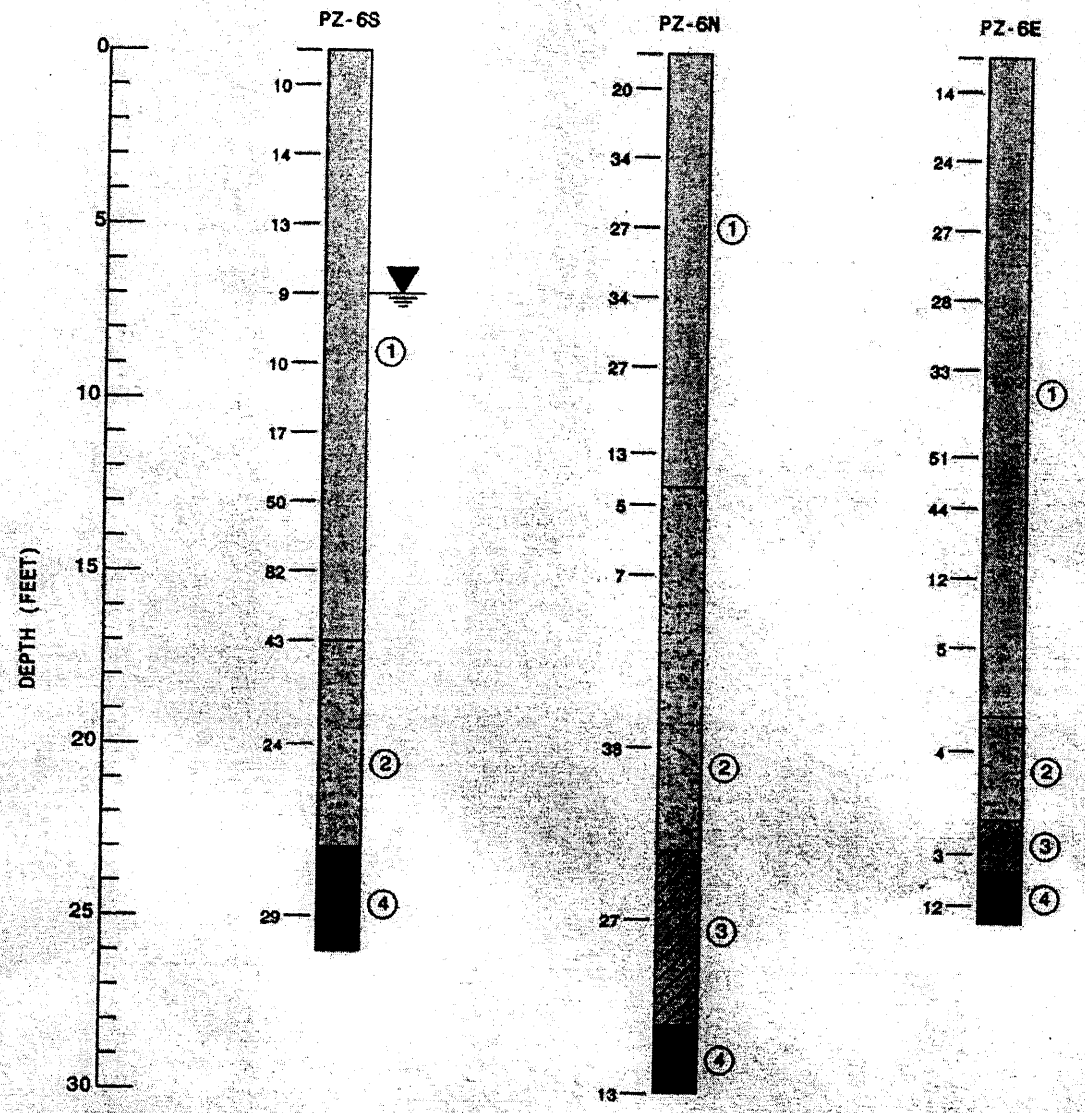
CORONET INDUSTRIES, INC.

FIGURE 10
PONDS 1 & 3 SOIL BORING PROFILES

PLANT CITY, FLORIDA

DATE: 11-10-03	REVISED:	DRAWN BY: TRE	SCALE: 1"=5'	PROJECT NO.: 3-11792.4

BCI FILE: P:\PROJECTS\03-11792.04_CORONET DAMS\dwg\3-11792-04_CORONET_DAMS.dwg - Thu, March 18 2004 - 12:07 PM



① **SAND TAILINGS** (FILL); pale yellowish brown, fine grained quartz (SP)

② **SAND**; brownish gray to light gray to dark yellowish brown to moderate brown, variably silty, fine grained quartz (SP, SP-SM)

③ **CLAYEY SAND**; pale yellowish green to yellowish gray to pale olive, variably clayey, fine grained quartz (SC)

④ **SANDY CLAY**; greenish gray, variably sandy clay, trace phosphorite (CH)

⑤ **CLAYEY SLIMES**; yellowish gray, variably sandy, highly plastic clay slimes

100% C — Loss of Circulation

SP — UNIFIED SOIL CLASSIFICATION SYSTEM classification

18 — SPT blow count

Depth of water table

BCI ENGINEERS & SCIENTISTS, INC.
2000 E. EDGEWOOD DRIVE, LAKELAND, FL 33803
PHONE: (863) 667-2346
WEB SITE: www.BCIENG.com
EB-0007867

CORONET INDUSTRIES, INC.

FIGURE 11
POND 6 SOIL BORING PROFILES

PLANT CITY, FLORIDA

DATE: 11-10-03	REVISED:	DRAWN BY: TRE	SCALE: 1"=5'	PROJECT NO.: 3-11792.4

BCI FILE: P:\PROJECTS\03-11792.04_CORONET DAMS\dwg\3-11792-04_CORONET DAMS.dwg - Thu, March 18 2004 - 12:07 PM

WELL COMPLETION LOG

BCI ENGINEERS & SCIENTISTS, INC.

CLIENT: Coronet Ind. JOB NO: 3-11792.04 WELL NO: PZ-N-1~~2~~6 SW

LOCATION: Plant City LOGGED BY: Suyhof

DATE INSTALLED: 1 Aug 03 DRILLER: Diversified

PURPOSE: MONITOR ____ OBSERVATION X WATER SUPPLY ____
TEST ____ OTHER (Describe) ____

CONSTRUCTION DATA

DRILLING METHOD: 8" OD HSA's

WELL TYPE:

SCREEN/GRAVEL PACK X OPEN HOLE ____
PIEZOMETER ____ WELL POINT ____
OTHER (Describe) ____
WELL DEPTH: 18 FT.

ELEVATION DATA

GROUND ELEVATION: ____
CASING STICKUP: ____ FT.
TOC ELEVATION: ____
SURVEYED BY: ____

CASING/SCREEN/OPEN HOLE:

MATERIAL:		PVC	PVC	—
DIAMETER (IN.):		2	2	
INTERVAL (FT. BGS):		0-15	15-18	
BORE HOLE DIA. (IN.):		8	8	
SLOT SIZE (IN.):		--	.010	

ANNULUS MATERIAL:

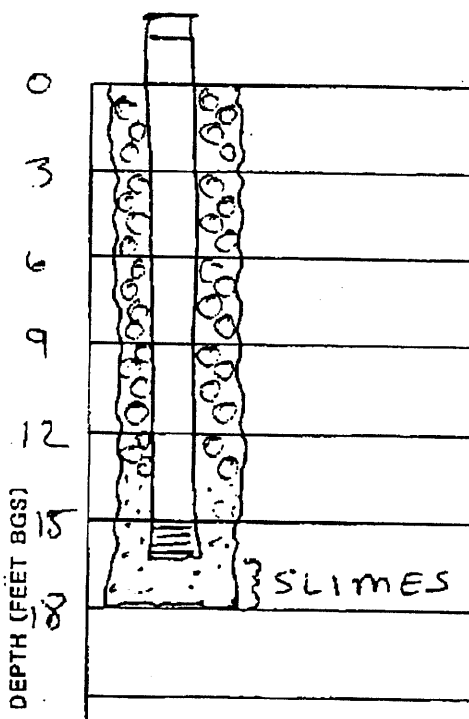
	Bentonite (3½ bags)	Silica Sand (1½ bags)		
GRADATION TYPE:	Chips	20-30		
INTERVAL (FT. BGS):	0-13	13-18		
LENGTH (FT.):	13	5		

HYDROGEOLOGIC DATA

COMPLETION FORMATION: ____
SPECIFIC CAPACITY: ____ gpm/ft.
TRANSMISSIVITY: ____ gpd/ft.
STORAGE COEFFICIENT/SPECIFIC YIELD ____
DEPTH TO WATER ____ FT.
DATE/TIME ____

COMMENTS: Down-stream (outside) Edge of Dam
West of PZ-N-12

WELL CONSTRUCTION SKETCH



WELL COMPLETION LOG

BCI ENGINEERS & SCIENTISTS, INC.

CLIENT: Cornet JOB NO: 3-11792.04 WELL NO: PZ-N-12

LOCATION: Plant City LOGGED BY: Pond

DATE INSTALLED: 1 Aug 03 DRILLER: Pond

PURPOSE: MONITOR ____ OBSERVATION X WATER SUPPLY ____
TEST ____ OTHER (Describe) ____

CONSTRUCTION DATA

DRILLING METHOD: 8" OD HSA

WELL TYPE:

SCREEN/GRAVEL PACK X OPEN HOLE ____
PIEZOMETER ____ WELL POINT ____
OTHER (Describe) ____
WELL DEPTH: 12 FT.

ELEVATION DATA

GROUND ELEVATION: ____
CASING STICKUP: ____ FT.
TOC ELEVATION: ____
SURVEYED BY: ____

CASING/SCREEN/OPEN HOLE:

MATERIAL:		PVC	PVC	
DIAMETER (IN.):		2	2	
INTERVAL (FT. BGS):		0-11	11-12	
BORE HOLE DIA. (IN.):		8	8	
SLOT SIZE (IN.):		—	.010	

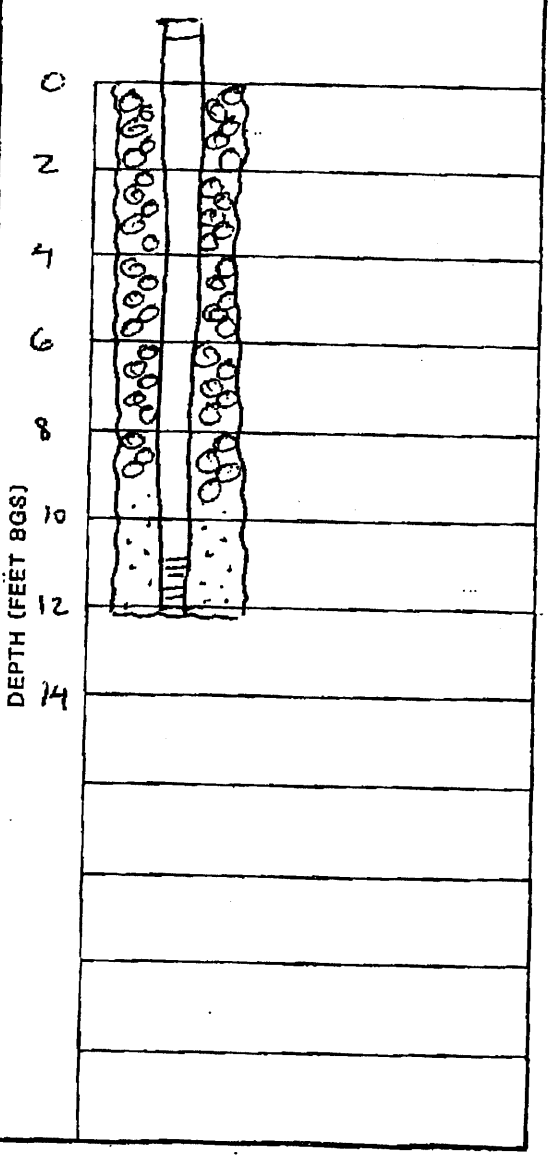
ANNULUS MATERIAL:

GRADATION TYPE:	Bentonite Chips	Silica Sand 20-30		
INTERVAL (FT. BGS):	0-9	9-12		
LENGTH (FT.):	9	3		

HYDROGEOLOGIC DATA

COMPLETION FORMATION: ____
SPECIFIC CAPACITY: ____ gpm/ft.
TRANSMISSIVITY: ____ gpd/ft.
STORAGE COEFFICIENT/SPECIFIC YIELD ____
DEPTH TO WATER ____ FT.
DATE/TIME ____

WELL CONSTRUCTION SKETCH



COMMENTS: East of PZ-N-16

WELL COMPLETION LOG

BCI ENGINEERS & SCIENTISTS, INC.

CLIENT: Coronet JOB NO: 3-11792.04 WELL NO: PZ-E-12

LOCATION: Plant City FL LOGGED BY: Swyhof

DATE INSTALLED: 1 Aug 03 DRILLER: Diversified Pond 6

PURPOSE: MONITOR ____ OBSERVATION X WATER SUPPLY ____
TEST ____ OTHER (Describe) ____

CONSTRUCTION DATA

DRILLING METHOD: 8" OD HSA

WELL TYPE:

SCREEN/GRAVEL PACK X OPEN HOLE ____
PIEZOMETER ____ WELL POINT ____
OTHER (Describe) ____
WELL DEPTH: 12 FT.

ELEVATION DATA

GROUND ELEVATION: ____
CASING STICKUP: ____ FT.
TOC ELEVATION: ____
SURVEYED BY: ____

CASING/SCREEN/OPEN HOLE:

MATERIAL:		PVC	PVC	
DIAMETER (IN.):		2	2	
INTERVAL (FT. BGS):		0-10	10-12	
BORE HOLE DIA. (IN.):		8	8	
SLOT SIZE (IN.):		—	.010	

ANNULUS MATERIAL:

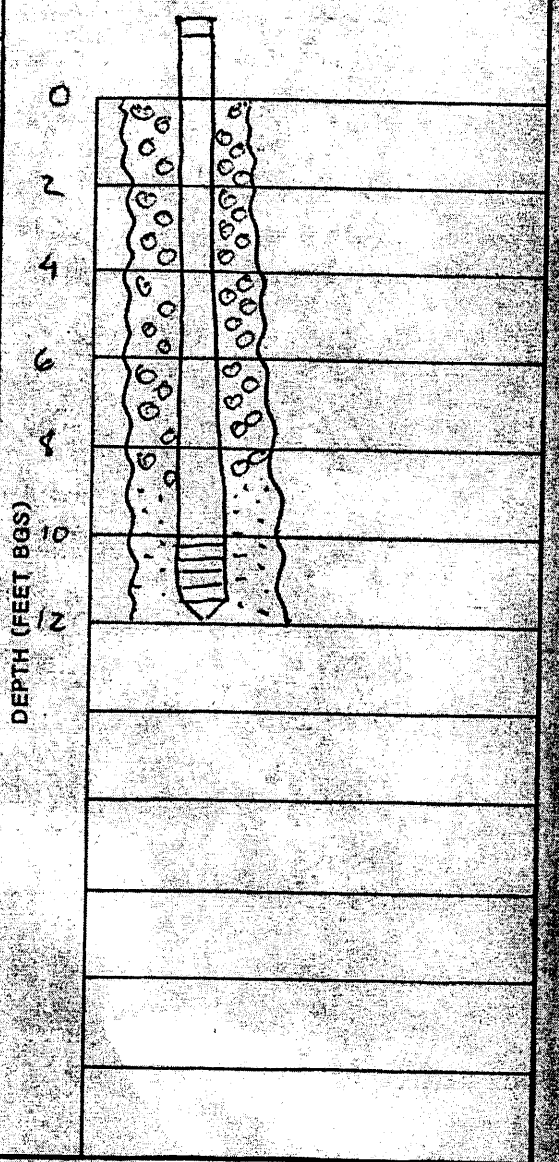
	Bentonite Chips (3 bags)	Silica Sand (1 1/2 bags)		
GRADATION TYPE:	—	20-30		
INTERVAL (FT. BGS):	0-9	9-12		
LENGTH (FT.):	9	3		

HYDROGEOLOGIC DATA

COMPLETION FORMATION: Dam
SPECIFIC CAPACITY: ____ gpm/ft.
TRANSMISSIVITY: ____ gpd/ft.
STORAGE COEFFICIENT/SPECIFIC YIELD ____
DEPTH TO WATER ____ FT.
DATE/TIME ____

COMMENTS: Stand up 10' of Rod at toe of dam to measure height. → W/in inches of 10' high from toe to crest.

WELL CONSTRUCTION SKETCH



WELL COMPLETION LOG

BCI ENGINEERS & SCIENTISTS, INC.

CLIENT: Cosmet JOB NO: 3-11792.04 WELL NO: PZ-3E

LOCATION: Plant City FL LOGGED BY: Suyhof

DATE INSTALLED: 5 Aug 03 DRILLER: Diversified - BK57

PURPOSE: MONITOR ____ OBSERVATION X WATER SUPPLY ____
TEST ____ OTHER (Describe) ____

CONSTRUCTION DATA

DRILLING METHOD: 8" OD HSA

WELL TYPE:

SCREEN/GRAVEL PACK X OPEN HOLE ____
PIEZOMETER ____ WELL POINT ____
OTHER (Describe) ____
WELL DEPTH: 12 FT.

CASING/SCREEN/OPEN HOLE:

MATERIAL:		PVC	PVC	
DIAMETER (IN.):		1 1/4	1 1/4	
INTERVAL (FT. BGS):		0-10	10-12	
BORE HOLE DIA. (IN.):		8	8	
SLOT SIZE (IN.):		—	.010	

ANNULUS MATERIAL:

	Benomite Chips	Silica Sand		
GRADATION TYPE:	—	20-30		
INTERVAL (FT. BGS):	0-9	9-12		
LENGTH (FT.):	9	3		

HYDROGEOLOGIC DATA

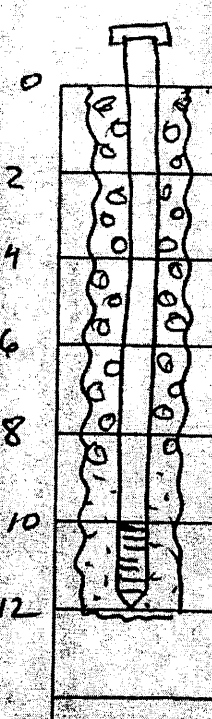
COMPLETION FORMATION: East Dam of Pond 3
SPECIFIC CAPACITY: ____ gpm/ft.
TRANSMISSIVITY: ____ gpd/ft.
STORAGE COEFFICIENT/SPECIFIC YIELD ____
DEPTH TO WATER ____ FT.
DATE/TIME ____

COMMENTS: ____

ELEVATION DATA

GROUND ELEVATION: ____
CASING STICKUP: ____ FT.
TOC ELEVATION: ____
SURVEYED BY: ____

WELL CONSTRUCTION SKETCH



WELL COMPLETION LOG

BCI ENGINEERS & SCIENTISTS, INC

CLIENT: Coronet JOB NO: 3-11792.04 WELL NO: PZ-1 SW

LOCATION: Plant City LOGGED BY: Stykhof

DATE INSTALLED: 5 Aug 03 DRILLER: Diversified Drilling

PURPOSE: MONITOR ____ OBSERVATION X WATER SUPPLY ____
TEST ____ OTHER (Describe) ____

CONSTRUCTION DATA

DRILLING METHOD: 8" OD HSA

WELL TYPE:

SCREEN/GRAVEL PACK X OPEN HOLE ____
PIEZOMETER ____ WELL POINT ____
OTHER (Describe) ____
WELL DEPTH: 12 FT.

CASING/SCREEN/OPEN HOLE:

MATERIAL:	PVC	PVC		
DIAMETER (IN.):	1¼	1¼		
INTERVAL (FT. BGS):	0-10	10-12		
BORE HOLE DIA. (IN.):	8	8		
SLOT SIZE (IN.):	—	.010		

ANNULUS MATERIAL:

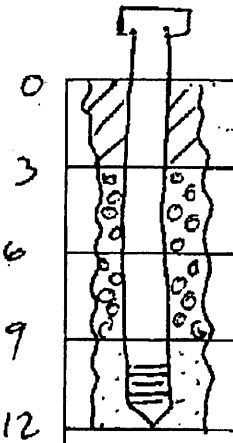
	Cement Grout	Bent. Chips	Silica Sand	
GRADATION TYPE:				
INTERVAL (FT. BGS):	0-3	3-9	9-12	
LENGTH (FT.):	3	6		

HYDROGEOLOGIC DATA

COMPLETION FORMATION: ____
SPECIFIC CAPACITY: ____ gpm/ft.
TRANSMISSIVITY: ____ gpd/ft.
STORAGE COEFFICIENT/SPECIFIC YIELD ____
DEPTH TO WATER ____ FT.
DATE/TIME ____

COMMENTS: 2 bags Sand
3½ bags of Chips
½ bag of Grout

ELEVATION DATA

GROUND ELEVATION: ____
CASING STICKUP: ____ FT.
TOC ELEVATION: ____
SURVEYED BY: ____

WELL CONSTRUCTION SKETCH