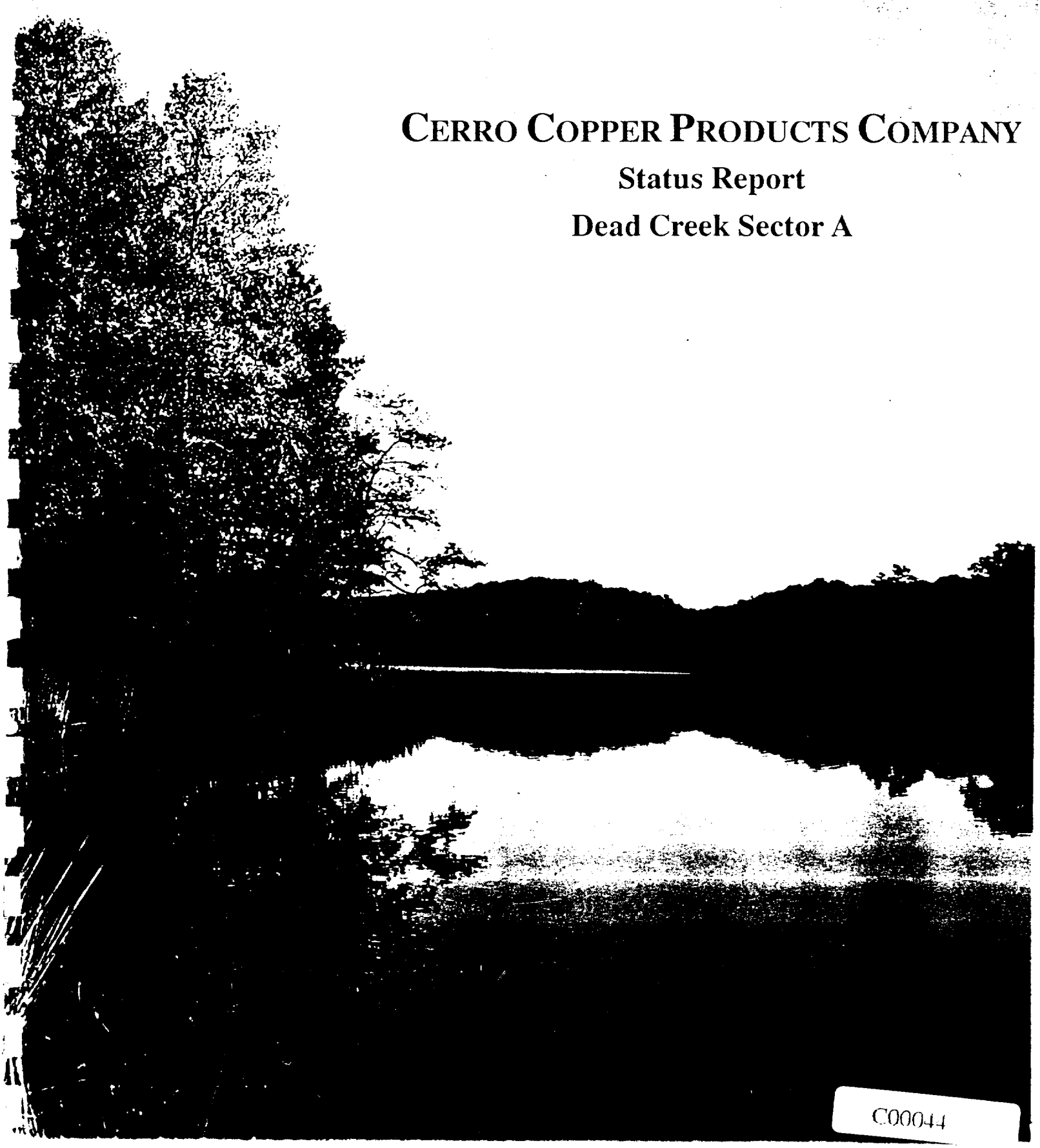
P. TANDLER

AVENDT GROUP, INC.

ENGINEERS & SCIENTISTS



CERRO COPPER PRODUCTS COMPANY

Status Report

Dead Creek Sector A

C00044

AVENDT GROUP, INC.

The Avendt Group, Inc. provides engineering and scientific consulting services to municipal, private, industrial and regulatory agency clients involved in water supply, water pollution control and solid wastes management. Our professional staff includes specialists in civil, chemical and environmental engineering complemented by biologists, environmental scientists, estimators, planners and operations personnel.

Through a wide variety of past and current projects, the Avendt Group, Inc. has developed extensive experience including diagnostic performance testing, personnel training, regulatory permitting and compliance programs. Our firm provides consulting services on a nationwide basis with corporate offices in the metropolitan Washington D.C. area and regional project offices.

Operations Division

The Operations Division offers a complete range of consulting engineering and scientific services to assist in the efficient and economical operation of water and wastewater treatment works and solid waste management facilties.

Recent U.S. Environmental Protection Agency studies have shown that proper operation and maintenance procedures can compensate for the majority of design limitations associated with water, wastewater and solid wastes management facilities. The Avendt Group, Inc. specializes in optimizing existing facility operations by providing operation and maintenance cost reduction programs: diagnostic performance evaluations; remedial action protocols; personnel training for operations and administrative staff; operation and maintenance programs and technical support in regulatory permit compliance.

Engineering Division

The Engineering Division provides multi-disciplinary planning, design and construction phase services in water supply, water pollution control, industrial, solid and hazardous waste management and resource recovery. The increasing emphasis on higher operating efficiencies, regulatory agency standards and escalating energy and labor costs is a major consideration in our planning and design services. Innovative yet realistic solutions are developed through efficient designs based on years of sound practical design and operational experience.

Rehabilitation and expansion of existing facilities are a specialty of the Avendt Group, Inc. Project team members are assigned, based on the required engineering/technical expertise, to complete each phase of a project from conceptual planning through performance testing and startup. By specializing in comprehensive facility improvement programs, each aspect of complex engineering projects is carefully evaluated to maintain schedules and optimize budgets.

P. Tandon
1-16-90

STATUS REPORT

Dead Creek Sector A

Site Investigations

TABLE OF CONTENTS

I. Site Description
- A. Site Diagram
- B. Traverse / Zone Diagrams
- C. Boring Logs
  1. Individual
  2. Traverse Section
  3. Longitudinal Section
- D. Sediment Volume Table
- E. Sediment Characteristics Table

II. Chemical Characterization
- A. Sample Testing Summary
- B. PCB Data
  1. Table
  2. Contour Maps
  3. Frequency Distribution Graph
- C. EPTox Data
  1. Table
  2. Contour Maps
- D. Total Metals Data
  1. Table
  2. Contour Maps
- E. Characteristics of Hazardous Waste Table
- F. Appendix IX: Volatiles
- G. Appendix IX: Semi-Volatiles
- H. TCLP Data

HISTORY OF PREVIOUS INVESTIGATIONS

Ecology and Environment (E&E) was contracted by the Illinois EPA (IEPA) in the early 1980s to conduct an RI/FS at the Dead Creek Project Sites. As a result of E&E's initial investigation, E&E performed additional work at the Dead Creek Project Area in 1987.

The Sverdrup Corporation was contracted as an oversight consultant by Lowenstein, Sandler, Kohl, Fisher, and Boylan during the E&E investigation. The Sverdrup Corporation performed a background information search on Cerro Copper Products Company and the IEPA Sauget/Dead Creek Project.

Geraghty and Miller, Inc., was contracted by the Sauget Sanitary Development and Research Association to perform an investigation of the lagoon at the American Bottoms Treatment Plant in December, 1987.

The Avendt Group, Inc., was retained by the Cerro Copper Products Company in June, 1989, to characterize Dead Creek Sector A (DCS-A) and Site I. The characterization of DCS-A was performed during the month of July, 1989. Work on Site I began in September, 1989.

DCS-A was characterized through the collection of 99 soil samples from 34 borings performed in the Dead Creek channel and on its associated creek banks. Soil boring logs were documented to identify stratigraphic changes and to note the extent of stained soils due to contamination. Samples were collected at various intervals of each boring and analyzed for the presence of PCBs and PCB Precursors, EP Toxicity, Pesticides and Herbicides, Total HSL Metals, Volatile and Semi-volatile Organic Compounds, Flash Point, pH, and Corrosivity.

The characterization of Site I began with the installation of eight well clusters consisting of three wells each. Each cluster consists of a deep well finished to bedrock (110 feet), and an intermediate well finished at a depth of 45 feet, and a shallow well finished at a depth of 25 feet. Two well clusters were placed upgradient of Site I and six well clusters were installed downgradient of Site I to monitor groundwater entering and leaving the site. Groundwater samples will be collected on a quarterly basis to quantify groundwater contamination.

PLANS AND MANAGEMENT

Sample and Analysis Plan for Creek Bottom Sediment Characterization
Project: Dead Creek Sector A

1.0 Site Description

2.0 Site Investigation

3.0 Sampling Plan

4.0 Data Summary

5.0 Final Report

Health and Safety Plan for Creek Bottom Sediment Characterization
Project: Dead Creek Sector A

1.0 Site Description

2.0 General Information

3.0 Personal Protective Equipment

4.0 Emergency Medical Care and Phone Numbers

5.0 On-Site Activities

6.0 Equipment Check Lists

Quality Assurance Project Plan for Creek Bottom Sediment Characterization
Project: Dead Creek Sector A

1.0 Introduction

2.0 Project Description

3.0 Project Organization and Responsibility

Dead Creek Sector A - Site Characterization and Investigation

1.0 Methodology

2.0 Site Geology

2.1 Site Stratigraphy

2.2 Creek Cross-Sections

Site I Characterization and Investigation

1.0 Methodology

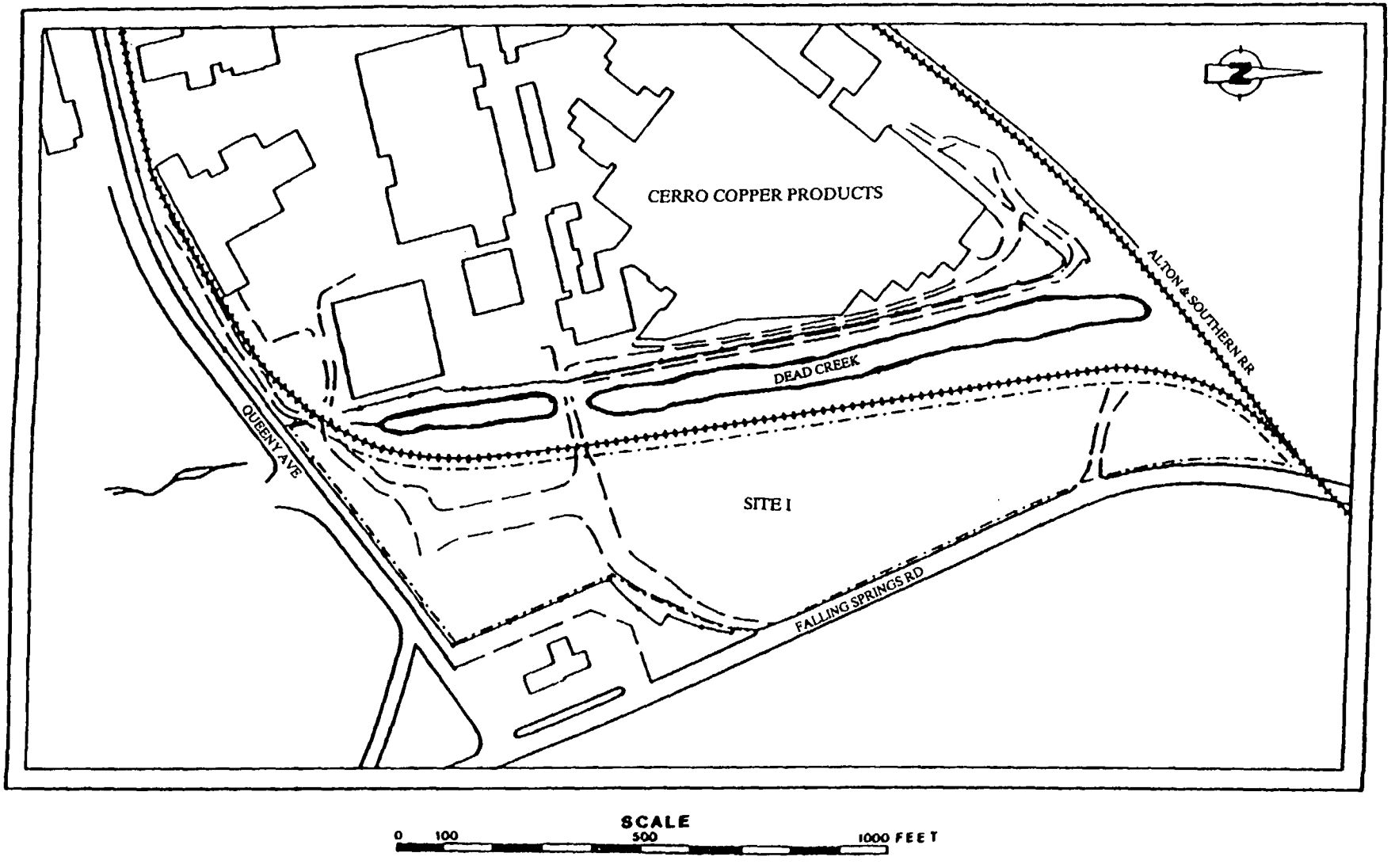
2.0 Site Geology

2.1 Site Stratigraphy

2.2 Groundwater Monitoring

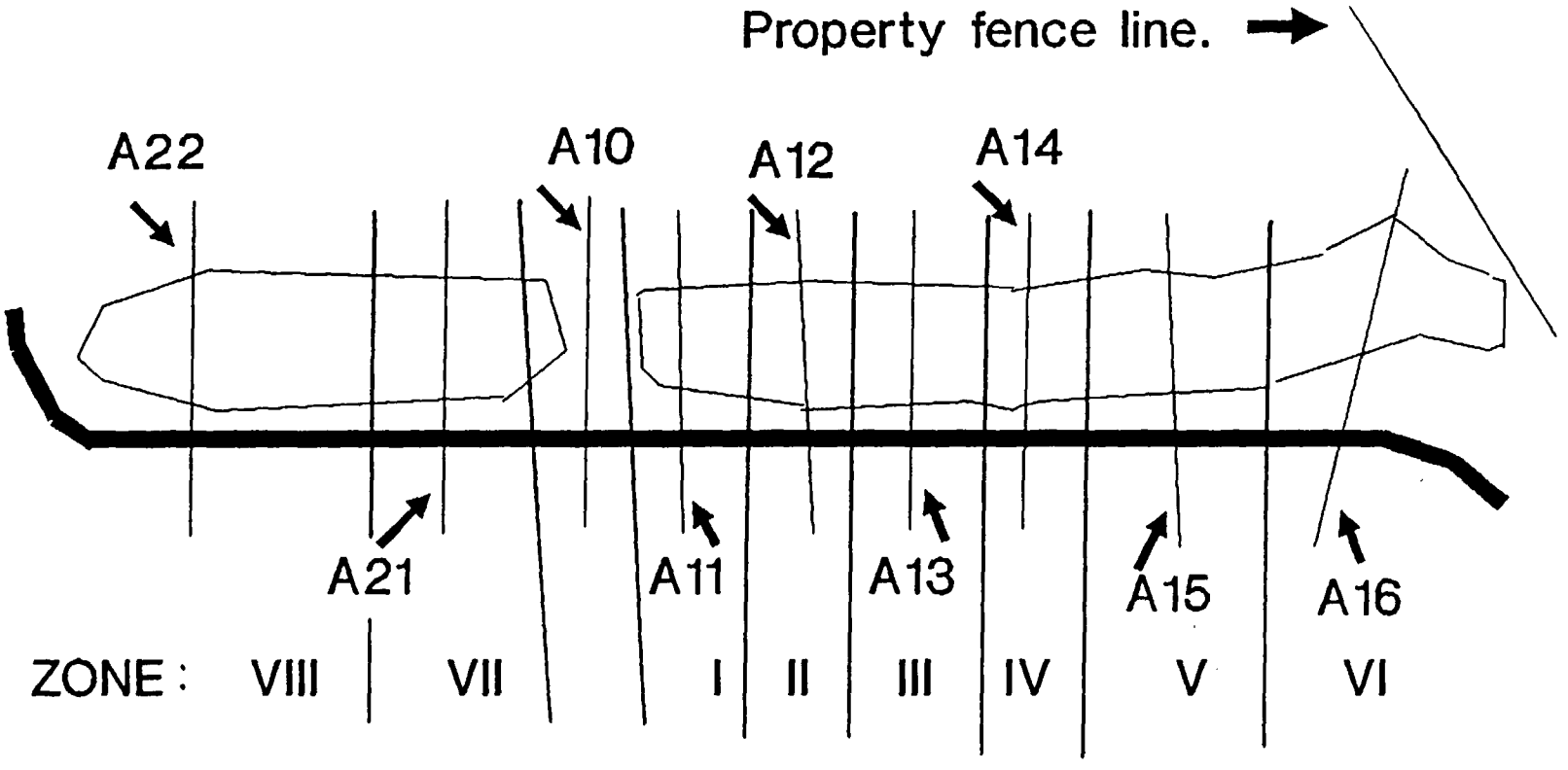
SITE DESCRIPTION

SITE DIAGRAM



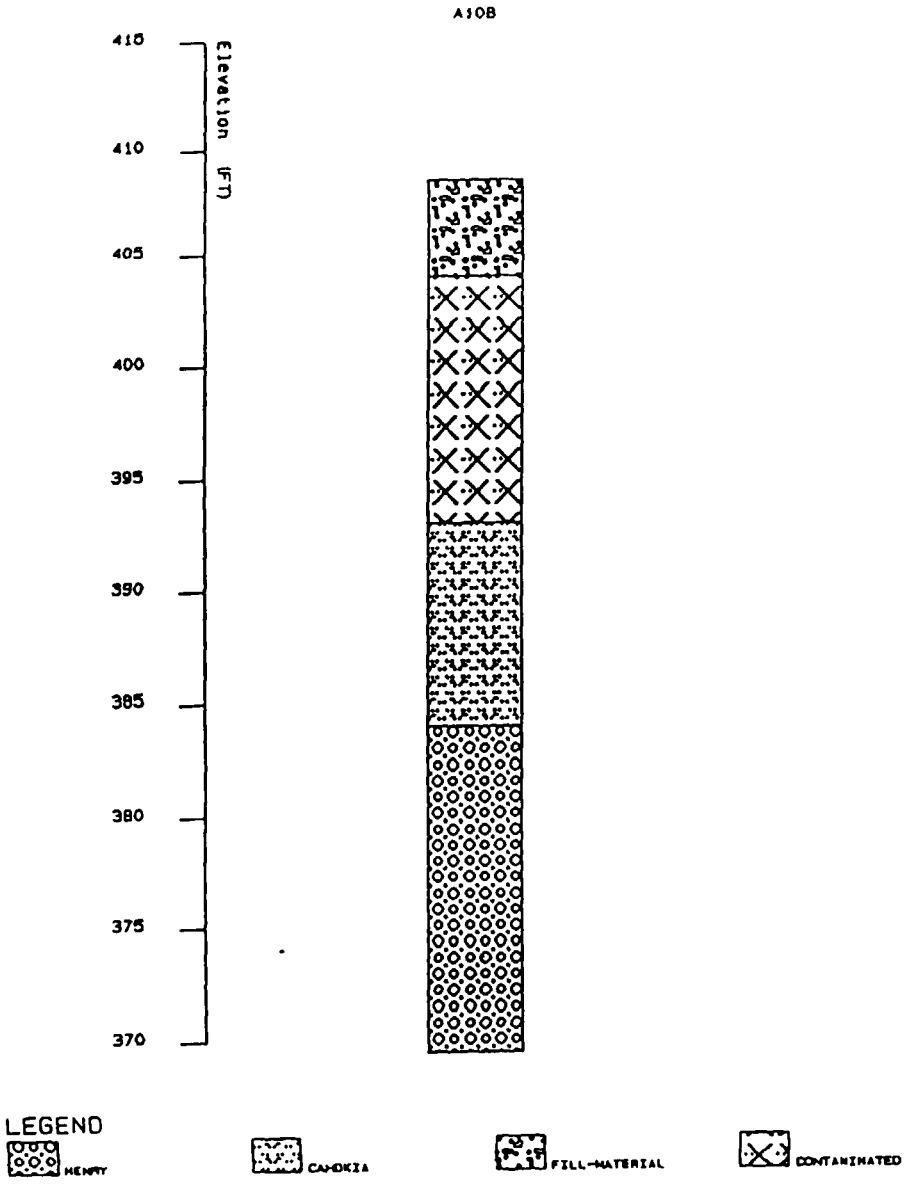
DEAD CREEK SITE AREA I AND CREEK SECTOR A WITH SAMPLING LOCATIONS

TRAVERSE / ZONE DIAGRAM

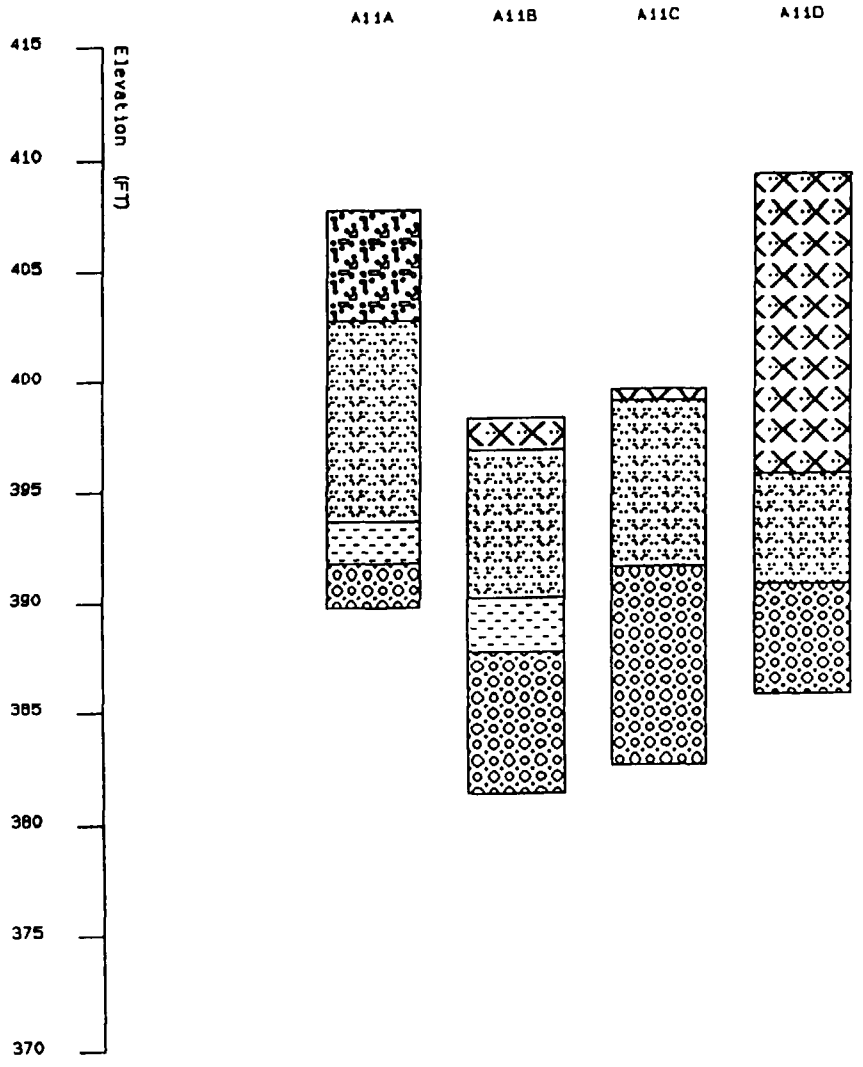

Property fence line.
A22
A10
A12
A14
A21
A11
A13
A15
A16
ZONE:
VIII
VII
I
II
III
IV
V
VI

INDIVIDUAL BORING LOGS

Cerro Copper Products, Sauget, Illinois
Boring Logs



Cerro Copper Products, Sauget, Illinois
Boring Logs



LEGEND

CLAY

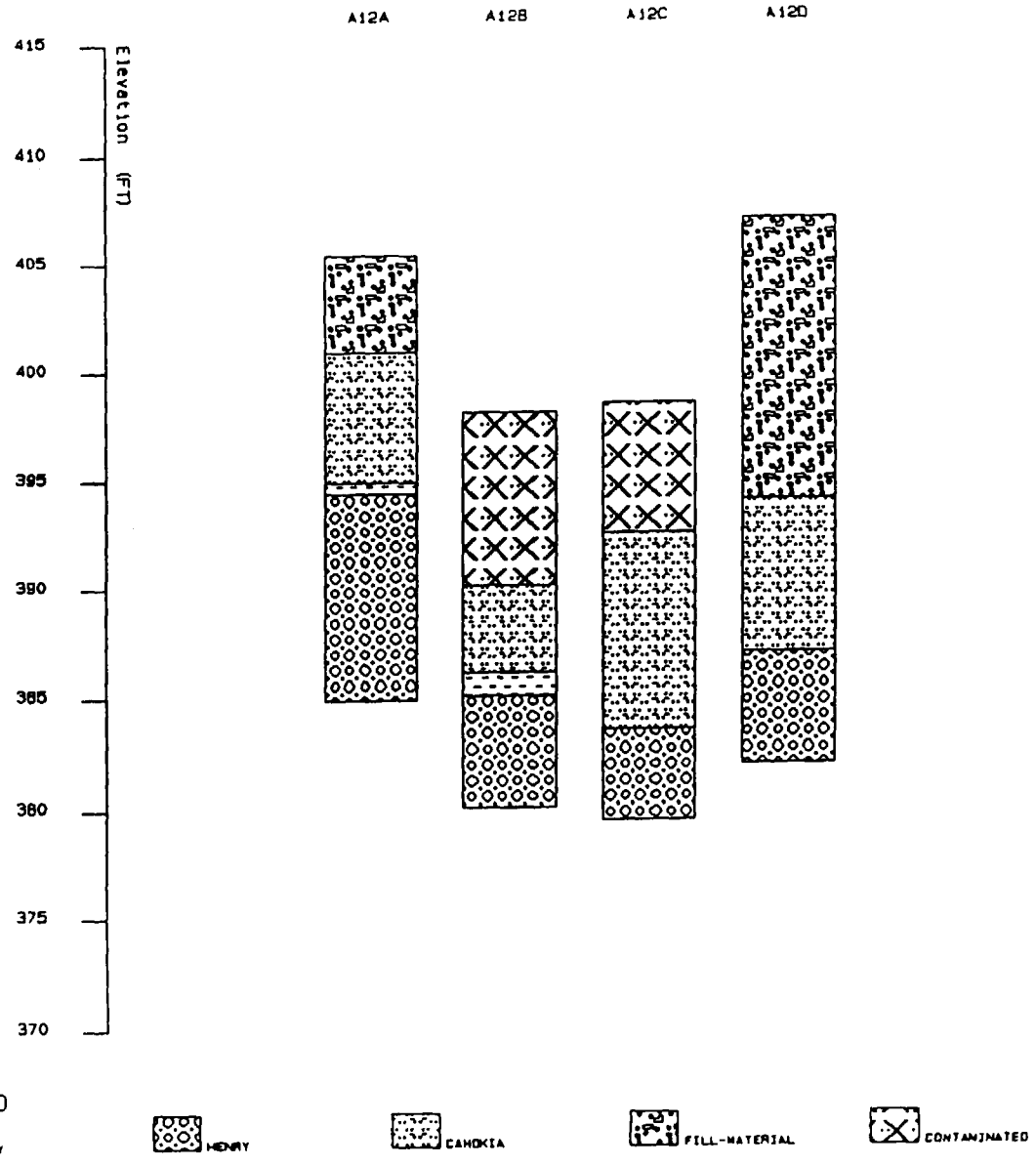
HENRY

CAHOKIA

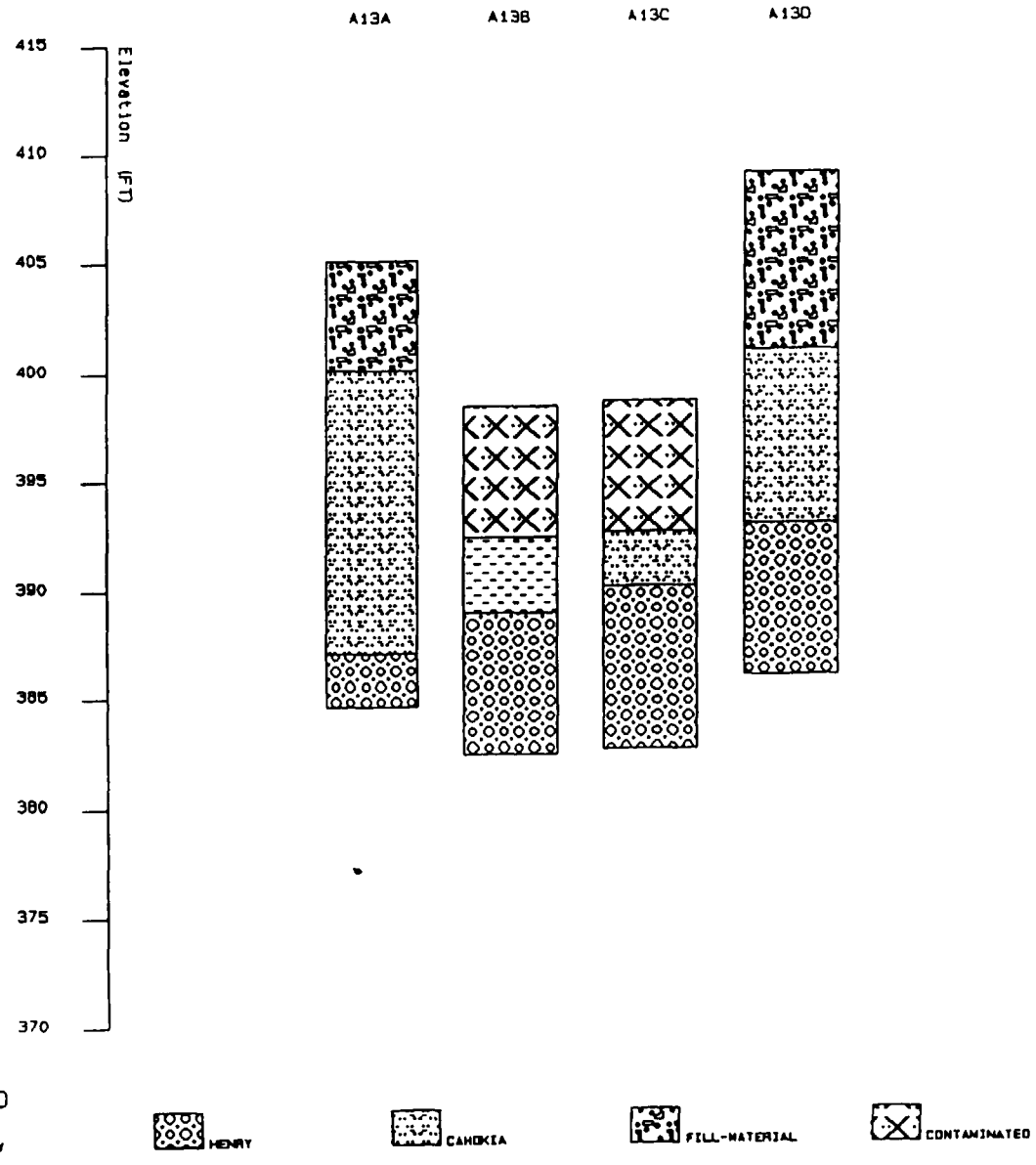
FILL-MATERIAL

CONTAMINATED

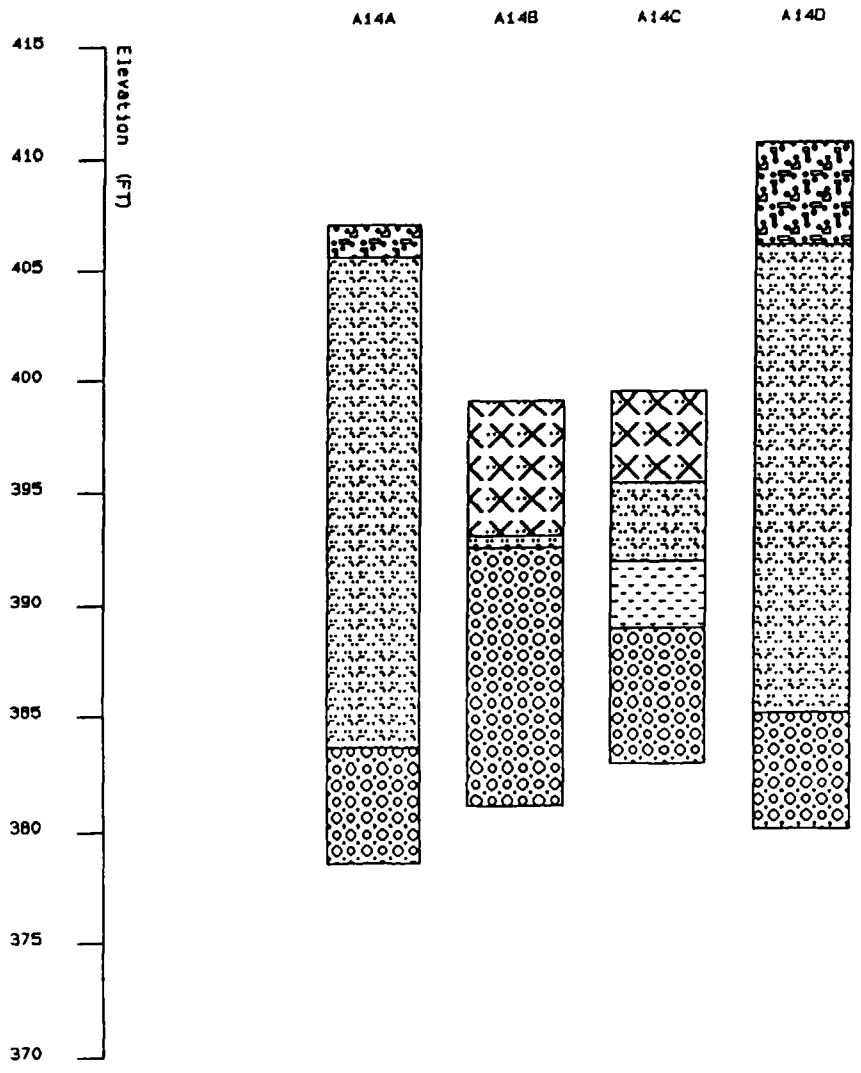
Cerro Copper Products, Sauget, Illinois
Boring Logs



Cerro Copper Products, Sauget, Illinois
Boring Logs



Cerro Copper Products, Sauget, Illinois
Boring Logs



LEGEND

CLAY

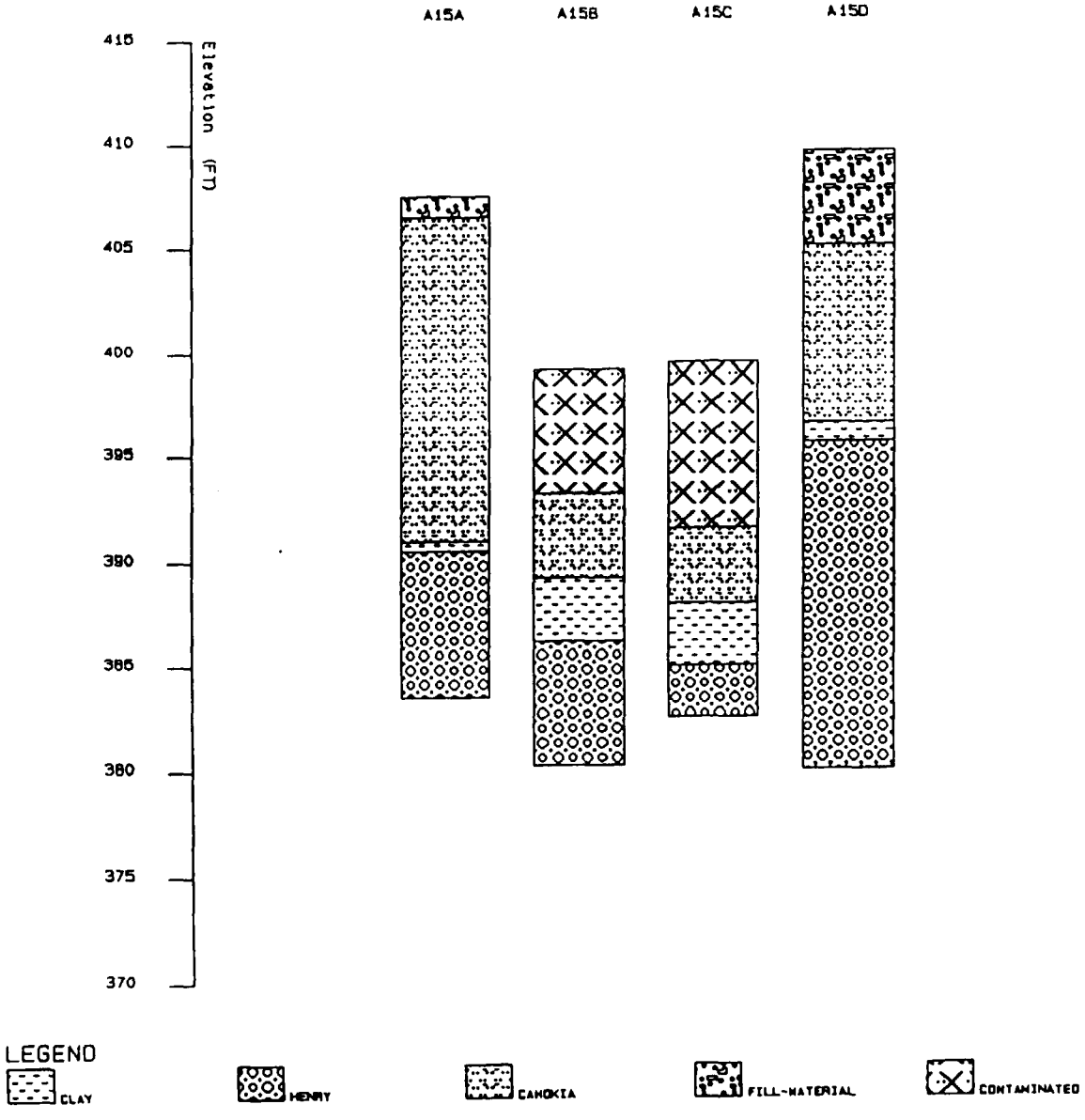
HENRY

CAHOKIA

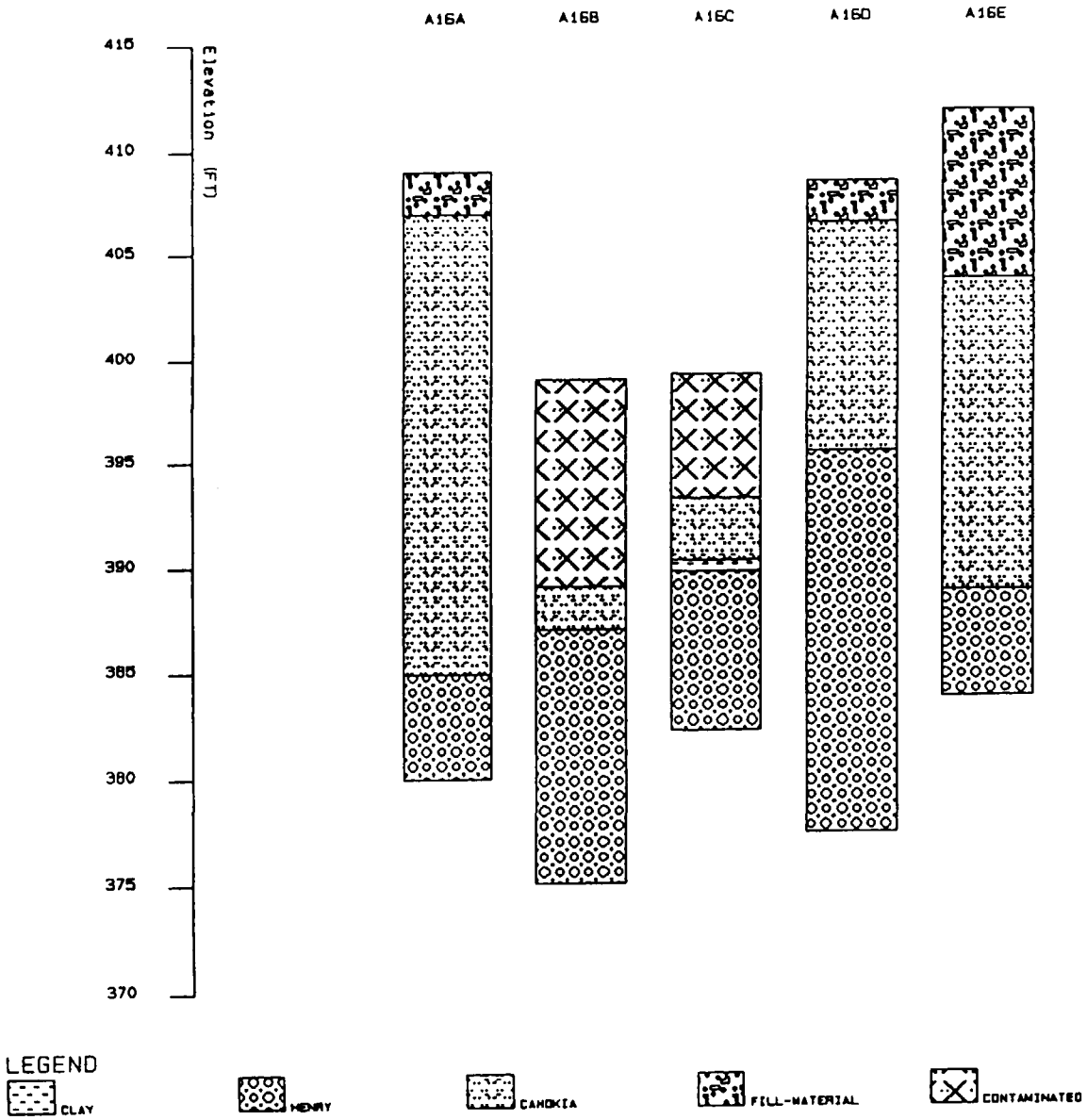
FILL-MATERIAL

CONTAMINATED

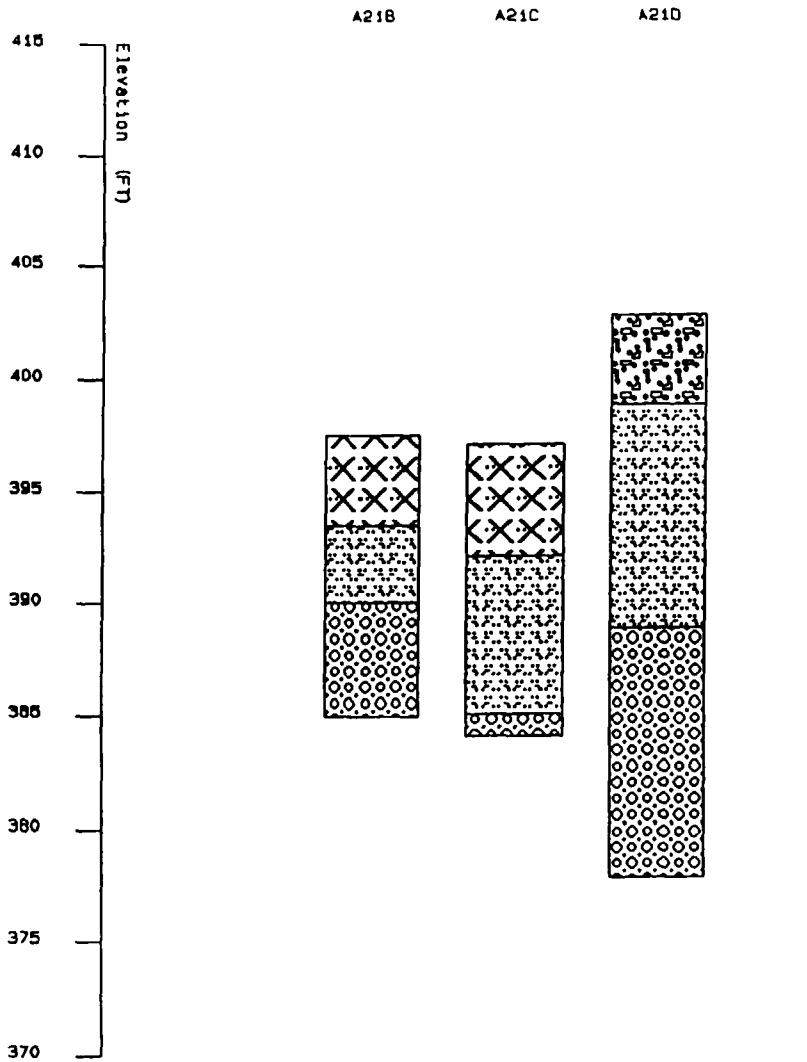
Cerro Copper Products, Sauget, Illinois
Boring Logs



Cerro Copper Products, Sauget, Illinois
Boring Logs



Cerro Copper Products, Sauget, Illinois
Boring Logs



LEGEND

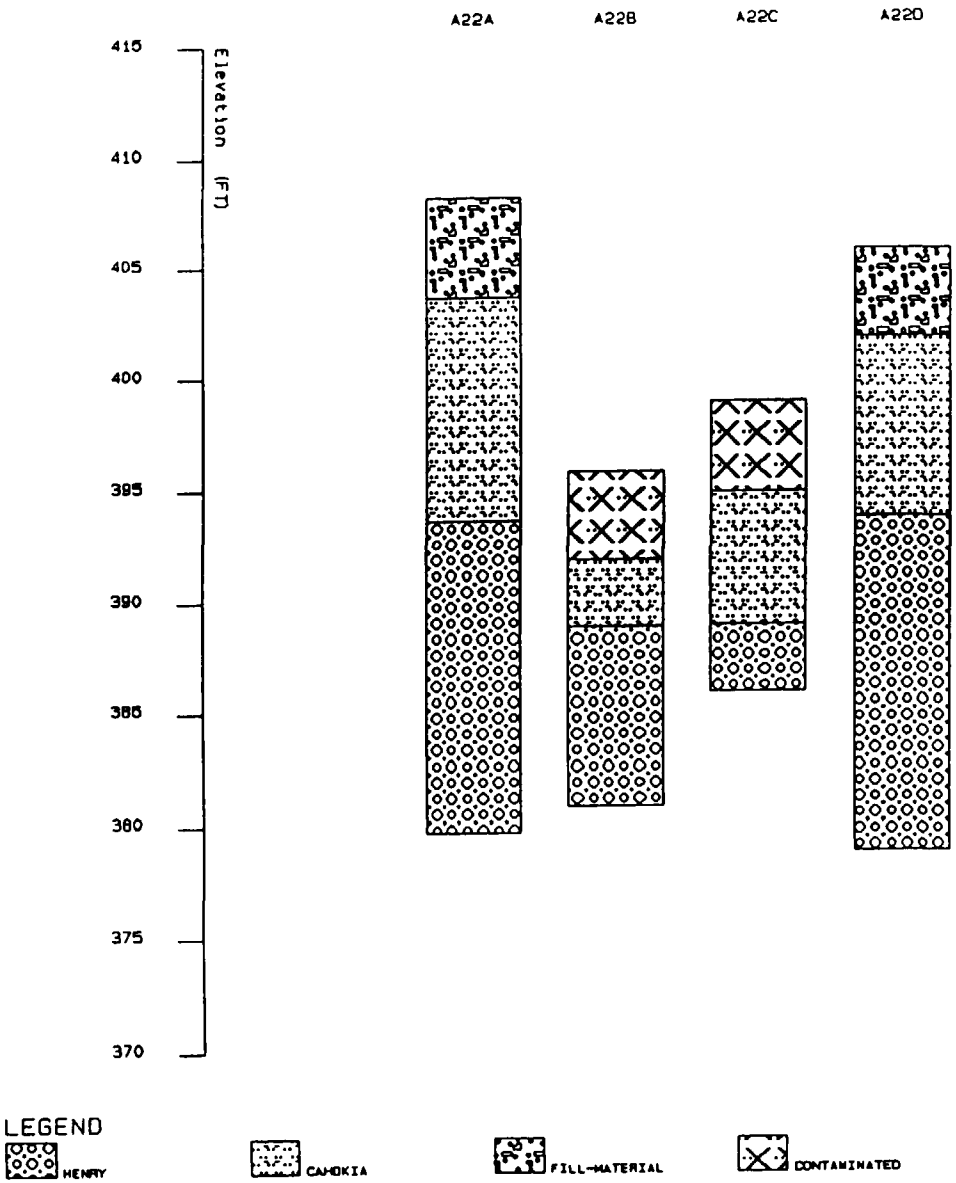
HENRY

CAHOKIA

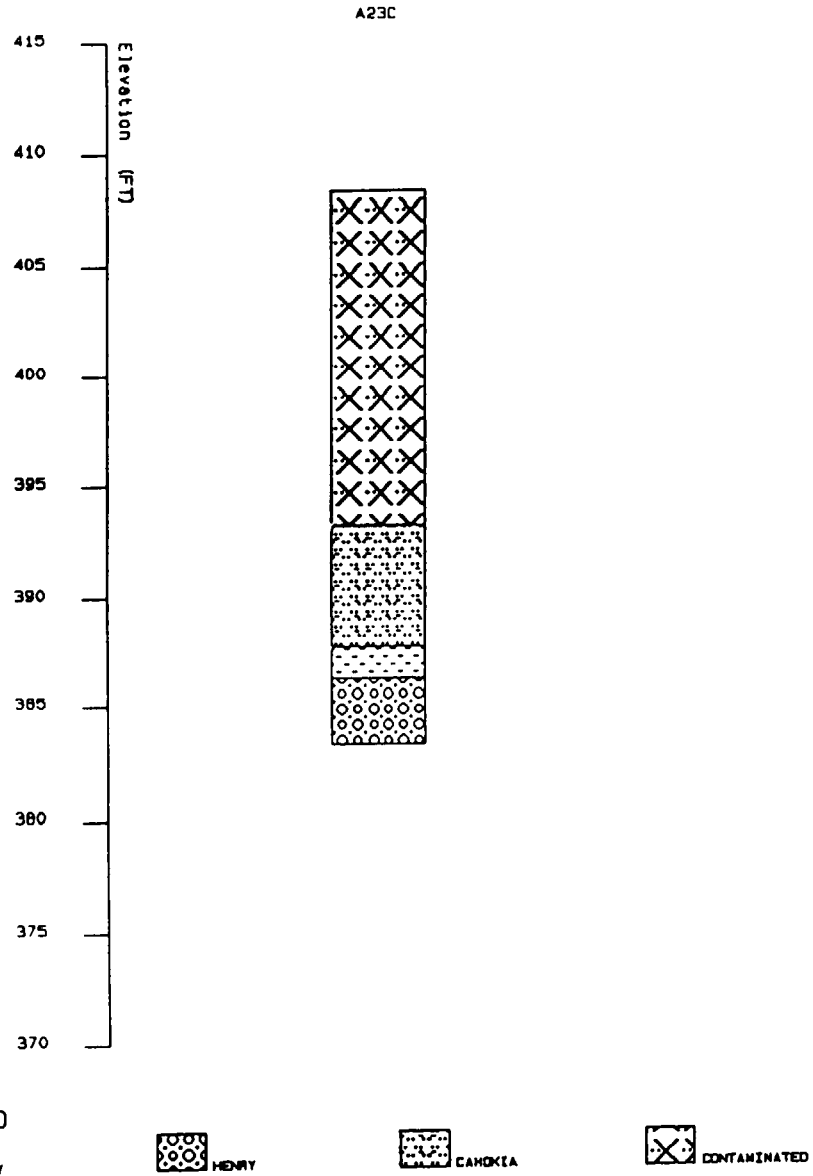
FILL-MATERIAL

CONTAMINATED

Cerro Copper Products, Sauget, Illinois
Boring Logs

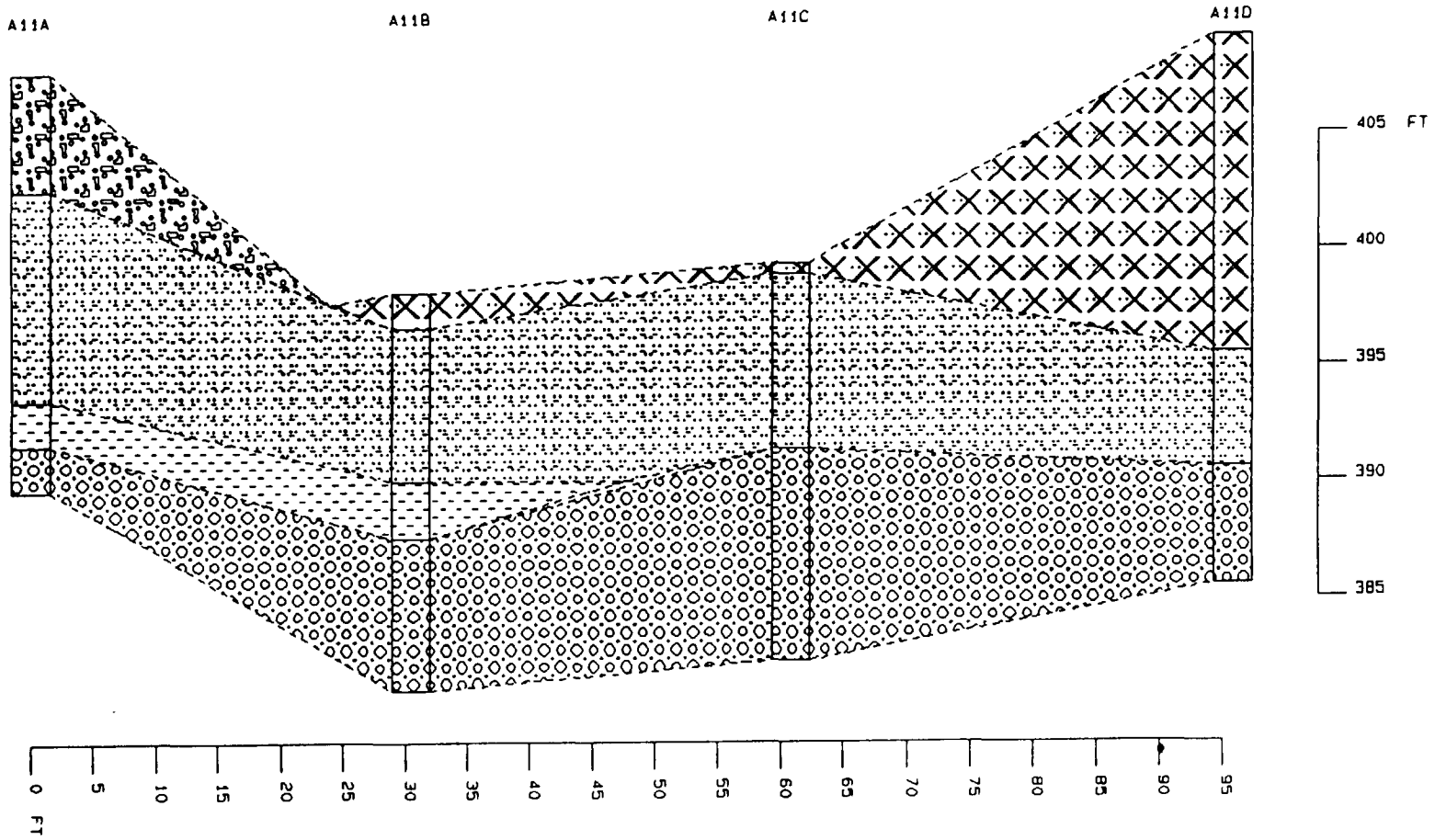


Cerro Copper Products, Sauget, Illinois
Boring Logs



BORING LOGS

TRAVERSE SECTIONS



LEGEND

CLAY

HENRY

CAHOKIA

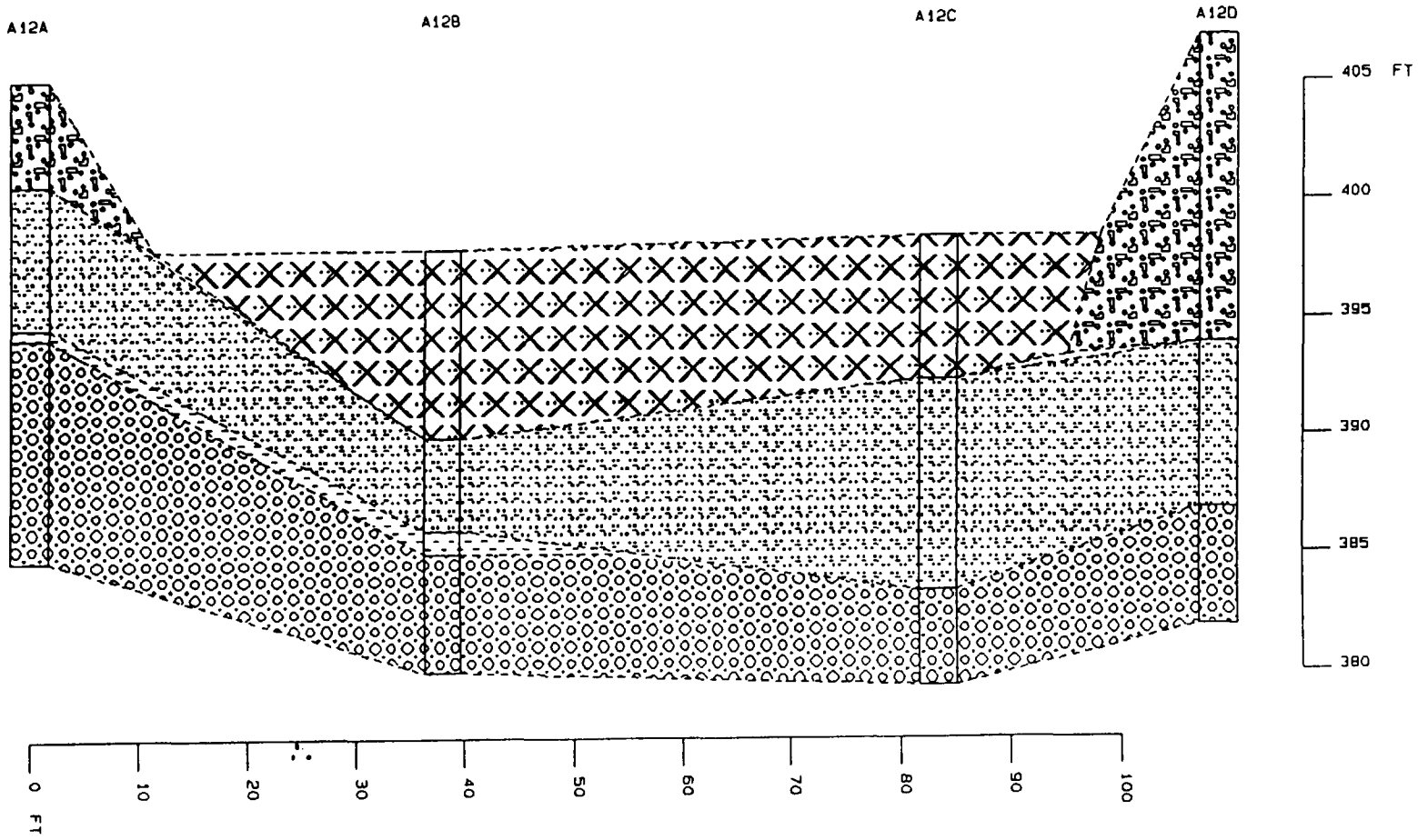
FILL-MATERIAL

CONTAMINATED

Cerro Copper Products:
Traverse Cross Section

THE AVENDT GROUP, INC.

Figure : 1 of 8



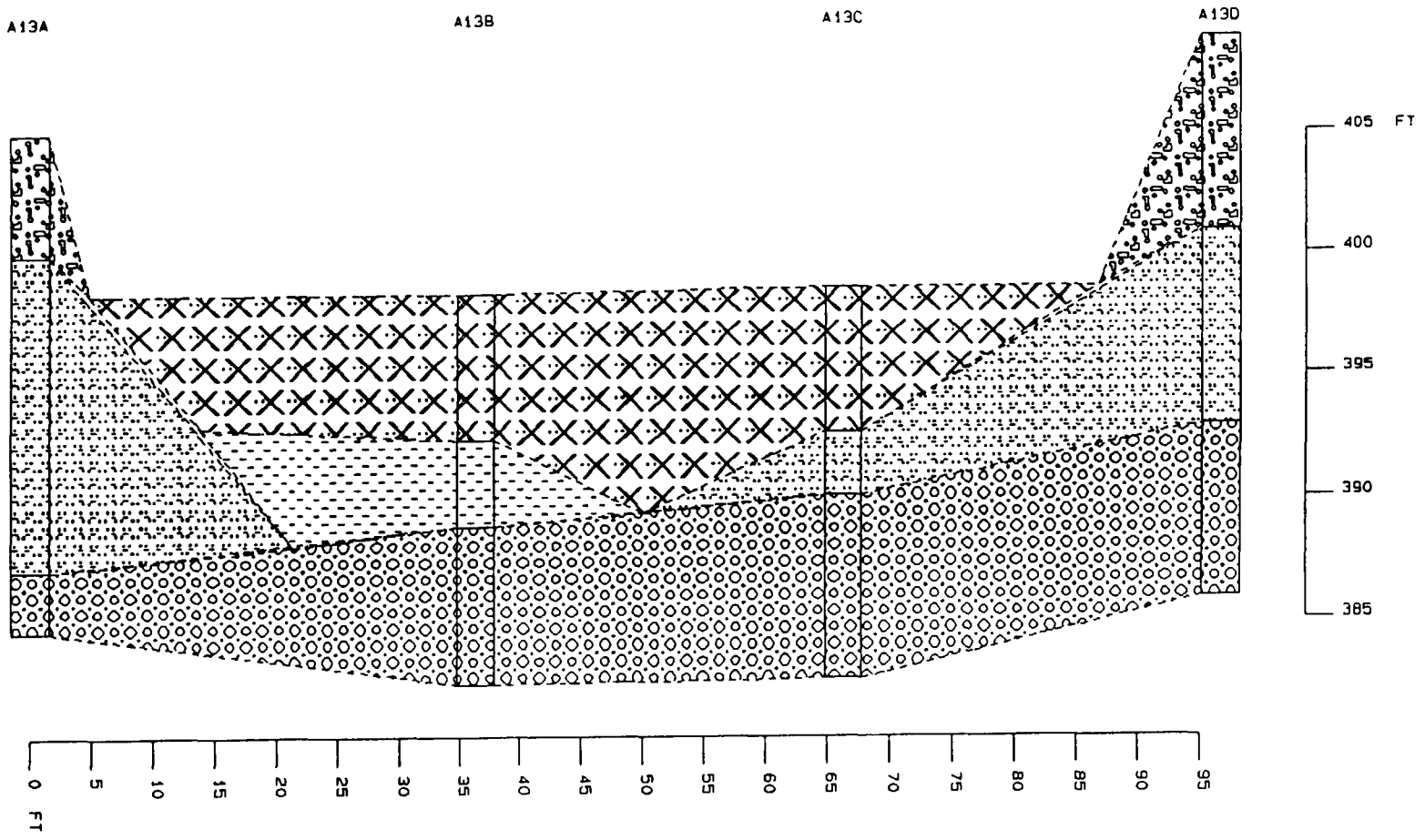
LEGEND

CLAY | HENRY | CAHOKIA | FILL-MATERIAL | CONTAMINATED

Cerro Copper Products:
Traverse Cross Section

THE AVENDT GROUP, INC.

Figure : 2 of 8



LEGEND

CLAY

HENRY

CAHOKIA

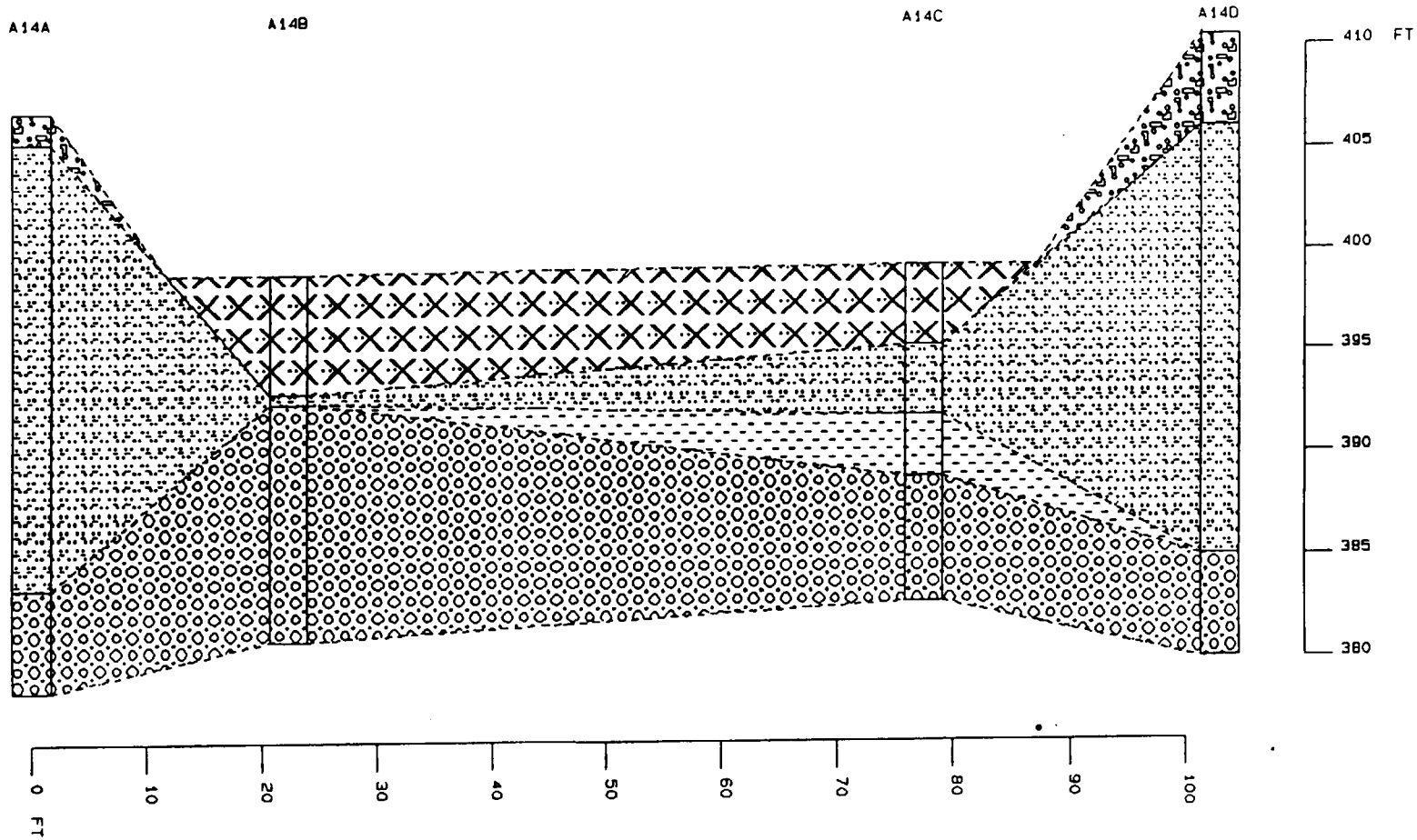
FILL-MATERIAL

CONTAMINATED

Cerro Copper Products:
Traverse Cross Section

THE AVENDT GROUP, INC.

Figure : 3 of 8



LEGEND

CLAY

HENRY

CAHOKIA

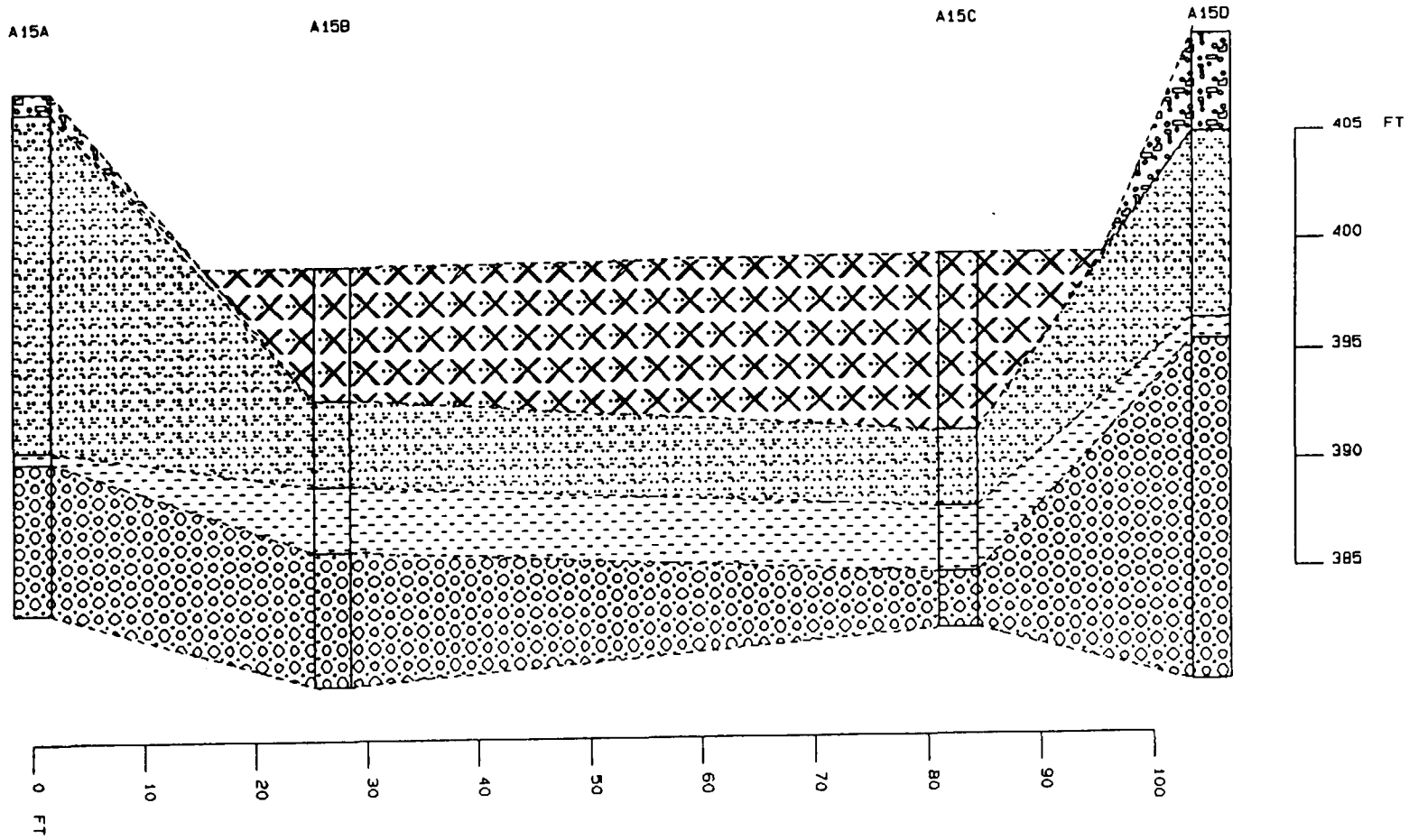
FILL-MATERIAL

CONTAMINATED

Cerro Copper Products:
Traverse Cross Section

THE AVENDT GROUP, INC.

Figure : 4 of 8



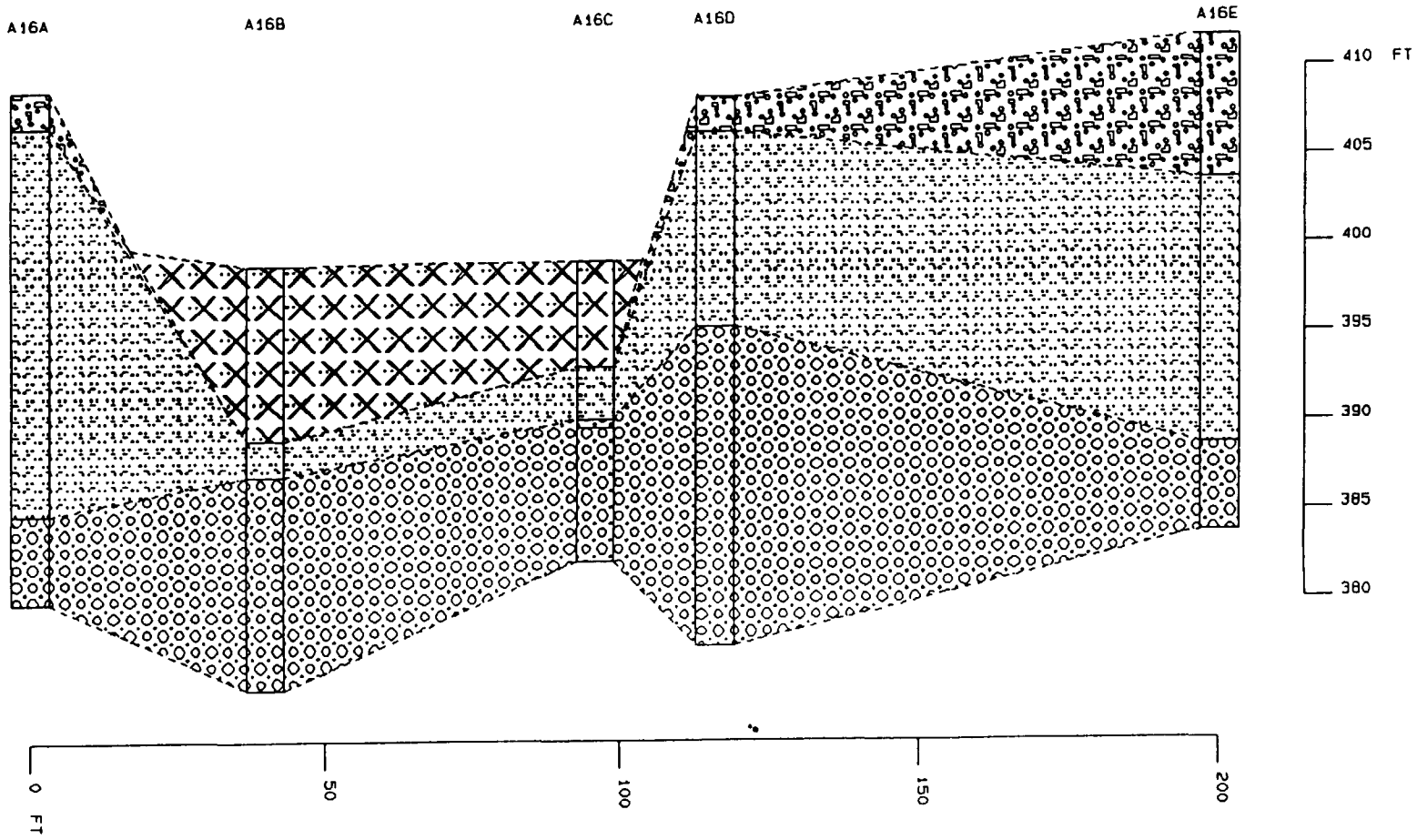
LEGEND

CLAY | HENRY | CAHOKIA | FILL-MATERIAL | CONTAMINATED

Cerro Copper Products:
Traverse Cross Section

THE AVENDT GROUP, INC.

Figure : 5 of 8



LEGEND

HENRY

CAHOKIA

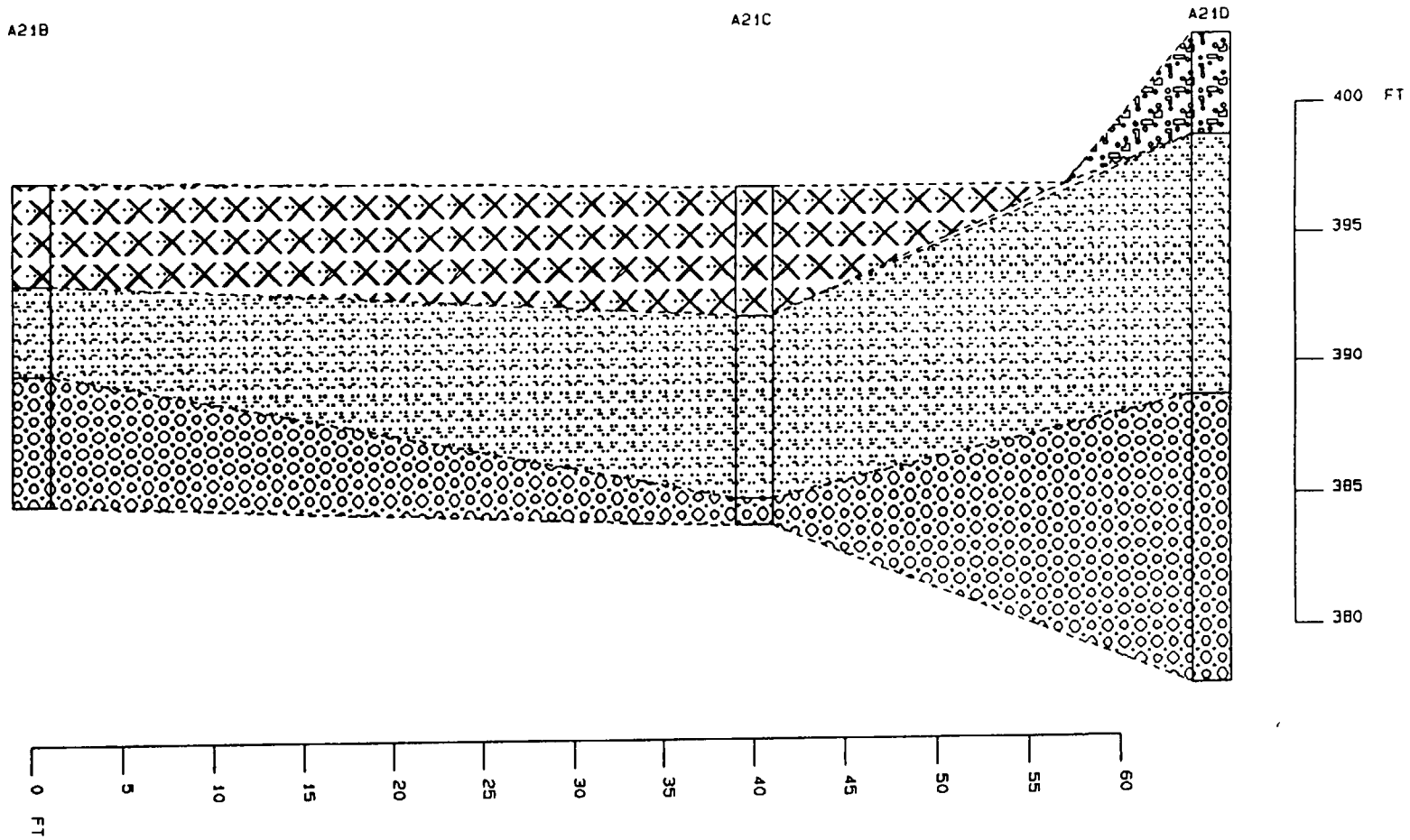
FILL-MATERIAL

CONTAMINATED

Cerro Copper Products:
Traverse Cross Section

THE AVENDT GROUP, INC.

Figure : 6 of 8



LEGEND

MENRY

CAHOKIA

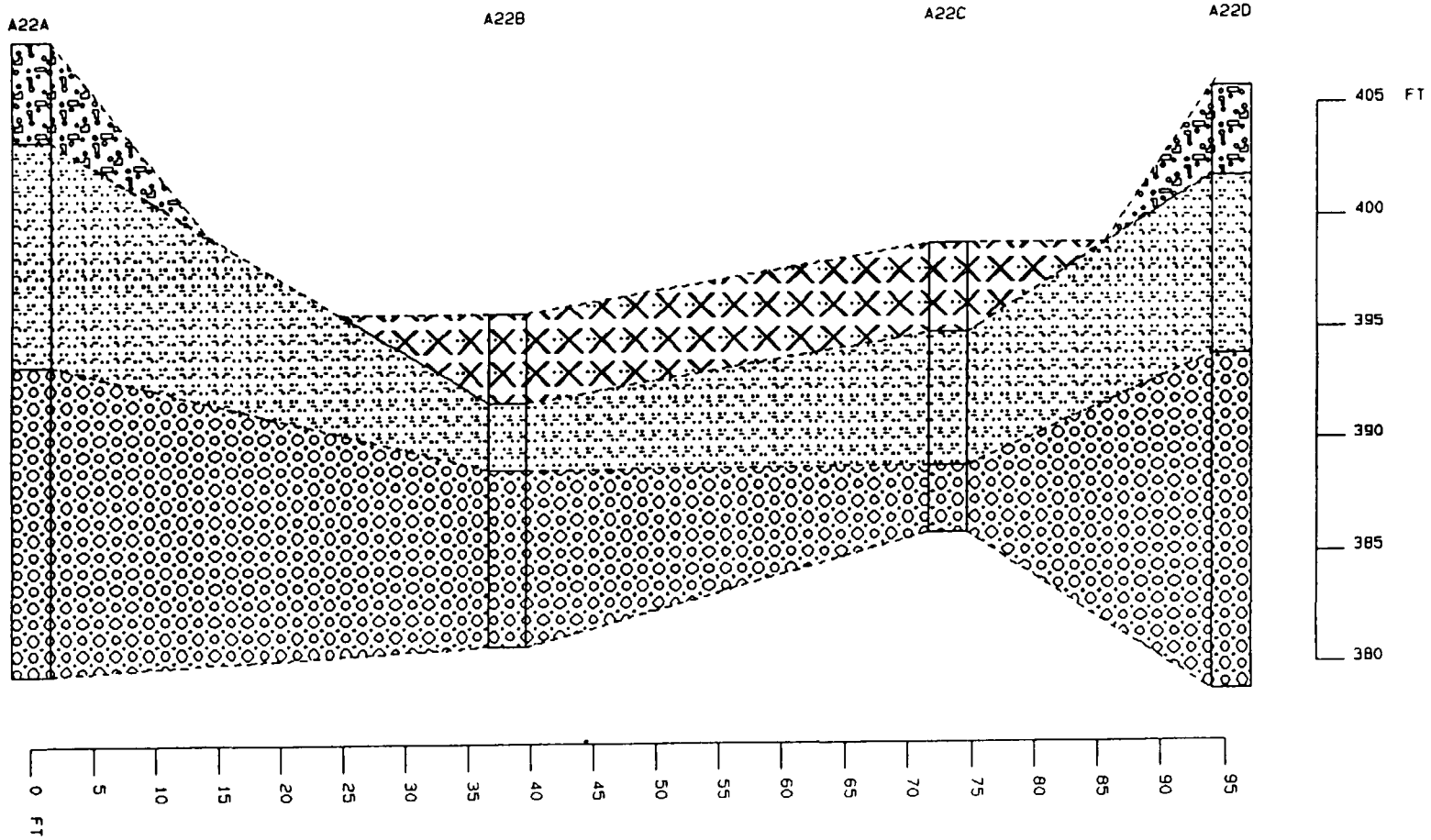
FILL-MATERIAL

CONTAMINATED

Cerro Copper Products:
Traverse Cross Section

THE AVENDT GROUP, INC.

Figure : 7 of 8



LEGEND

HENRY

CAHOKIA

FILL-MATERIAL

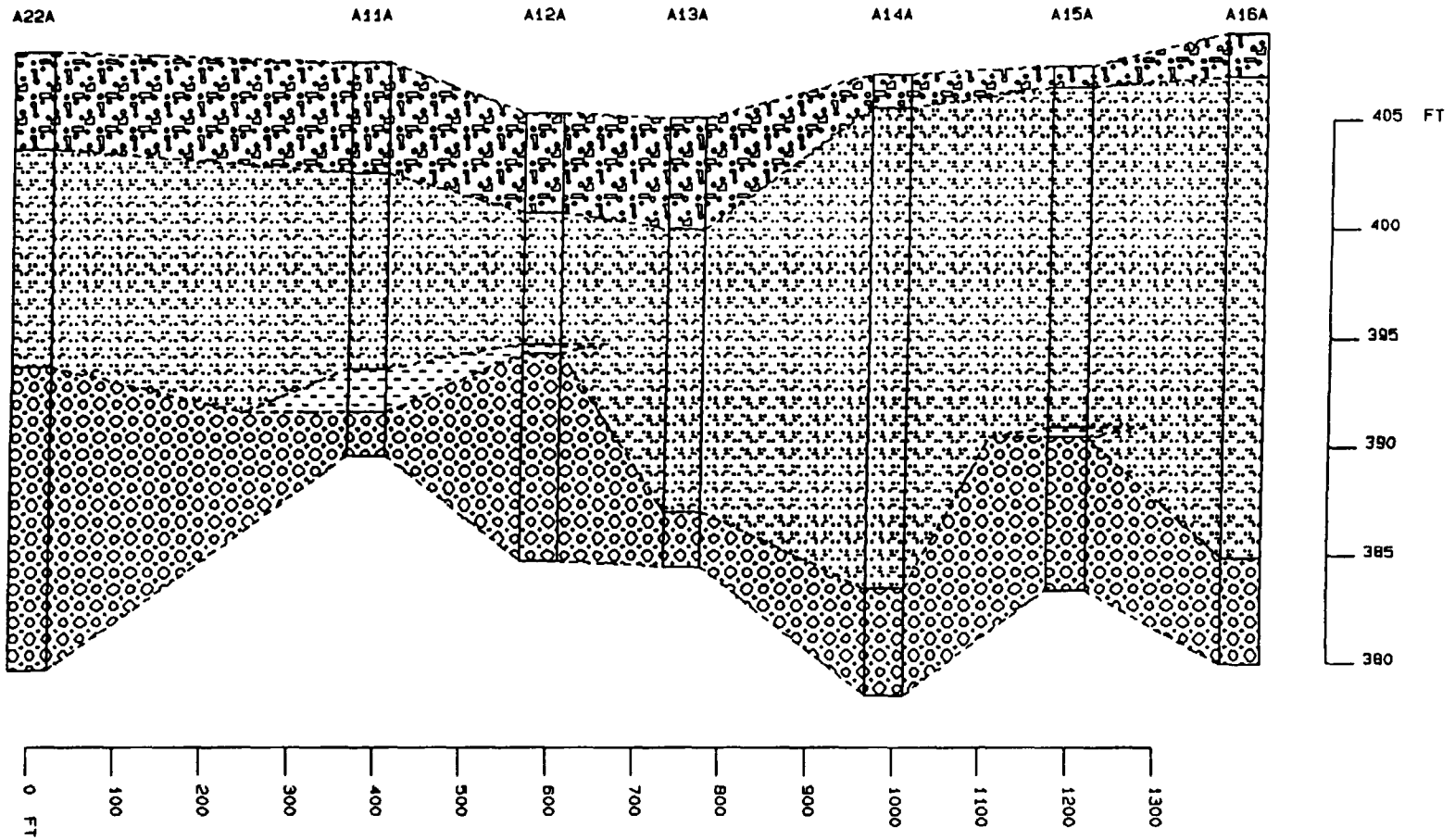
CONTAMINATED

Cerro Copper Products:
Traverse Cross Section

THE AVENDT GROUP, INC.

BORING LOGS

LONGITUDINAL SECTIONS



LEGEND

CLAY

HENRY

CAHOKIA

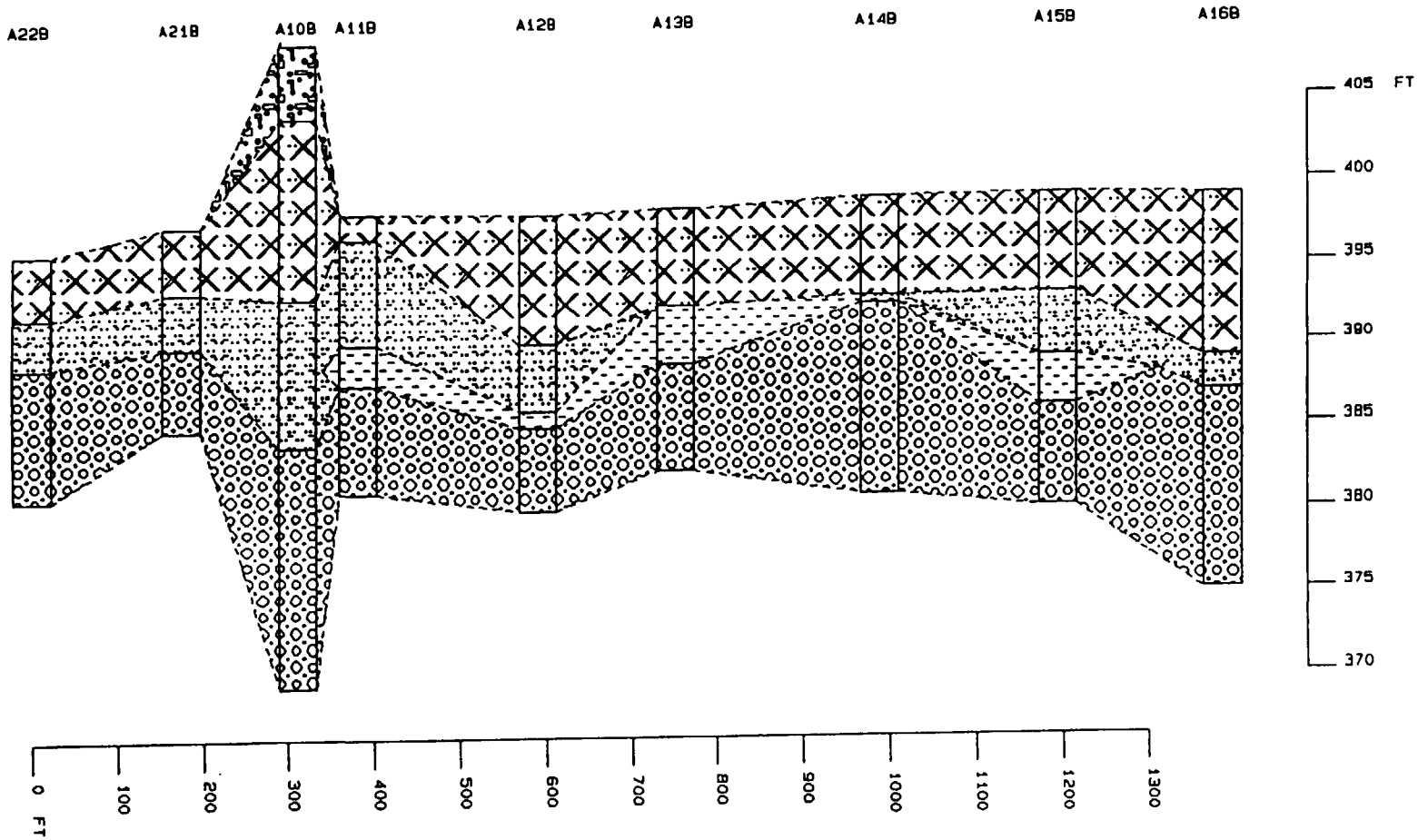
FILL-MATERIAL

Cerro Copper Products.

Borehole Cross Sections

THE AVENDT GROUP, INC.

Figure : 1 of 4



LEGEND

CLAY

HENRY

CAHOKIA

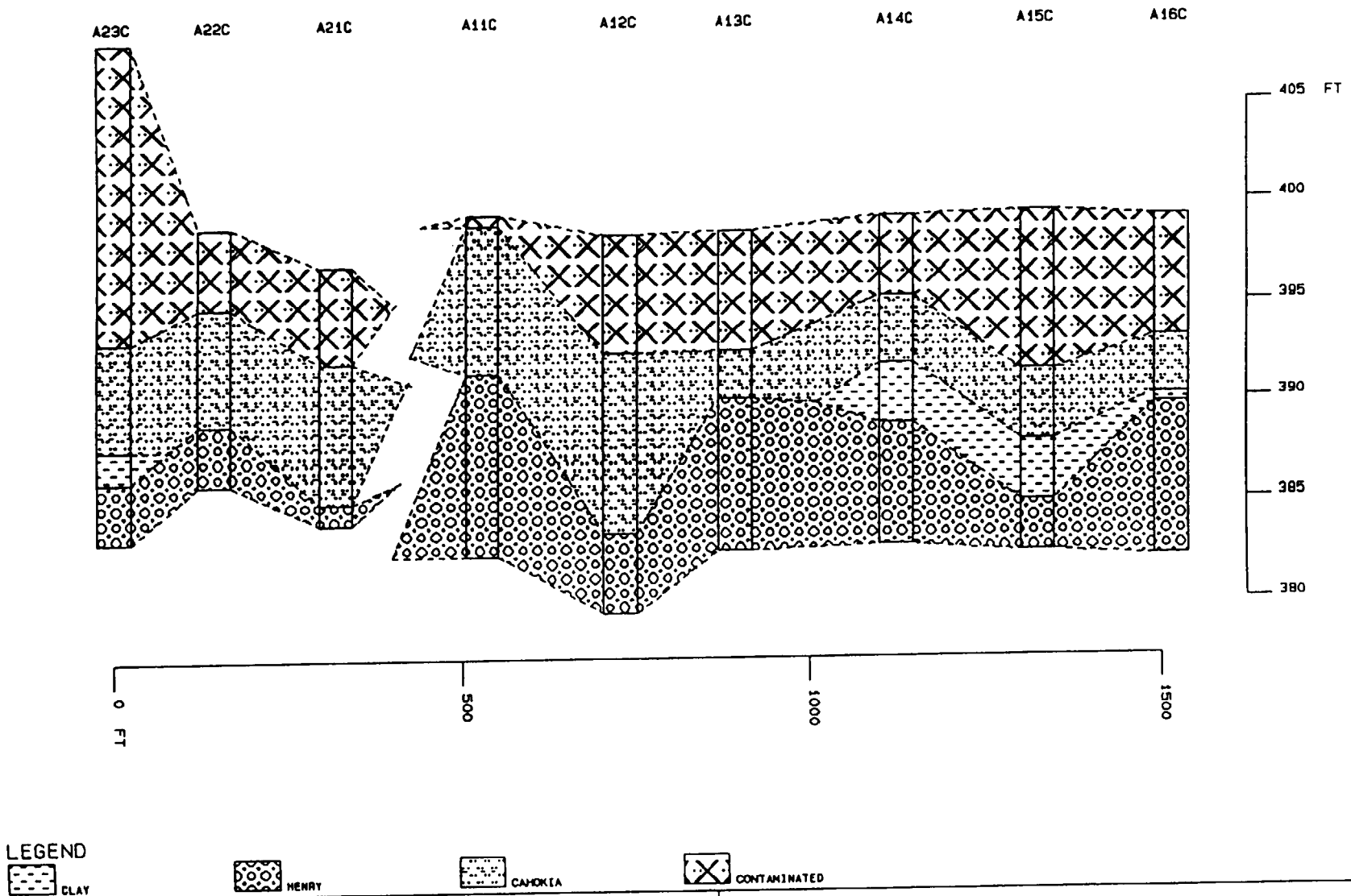
FILL-MATERIAL

CONTAMINATED

Cerro Copper Products:
Borehole Cross Sections

THE AVENDT GROUP, INC.

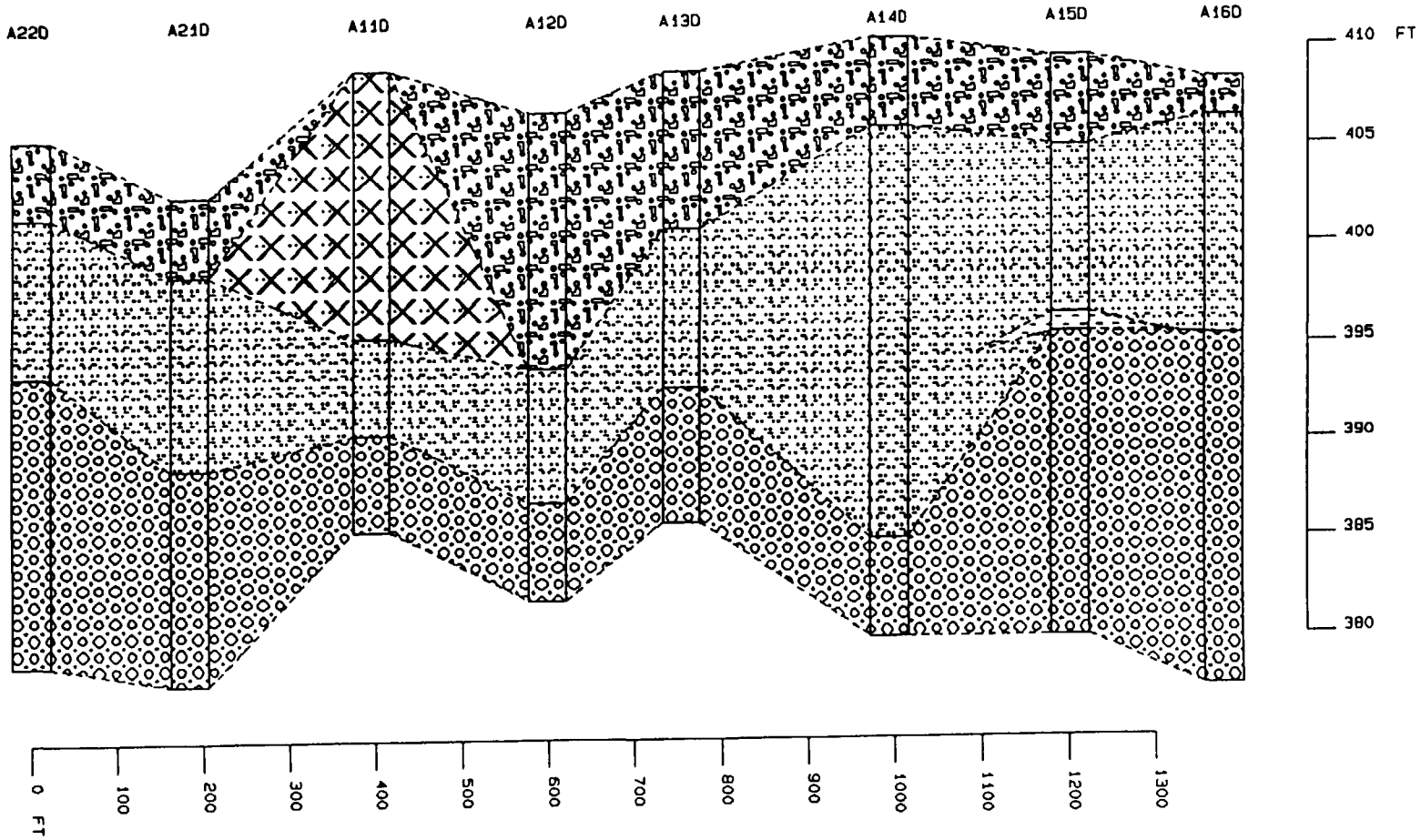
Figure : 2 of 4



Cerro Copper Products:
Borehole Cross Sections

THE AVENDT GROUP, INC.

Figure : 3 of 4



LEGEND

CLAY

HENRY

CAHOKIA

FILL-MATERIAL

CONTAMINATED

Cerro Copper Products.

Borehole Cross Sections

THE AVENDT GROUP, INC.

Figure : 4 of 4

SEDIMENT VOLUME TABLE

Cerro Copper Products
Dead Creek
Sediment Volume

Zone	Avg. Dim.	(ft)	Estimated Volume (cu. ft.)	Estimated Volume (cu. yd.)
Zone I	Width :	60		
	Length :	127	7620	282.2222
	Depth :	1		
Zone II	Width :	66		
	Length :	182	84084	3114.222
	Depth :	7		
Zone III	Width :	61		
	Length :	190	69540	2575.555
	Depth :	6		
Zone IV	Width :	59		
	Length :	223	65785	2436.481
	Depth :	5		
Zone V	Width :	63		
	Length :	201	88641	3283
	Depth :	7		
Zone VI	Width :	67		
	Length :	251	134536	4982.814
	Depth :	8		
Zone VII	Width :	46		
	Length :	156	28704	1063.111
	Depth :	4		
Zone VIII	Width :	54		
	Length :	189	45927	1701
	Depth :	4.5		

Volume of Total Creek Sediment..... 524837 cu. ft. 19438.40 cu. yd

38%-39% SOLIDS
88% NON-VOLATILE

SEDIMENT CHARACTERISTICS TABLE

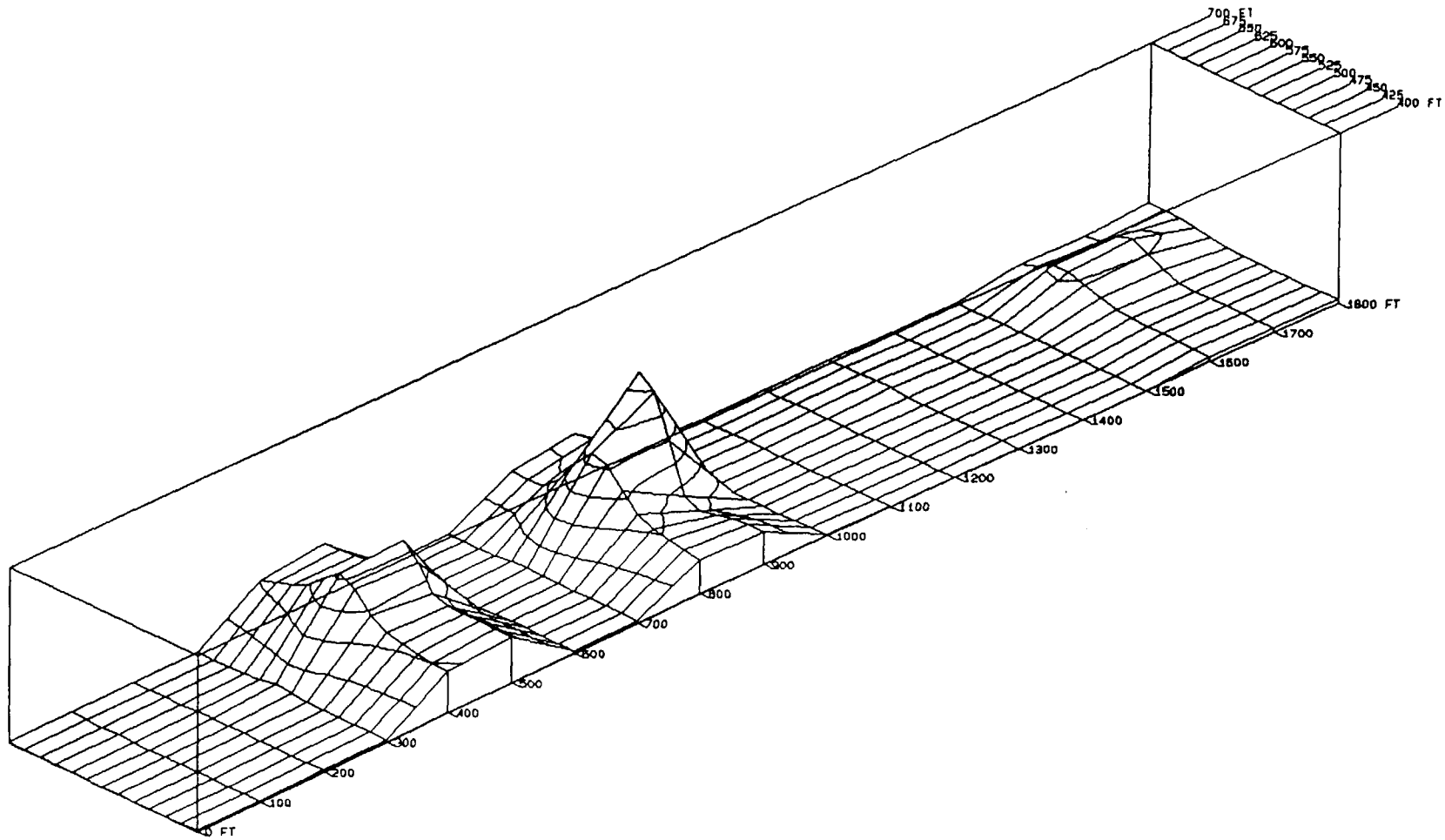
Cerro Copper Products, Inc.
Creek Sediment

Borehole	Depth	% Solids	% Ash
A22B	0-7	72.9	94.7
A22C	3-9	70.4	94.9
A21B	1-6	40.3	80.6
A21C	4-8	23.2	87.7
A12B	3-7	12.2	89
A12C	4-9	55.8	91.7
A13B	4.5-6	32.9	86.1
A13C	4-8.5	41	91.3
A14B	4-8.5	59.9	94.3
A14C	4-8.5	23.1	87.2
A15C	4.5-9	26	85.4
A16B	9-12	23.5	75.3
A16C	2-5	20.2	84.6
	Average:	38.56923	87.90769
Standard Deviation:		19.37104	5.521769

- NON-VOLATILE

CHEMICAL CHARACTERIZATION

SAMPLE TESTING SUMMARY

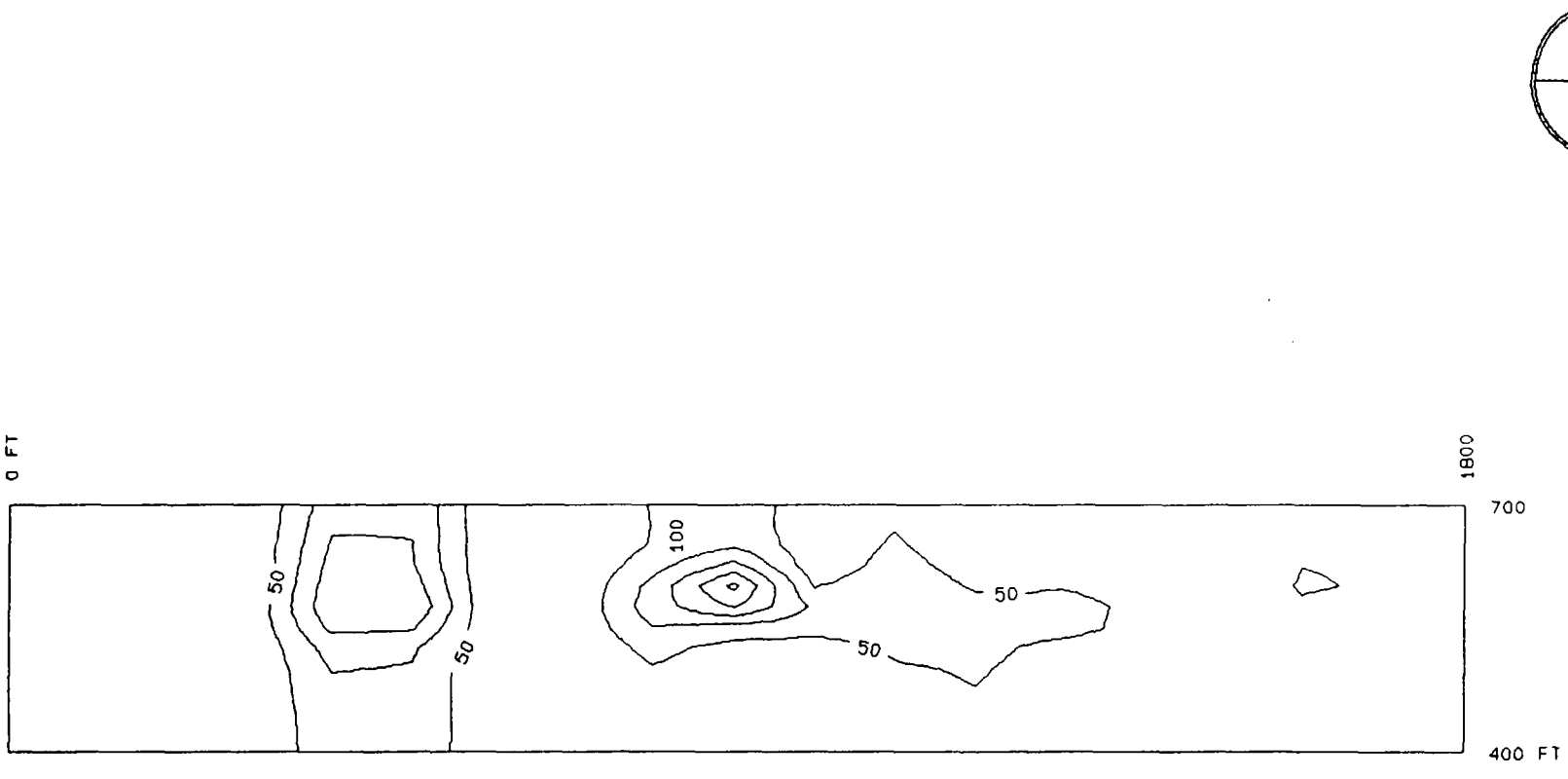


Cerro Copper Products:
Selenium Concentrations

X: Y: Z=1: 1: 10

THE AVENOT GROUP, INC.

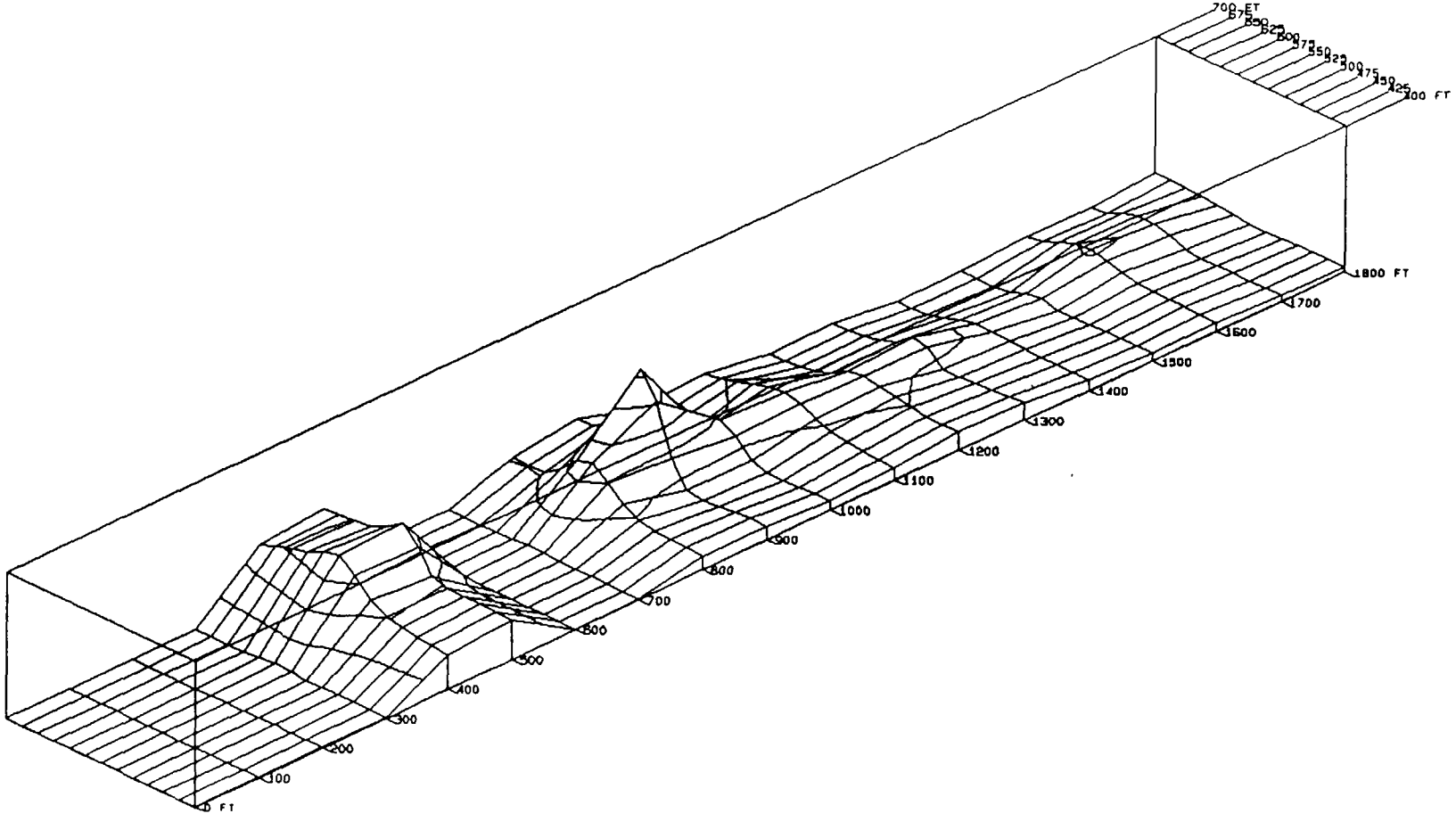
Figure : 1 of 1



Cerro Copper Products:
Silver Concentrations

THE AVENDT GROUP, INC.

Figure : 1 of 1

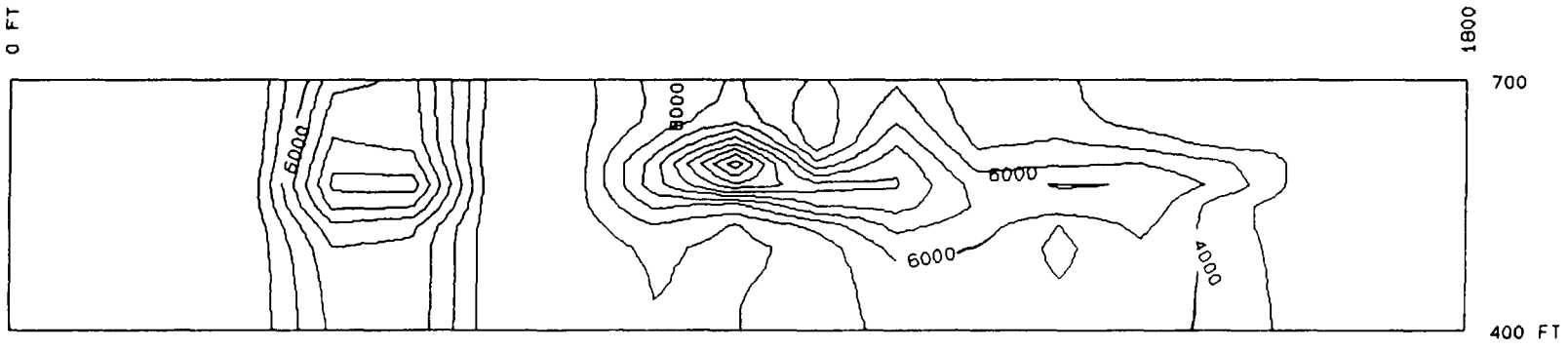


Cerro Copper Products.
Silver Concentrations

X, Y, Z=1: 1: 1

THE AVENDT GROUP, INC.

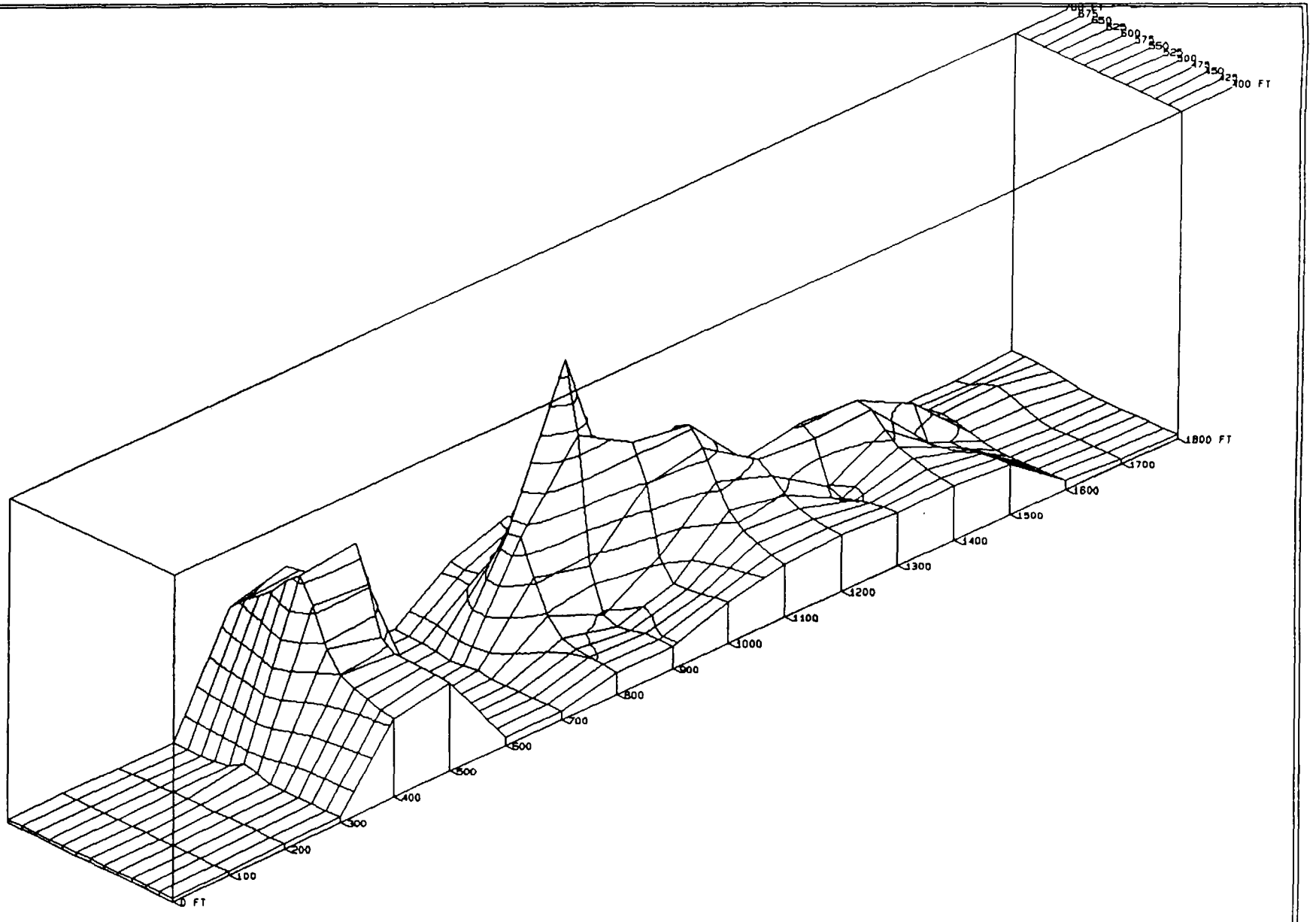
Figure : 1 of 1



Cerro Copper Products:
Zinc Concentrations

THE AVENDT GROUP, INC.

Figure : 1 of 1



Cerro Copper Products.
Zinc Concentrations

X. Y. Z=15: 15. .5

THE AVENDT GROUP, INC.

Figure : 1 of 1

CHARACTERISTICS OF HAZARDOUS WASTE TABLE

Cerro Copper Products

Sample Testing Summary

PREVIOUS HAZ. SUBST. LIST AND TCLP'S ON METALS

SAMPLE ID		DATE	APPENDIX IX	PRE	PCB'S	HSL TOTAL METALS	E.P. METALS	TOXICITY PESTS.	TOXICITY HERBS	FLASH POINT	pH	REACTIVITY CN & SULFIDE
A10B	6-7	7/13/89		XXX	XXX							
A10B	9-10	7/13/89		XXX	XXX							
A10B	15-17	7/13/89	XXX	XXX	•••	•••	XXX	XXX	XXX	XXX	XXX	XXX
A10B	20-22	7/13-89		XXX	XXX							
A10B	24-29	7/13/89		XXX	XXX							
A10B	37-38	7/13/89		XXX	XXX							
A11A	8-13	7/19/89		XXX	XXX	XXX	XXX	XXX	XXX			
A11A	13-18	7/19/89		XXX	XXX							
A11B	4-8	7/18/89	XXX	XXX	•••	•••	XXX	XXX	XXX	XXX	XXX	XXX
A11B	8.1-10.6	7/18/89		XXX	XXX							
A11B	12-17	7/18/89		XXX	XXX							
A11C	2-6/5	7/18/89	XXX	XXX	•••	•••	XXX	XXX	XXX	XXX	XXX	XXX
A11C	6.5-10.5	7/18/89		XXX	XXX							
A11C	12.5-16.5	7/18/89		XXX	XXX							
A11D	8-10	7/18/89		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A11D	18.5-23.5	7/18.89		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A12A	8-11	7/19/89		XXX	XXX	XXX	XXX	XXX	XXX			
A12A	11-20.5	7/19/89		XXX	XXX							
A12B	3-7	7/13/89	XXX	XXX	•••	•••	XXX			XXX	XXX	XXX
A12B	9-12	7/13/89		XXX	XXX							
A12B	14-17	7/13/89		XXX	XXX							

SAMPLE ID		DATE	APPENDIX IX	PRE	PCB'S	HSL TOTAL METALS	E.P. TOXICITY METALS	E.P. TOXICITY PESTS.	E.P. TOXICITY HERBS	FLASH POINT	pH	REACTIVITY CN & SULFIDE
A12B	17-19	7/13/89		XXX	XXX							
A12C	14-16	7/12/89			XXX		XXX					
A12C	10-13	7/12/89			XXX		XXX					
A12C	4-9	7/12/89	XXX		•••	•••	XXX	XXX	XXX	XXX	XXX	XXX
A12D	6-13	7/18/89		XXX	XXX							
A12D	17-20	7/18/89		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A12D	20-25	7/18/89		XXX	XXX							
A13A	9-14	7/20/89		XXX	XXX		XXX	XXX	XXX			
A13A	14-19	7/20/89		XXX	XXX							
A13A	19-20.5	7/20/89		XXX	XXX							
A13B	4.5-6.0	7/11/89	XXX		•••	•••	XXX	XXX	XXX	XXX	XXX	XXX
A13B	6-9.5	7/11/89			XXX							
A13B	9.5-12	7/11/89			XXX							
A13C	13-16	7/12/89			XXX		XXX					
A13C	6-13	7/12/89			XXX		XXX					
A13C	4-8.5	7/12/89			XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A13D	18-23	7/19/89		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A14A	4-9	7/20/89		XXX	XXX	XXX	XXX	XXX	XXX			
A14A	13.5-23.5	7/20/89		XXX	XXX							
A14A	23.5-28.5	7/20/89		XXX	XXX							
A14B	4-8.5	7/11/89			XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A14B	8.5-13	7/11/89			XXX							

SAMPLE ID		DATE	APPENDIX IX	PRE	PCB'S	HSL TOTAL METALS	E.P. TOXICITY METALS	E.P. TOXICITY PESTS.	E.P. TOXICITY HERBS	FLASH POINT	pH	REACTIVITY CN & SULFIDE
A14C	4-8.5	7/11/89			XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A14C	8.5-10.5	7/11/89	XXX		•••	•••						
A14C	13.5-16.5	7/11/89			XXX							
A14C	9-14	7/11/89			XXX		XXX					
A14D	10-14	7/12/89			XXX	XXX	XXX			XXX	XXX	XXX
A14D	15-19	7/12/89			XXX							
A14D	24-29	7/12/89			XXX							
A15A	9-14	7/20/89		XXX	XXX		XXX	XXX	XXX			
A15A	14-19	7/20/89		XXX	XXX							
A15A	19-24	7/20/89		XXX	XXX							
A15B	6-9	7/7/89	XXX		•••	•••	XXX			XXX	XXX	XXX
A15B	13-16	7/7/89			XXX	XXX	XXX	XXX	XXX			
A15B	16-19	7/7/89			XXX							
A15C	4.5-9	7/7/89	XXX		•••	•••	XXX	XXX	XXX	XXX	XXX	XXX
A15C	9.5-14.5	7/10/89			XXX							
A15C	14.5-17.5	7/10/89			XXX							
A15D	4-9	7/12/89			XXX	XXX	XXX			XXX	XXX	XXX
A15D	12-14	7/2/89			XXX							
A15D	19-24	7/12/89			XXX							
A15D	24-29	7/12/89			XXX							
A16A	9-14	7/20/89		XXX	XXX		XXX	XXX	XXX			
A16A	14-19	7/20/89		XXX	XXX							

SAMPLE ID		DATE	APPENDIX IX	PRE	PCB'S	HSL TOTAL METALS	E.P. TOXICITY METALS	E.P. TOXICITY PESTS.	E.P. TOXICITY HERBS	FLASH POINT	pH	REACTIVITY CN & SULFIDE
A16A	24-29	7/20/89		XXX	XXX							
A16B	9-12	7/18/89	XXX	XXX	***	***	XXX	XXX	XXX	XXX	XXX	XXX
A16B	14-19	7/18/89		XXX	XXX							
A16C	2-5	7/18/89	XXX	XXX	***	***	XXX	XXX	XXX	XXX	XXX	XXX
A16C	7-12	7/18/89		XXX	XXX							
A16C	12-17	7/18/89		XXX	XXX							
A16D	13-18	7/20/89		XXX	XXX							
A16D	18-23	7/20/89		XXX	XXX							
A16D	23-31	7/20/89		XXX	XXX							
A16E	13-18	7/20/89		XXX	XXX		XXX	XXX	XXX			
A16E	18-23	7/20/89		XXX	XXX							
A16E	25.5-28	7/20/89		XXX	XXX							
A21B	1-6	7/17/89		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A21B	6-10	7/17/89		XXX	XXX							
A21B	10-13	7/17/89		XXX	XXX							
A21C	4-8	7/14/89	XXX	XXX	***	***	XXX	XXX	XXX	XXX	XXX	XXX
A21C	8-11	7/14/89		XXX	XXX							
A21C	13-14.5	7/14/89		XXX	XXX							
A21D	4-9	7/10/89			XXX							
A21D	9-14	7/10/89			XXX							
A21D	14-19	7/10/89			XXX	XXX	XXX	XXX	XXX			
A22A	19-22	7/11/89			XXX							

SAMPLE ID		DATE	APPENDIX IX	PRE	PCB'S	HSL TOTAL METALS	E.P. TOXICITY METALS	E.P. TOXICITY PESTS.	E.P. TOXICITY HERBS	FLASH POINT	pH	REACTIVITY CN & SULFIDE
A22A	24-28	7/11/89			XXX							
A22B	0-7	7/17/89	XXX	XXX	***	***	XXX	XXX	XXX	XXX	XXX	XXX
A22B	7-13	7/17/89		XXX	XXX							
A22C	3-9	7/17/89		XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
A22C	10-15	7/17/89		XXX	XXX							
A22D	4-9	7/11/89			XXX							
A22D	9-14	7/11/89			XXX							
A22D	24-27	7/11/89			XXX							
A23C	12-13	7/14/89		XXX	XXX							
A23C	13-19	7/14/98		XXX	XXX							
A23C	19-20	7/14/89	XXX	XXX	***	***	XXX	XXX	XXX	XXX	XXX	XXX
A23C	21-23	7/14/89		XXX	XXX							

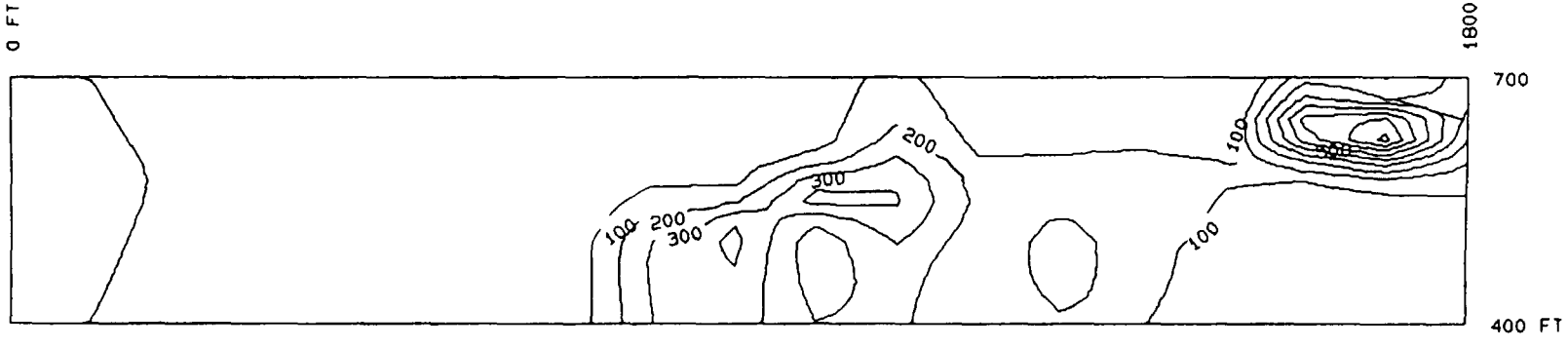
*** Included in the Appendix IX Parameter Lists

PCB DATA

PCBs by GC micro.Gram/KG.

Sample I.D.		Date	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
A10	6-7	07/13	ND	ND	ND	ND	ND	ND	ND
A10	15-17		ND	ND	ND	ND	ND	480	ND
A10	24-29	07/13	ND	10000	ND	ND	ND	ND	ND
A10	37-38	07/13	ND	3200	ND	ND	ND	ND	ND
A11B	4-8		ND	ND	ND	ND	ND	530	ND
A11C	2-6.5		ND	ND	45000	ND	ND	10000	ND
A12B	3-7		ND	ND	32000	ND	ND	BDL	ND
A12B	9-12	07/13	ND	13000	ND	ND	ND	ND	ND
A12B	14-17	07/13	ND	ND	ND	ND	ND	ND	ND
A12B	17-19	07/13	ND	ND	ND	ND	ND	270	ND
A12C	4-9		ND	ND	ND	ND	ND	BDL	ND
A12C	10-13	07/12	ND	ND	ND	ND	ND	ND	ND
A12C	14-16	07/12	ND	ND	ND	ND	ND	ND	ND
A13B	4.5-6		ND	ND	340000	ND	ND	100000	ND
A13B	6-9.5	07/11	ND	ND	32000	ND	ND	18000	ND
A13B	9.5-12	07/11	ND	ND	ND	ND	ND	350	ND
A13C	4-8.5	07/12	ND	780000	ND	ND	ND	130000	ND
A13C	6-13	07/12	ND	20000	ND	ND	ND	5500	ND
A13C	13-16	07/12	ND	ND	ND	ND	ND	ND	ND
A14B	4-8.5	07/11	ND	100000	ND	ND	ND	14000	ND
A14B	8.5-13	07/11	ND	5200	ND	ND	ND	1100	ND
A14C	4-8.5	07/11	ND	190000	ND	ND	ND	350000	ND
A14C	8.5-10.5		ND	ND	1700	ND	ND	520	ND
A14C	13.5-16.5	07/11	ND	5200	ND	ND	ND	1000	ND
A14D	10-14	07/12	ND	ND	ND	ND	ND	ND	ND
A14D	15-19	07/12	ND	ND	ND	ND	ND	ND	ND
A14D	24-29	07/12	ND	ND	ND	ND	ND	ND	ND
A15B	6-9		ND	ND	3700	ND	ND	BDL	ND
A15B	13-16	07/07	ND	ND	7200	ND	ND	1800	ND
A15B	16-19	07/07	ND	ND	ND	ND	ND	ND	ND
A15C	4.5-9		ND	ND	300000	ND	ND	68000	ND
A15C	9.5-14.5	07/10	ND	1500	ND	ND	ND	160	ND
A15C	14.5-17.5	07/10	ND	15000	ND	ND	ND	2300	ND
A15D	4-9	07/12	ND	ND	ND	ND	ND	ND	ND
A15D	12-14	07/12	ND	ND	ND	ND	ND	ND	ND
A15D	19-24	07/12	ND	ND	ND	ND	ND	ND	ND
A15D	24-29	07/12	ND	ND	ND	ND	ND	ND	ND
A16B	9-12		ND	ND	1600000	ND	ND	BDL	ND
A16C	2-5		ND	ND	ND	ND	BDL	ND	ND
A21C	4-8		ND	ND	ND	ND	ND	ND	30000
A21D	4-9	07/10	ND	ND	ND	ND	ND	BDL	ND
A21D	9-14	07/10	ND	ND	ND	ND	ND	BDL	ND
A21D	14-19	07/10	ND	ND	ND	ND	ND	ND	ND
A22A	9-14	07/11	ND	ND	ND	ND	ND	ND	ND
A22A	19-22	07/11	ND	ND	ND	ND	ND	ND	ND
A22A	24-28	07/11	ND	ND	ND	ND	ND	ND	ND
A22B	0-7		ND	ND	ND	ND	120000	ND	ND
A22D	4-9	07/11	ND	ND	ND	ND	ND	ND	12000
A22D	9-14	07/11	ND	ND	ND	ND	ND	ND	ND
A22D	24-27	07/11	ND	ND	ND	ND	ND	ND	ND
A23A	19-20		ND	ND	ND	ND	150000	ND	ND

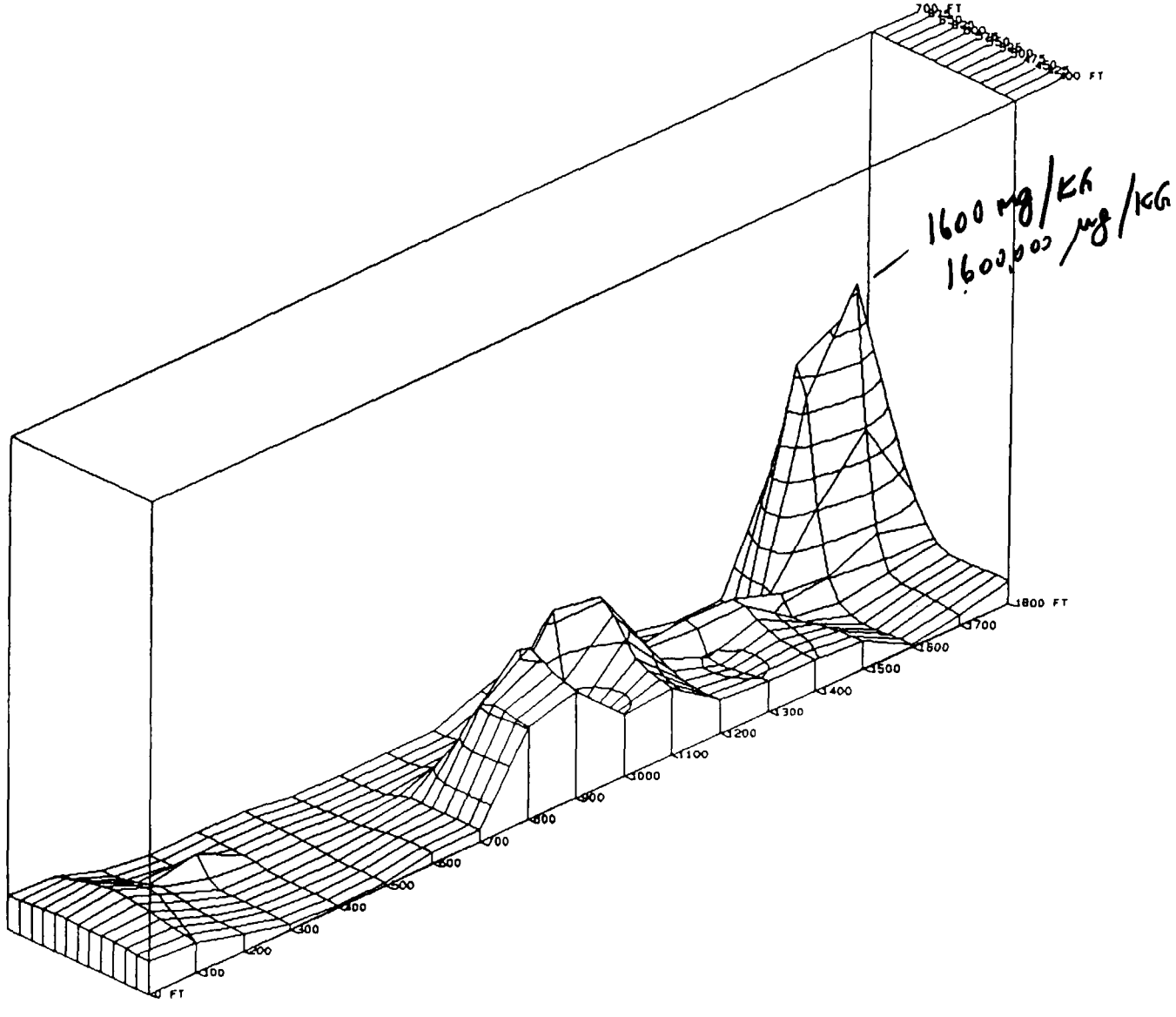
** units : µg/kg **



Carro Copper Products:
PCB's Greatest Concentrations

THE AVENDT GROUP, INC.

Figure : 1 of 1

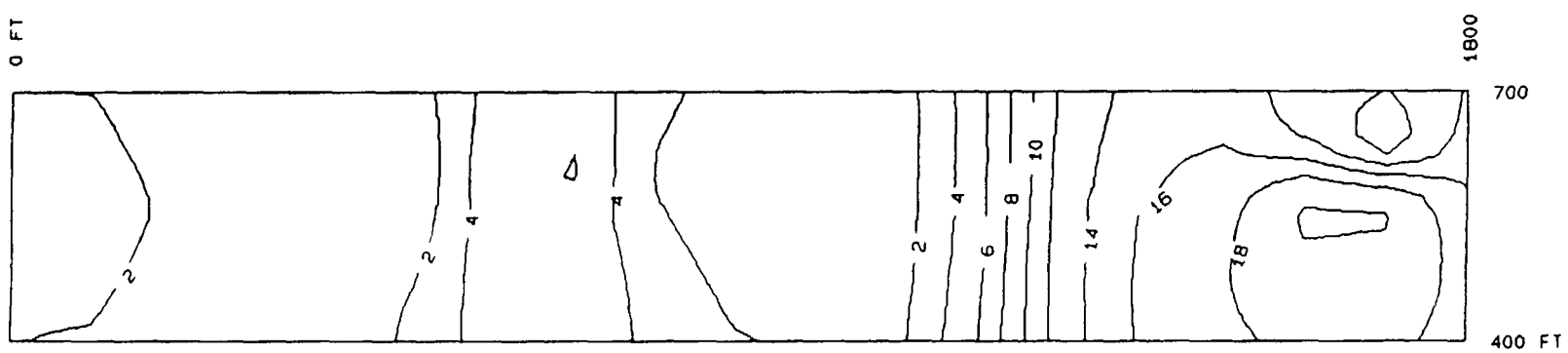


Cerro Copper Products:
PCB's Greatest Concentrations

X: Y: Z=1: 1: 1

THE AVENDT GROUP, INC.

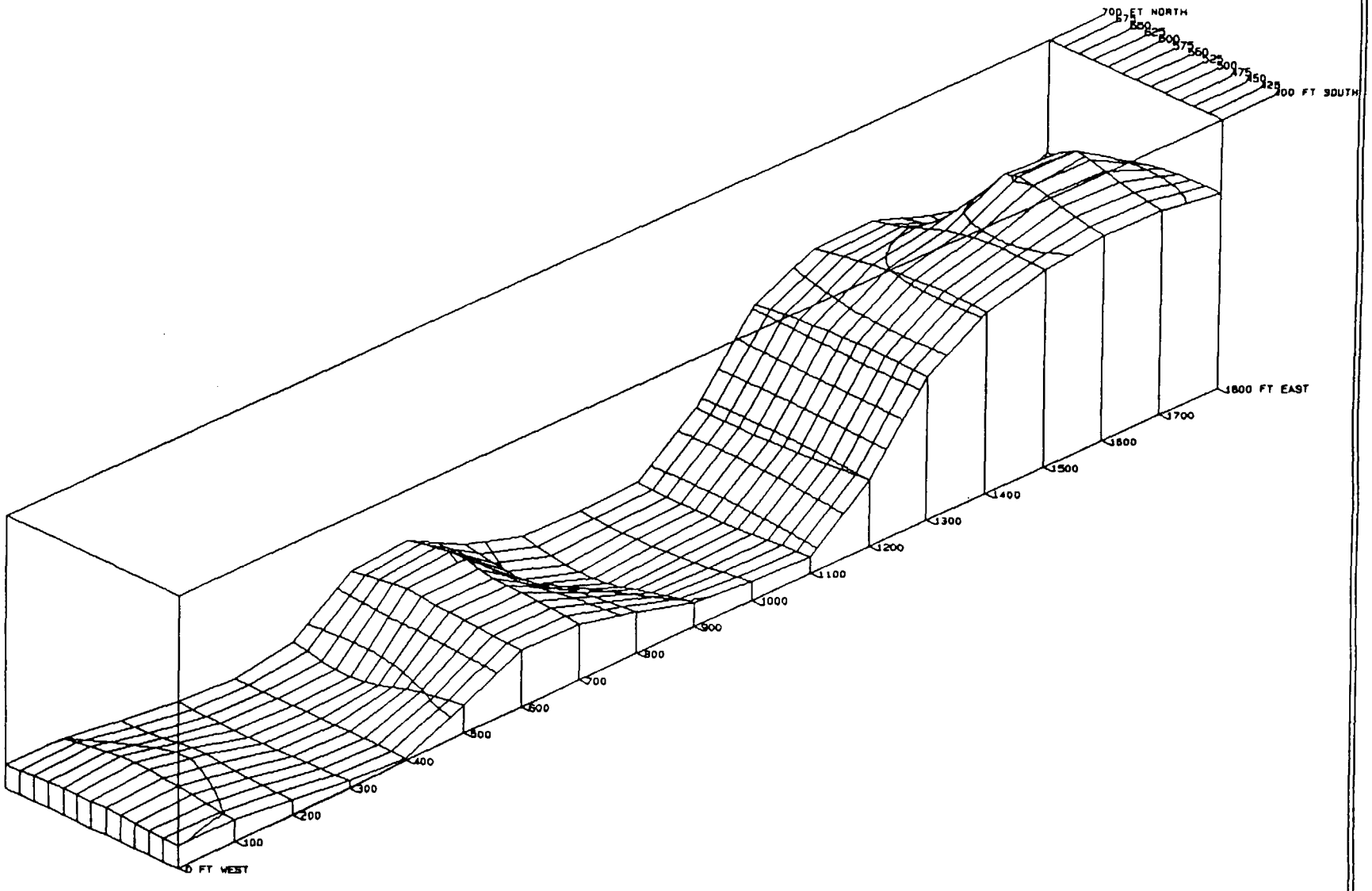
Figure : 1 of 1



Cerro Copper Products:
Biphenyl Concentrations

THE AVENOT GROUP, INC.

Figure : 1 of 1



Cerro Copper Products:
Biphenyl Concentrations

X: Y: Z=1: 1: 30

THE AVENDT GROUP, INC.

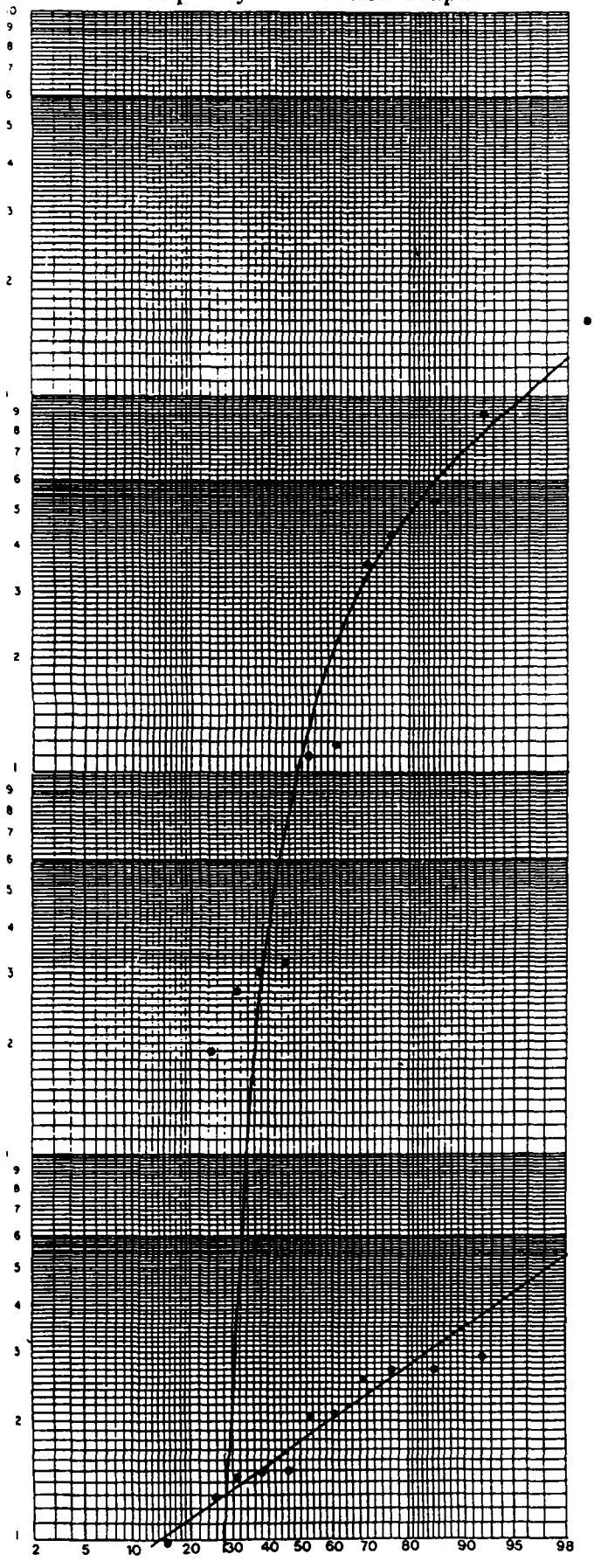
Figure : 1 of 1

CREEK SEDIMENT: PCB CONCENTRATION/ FREQUENCY DISTRIBUTION GRAPH

CERRO COPPER PRODUCTS COMPANY

Creek Sediment PCB Concentration

Frequency Distribution Graph



EPTOX DATA

EPTOX

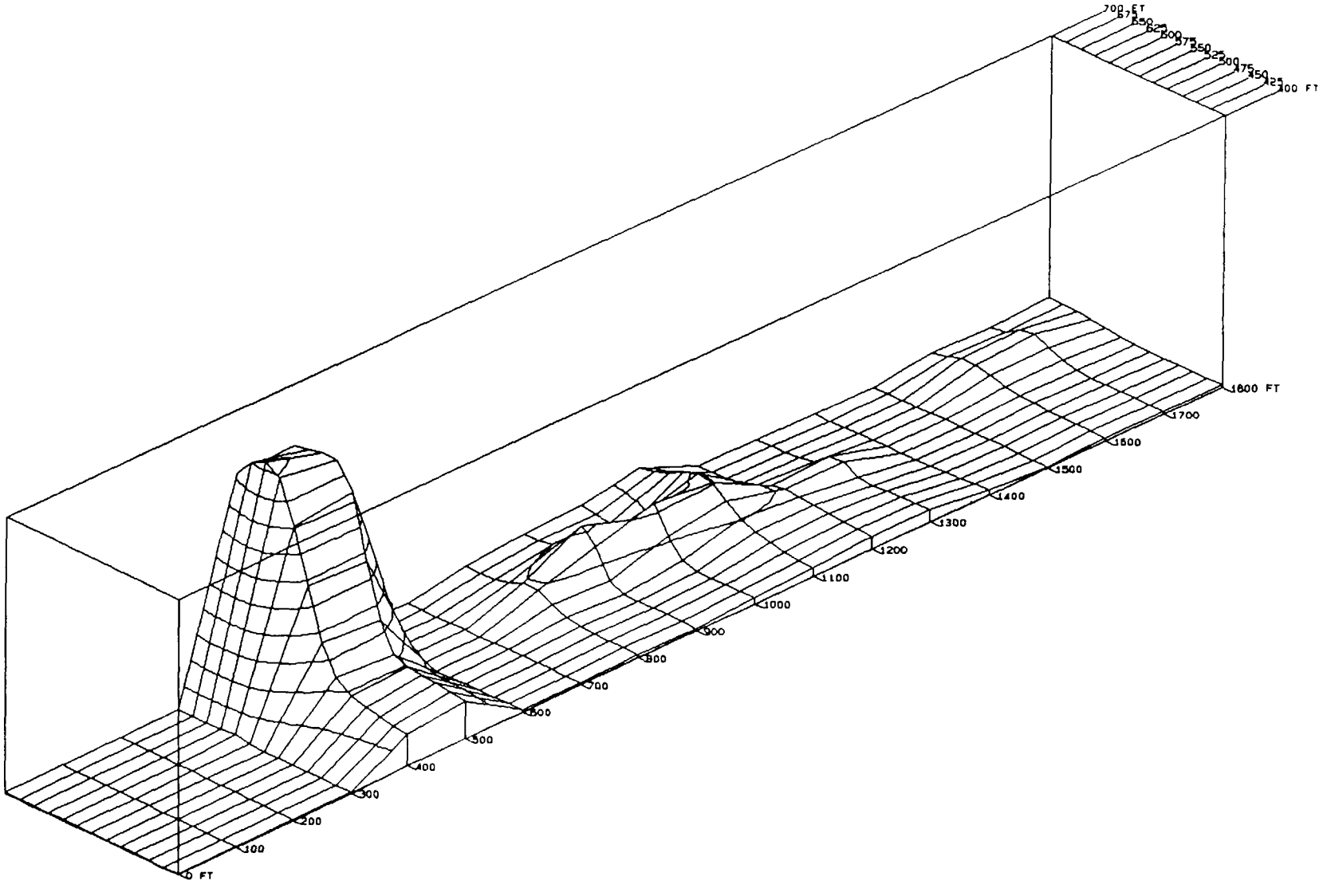
Sample ID	A10	A11A	A11B	A11C	A11D	A11E	A12A	A12B	A12C	A12C	A12C	A12D	A13B	A13C	A13C	A13C	A13D	A14B	A14C	A14D	A15B	A15B	A15C	A15D	A16A	A16B	A16C	A16E	A21B	A21C	A21D	A22A	A22B	A22C	A22D	A23A
	15-17	8-13	4-8	2-6.5	8-10	18.5-23.5	8-11	3-7	4-9	10-13	14-15	17-20	4.5-6	4-8.5	6-13	13-16	18-23	4-8.5	4-8.5	10-14	6-9	13-16	4.5-9	4-9	9-14	9-12	2-5	13-18	1-6	4-8	14-19	9-14	0-7	3-9	4-9	19-20
Parameters																																				
Silver	ND	ND	ND	0.024	0.037	0.028	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.032	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.024
Arsenic	ND	ND	ND	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.018	ND	ND	0.35	ND	ND	ND	ND	ND	ND	ND
Barium	1.3	ND	1.8	1.2	2.6	1.0	1.4	ND	1.0	ND	ND	2.0	ND	ND	ND	ND	ND	ND	ND	ND	1.4	ND	ND	ND	1.1	ND	ND	ND	1.5	3.3	ND	ND	3.9	1.7	ND	ND
Cadmium	ND	0.069	ND	0.047	0.018	ND	4	0.057	1.0	0.046	0.32	0.010	2.6	4.0	1.9	ND	0.017	0.47	1.2	ND	0.018	ND	0.74	ND	ND	1.0	0.64	ND	3.4	3.9	ND	ND	0.10	0.011	0.045	0.012
Chromium	0.024	0.030	ND	ND	0.030	0.022	0.025	ND	ND	ND	ND	ND	ND	ND	0.028	ND	0.025	ND	ND	ND	0.027	ND	ND	0.038	0.044	ND	ND	0.030	0.13	ND	ND	ND	0.60	ND	ND	0.033
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	0.11	0.069	0.076	0.23	0.33	0.092	0.096	8.4	0.62	ND	ND	0.086	14.6	0.85	ND	ND	0.074	0.31	5.5	0.13	0.14	0.061	0.32	0.13	0.15	4.2	1.8	0.085	35.4	15.6	0.061	0.16	0.68	0.10	0.12	0.17
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

** units : ug/L **

Cerro Copper Products.
EPTOX. Lead

THE AVENDT GROUP, INC.

Figure : 1 of 1

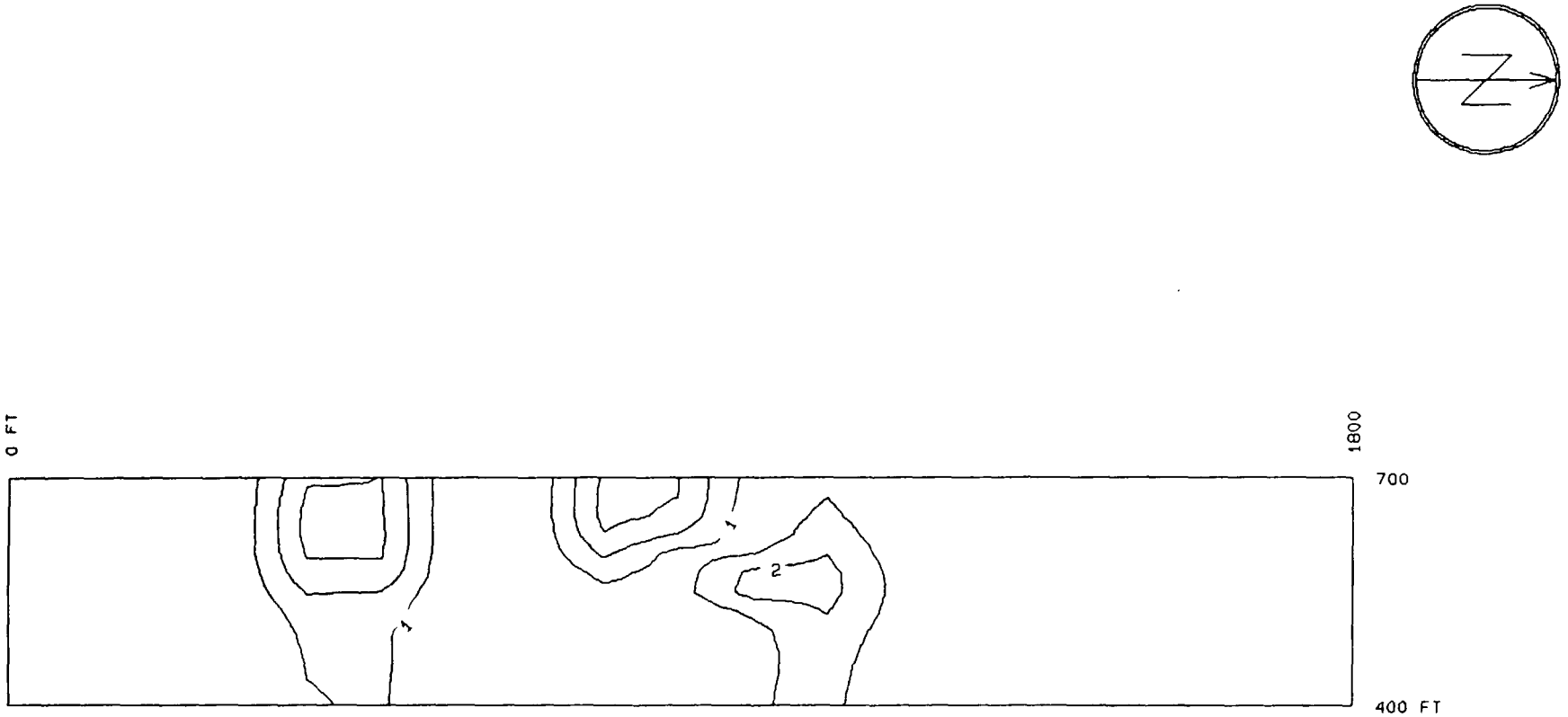


Cerro Copper Products.
EPTOX Lead

X. Y. Z=1: 1: 20

THE AVENOT GROUP, INC.

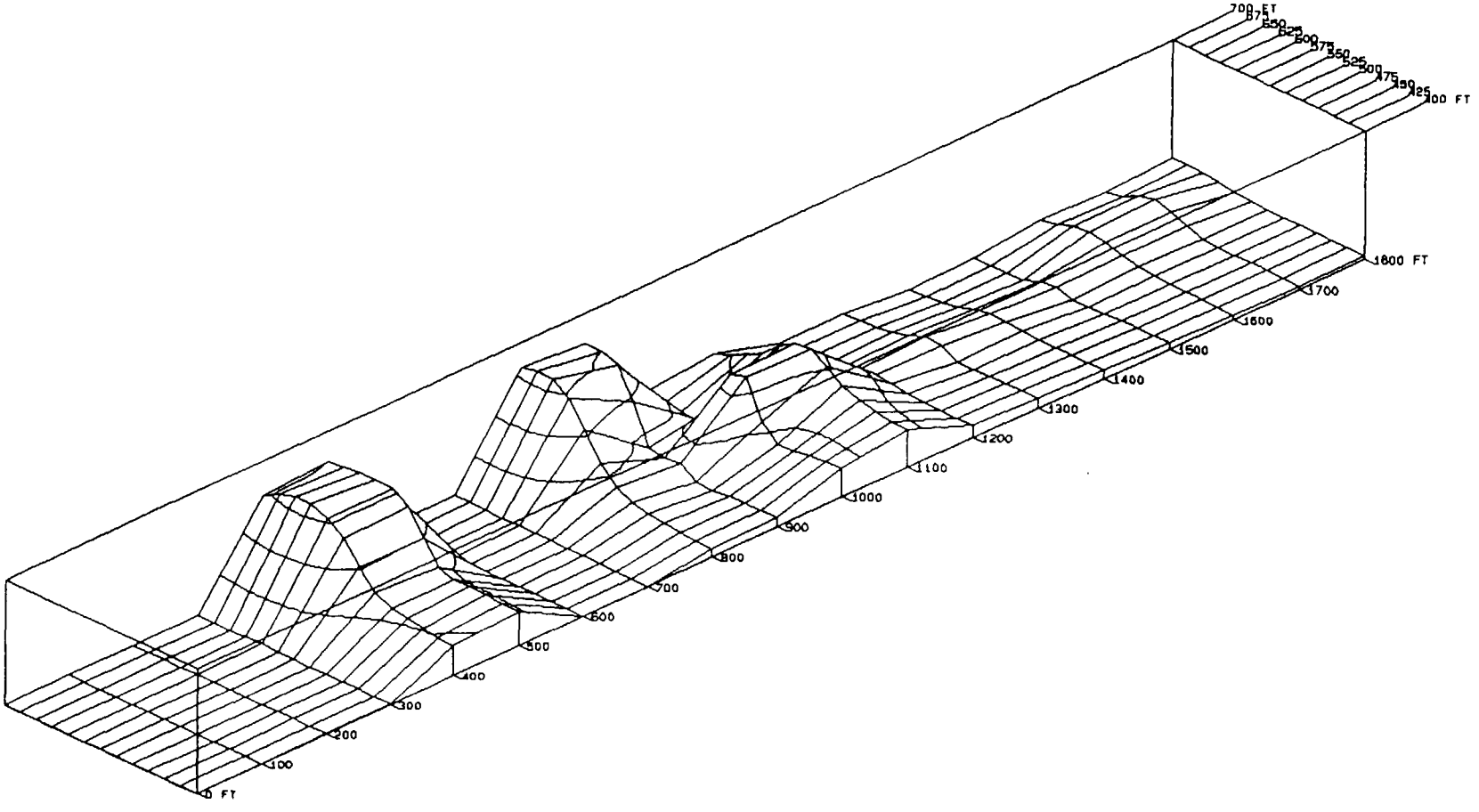
Figure : 1 of 1



Cerro Copper Products:
EPTOX Cadmium

THE AVENDT GROUP, INC.

Figure : 1 of 1



Cerro Copper Products.
EPTOX Cadmium

X Y Z=1: 1. 75

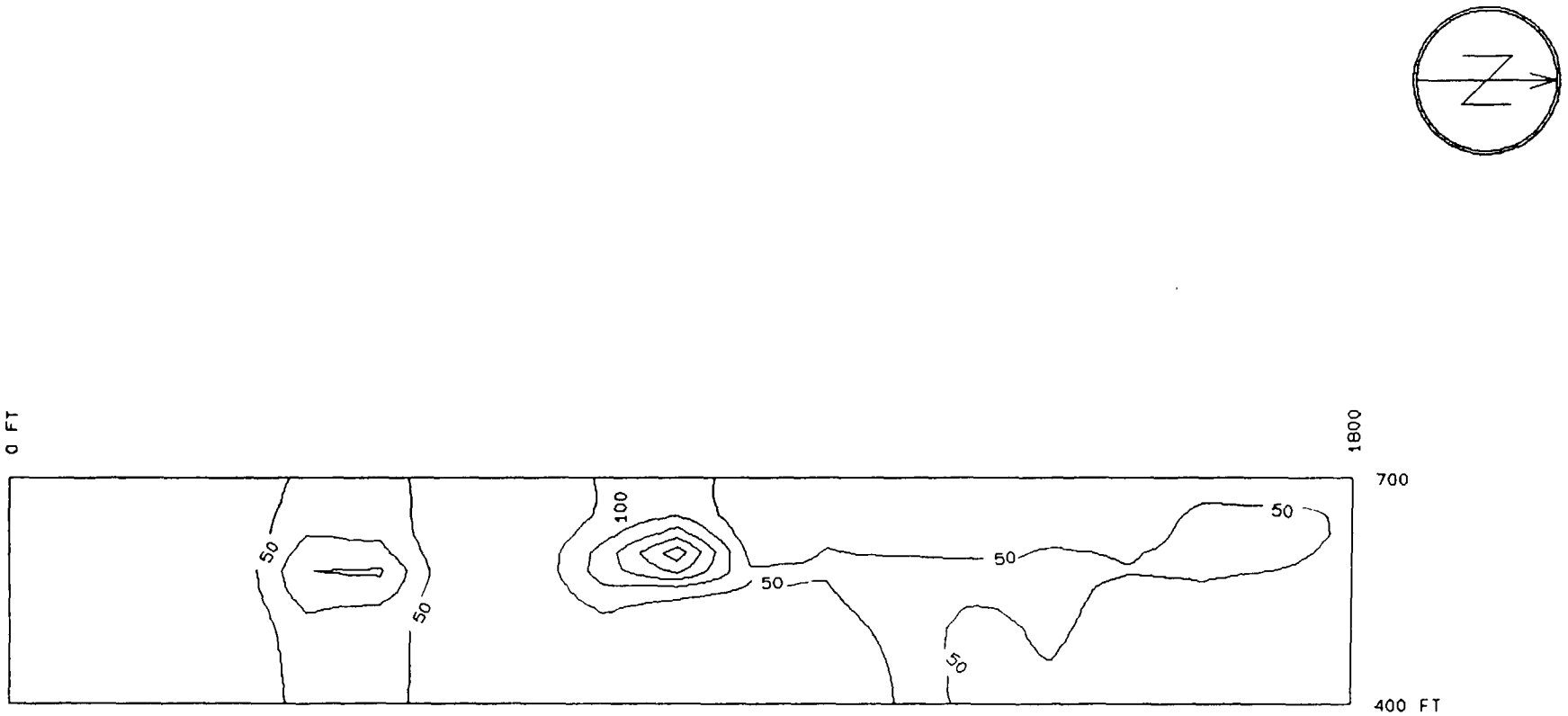
THE AVENDT GROUP, INC.

Figure : 1 of 1

TOTAL METALS DATA

TOTAL METALS

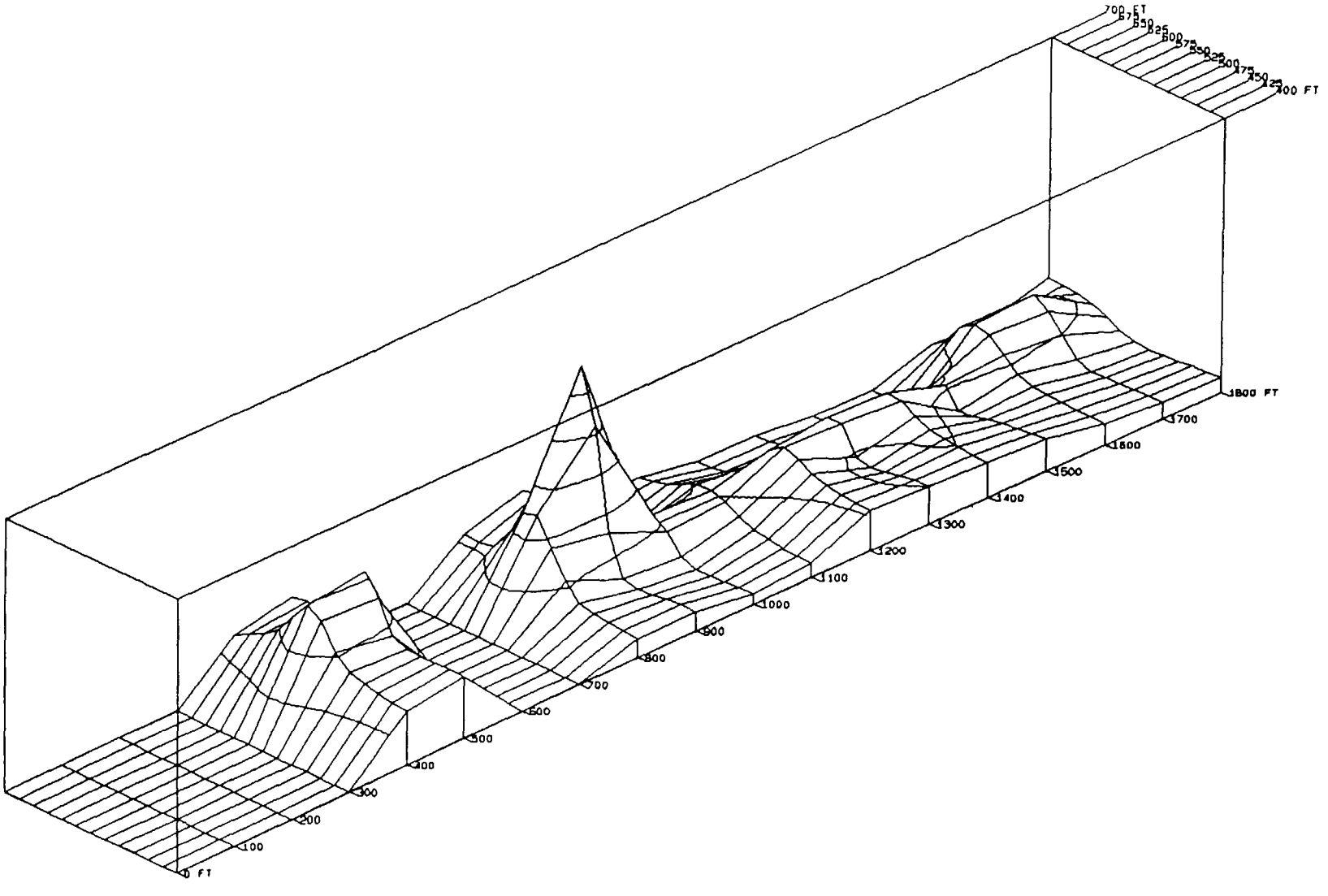
Sample I.D.:	A10	A11A	A11B	A11C	A11D	A12A	A12B	A12C	A12D	A13B	A13C	A13D	A14A	A14B	A14C	A14C	A14D	A15B	A15B	A15C	A15D	A16B	A16C	A21B	A21C	A21D	A22B	A22C	A23A
Date:	15-17	8-13	4-8	2-6.5	8-10	8-11	3-7	4-9	17-20	4.5-6	4-8.5	18-23	4-9	4-8.5	4-8.5	8.5-10.5	10-14	6-9	13-16	4.5-9	4-9	9-12	2-5	1-6	4-8	14-19	0-7	3-9	19-20
Parameters																													
Silver	ND	ND	ND	8.0	ND	ND	328	93.0	ND	154	73.5	ND	ND	44.1	141	ND	ND	ND	ND	63.8	ND	55.8	91.9	132	348	ND	2.4	11.9	ND
Aluminum	5150	7380	5870	5430	10300	6270	8050	3780	3170	5460	4350	5930	5450	3740	4970	7200	4550	7180	1520	4540	4980	1980	1400	2800	5120	4550	3110	2970	5590
Arsenic	3.4	13	4.7	23.1	4.4	3.9	ND	194	3.0	78.0	145	4.6	2.9	99.5	122	7.6	5.5	11.9	2.4	105	6.4	10.8	7.5	7.6	25.3	ND	6.9	18.5	5.6
Barium	252	240	212	162	2450	197	516	500	244	1960	2180	219	201	5200	1560	250	191	242	57.9	2180	170	712	473	529	1050	148	241	414	198
Beryllium	ND	ND	ND	ND	ND	ND	44.1	1.9	ND	9.1	3.4	ND	ND	ND	25.2	ND	ND	1.6	ND	27.8	ND	3.1	2.5	2.9	36.0	ND	ND	ND	ND
Calcium	17700	3940	20100	8090	11700	15900	ND	5330	9130	14600	12600	15000	15700	12600	5260	22700	14500	21900	6270	7350	13500	9030	7270	17000	12100	12600	12700	12000	26200
Cadmium	ND	5.2	ND	4.9	ND	ND	393	47.0	ND	529	226	ND	ND	49.7	316	2.7	ND	7.3	ND	532	ND	52.5	49.4	135	470	ND	2.6	29.2	ND
Cobalt	ND	ND	15.7	15.3	38.4	ND	ND	ND	ND	ND	31.4	ND	ND	23.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23.0
Chromium	10.7	222	11.7	27.2	94.2	12.6	553	695	10.0	561	452	15.4	10.8	329	402	17.0	9.8	22.9	4.9	333	11.3	128	119	434	397	12.4	28.7	62.0	15.6
Copper	19.9	1130	117	3330	2100	103	77700	34800	298	42600	25900	151	48.1	15600	41300	338	41.4	722	28.4	17800	25.0	26000	16600	29400	91800	24.7	1160	3510	591
Iron	9990	13800	13800	16700	13100	12100	312000	68100	7310	118000	83100	12100	11800	76100	172000	19800	11200	21200	4240	254000	10600	52300	69900	45700	199000	11300	10100	12600	13500
Mercury	ND	ND	ND	3.1	3.3	ND	27	5.3	ND	17.7	2.3	ND	ND	28.7	12.8	0.16	ND	ND	ND	61.2	ND	124	93.0	8.2	16.3	ND	0.17	ND	ND
Potassium	ND	1870	1490	1090	ND	1420	ND	ND	ND	ND	ND	1220	1250	ND	ND	1720	ND	1630	ND	ND	1060	ND	ND	ND	ND	ND	ND	ND	ND
Magnesium	6700	2660	6690	4130	2500	7330	ND	ND	3840	ND	ND	6400	6580	2710	ND	5980	5180	5880	2100	ND	5350	1560	ND	1600	ND	4320	4220	2740	5160
Manganese	236	56.0	440	197	160	150	41.6	139	101	379	305	249	173	265	163	671	351	622	116	230	379	47.7	40.1	228	235	167	194	133	318
Sodium	ND	ND	ND	ND	4540	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1310	ND	ND	ND	ND	ND	ND	ND
Nickel	27.5	303	23	301	6940	133	1530	959	47.7	1420	2230	27.4	27.7	1220	1240	47.7	14.2	73.4	ND	1820	15.0	705	716	562	6410	47.7	95.2	317	56.3
Lead	10.8	72.0	12.9	276	718	7.6	32400	2380	29.7	15700	4160	30.2	13.6	1640	20800	88.5	10.6	250	ND	5860	9.5	3760	2910	10000	30400	12.9	145	749	24.0
Antimony	ND	ND	ND	ND	ND	ND	356	66.1	ND	98.0	46.0	ND	ND	22.6	175	ND	ND	ND	ND	136	ND	117	114	51.8	305	ND	ND	ND	ND
Selenium	ND	ND	1.3	1.0	0.60	2.5	38.9	28.8	ND	ND	ND	ND	ND	1.2	ND	ND	ND	ND	ND	ND	ND	10.9	5.3	8.8	41.6	ND	0.73	2.0	ND
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	16.5	21.0	19.4	17.0	33.5	19.4	ND	27.4	12.9	41.5	35.4	19.4	17.4	34.6	ND	25.0	15.9	24.8	ND	43.0	15.2	ND	ND	ND	ND	20.3	10.3	11.9	17.4
Zinc	82.5	1410	68.5	1200	655	333	26800	4020	172	21300	11500	209	69.6	6080	15000	167	47.9	337	28.1	13700	52.1	2290	2120	9300	26700	270	373	1510	237



Cerro Copper Products.
Antimony Concentrations

THE AVENDT GROUP, INC.

Figure : 1 of 1

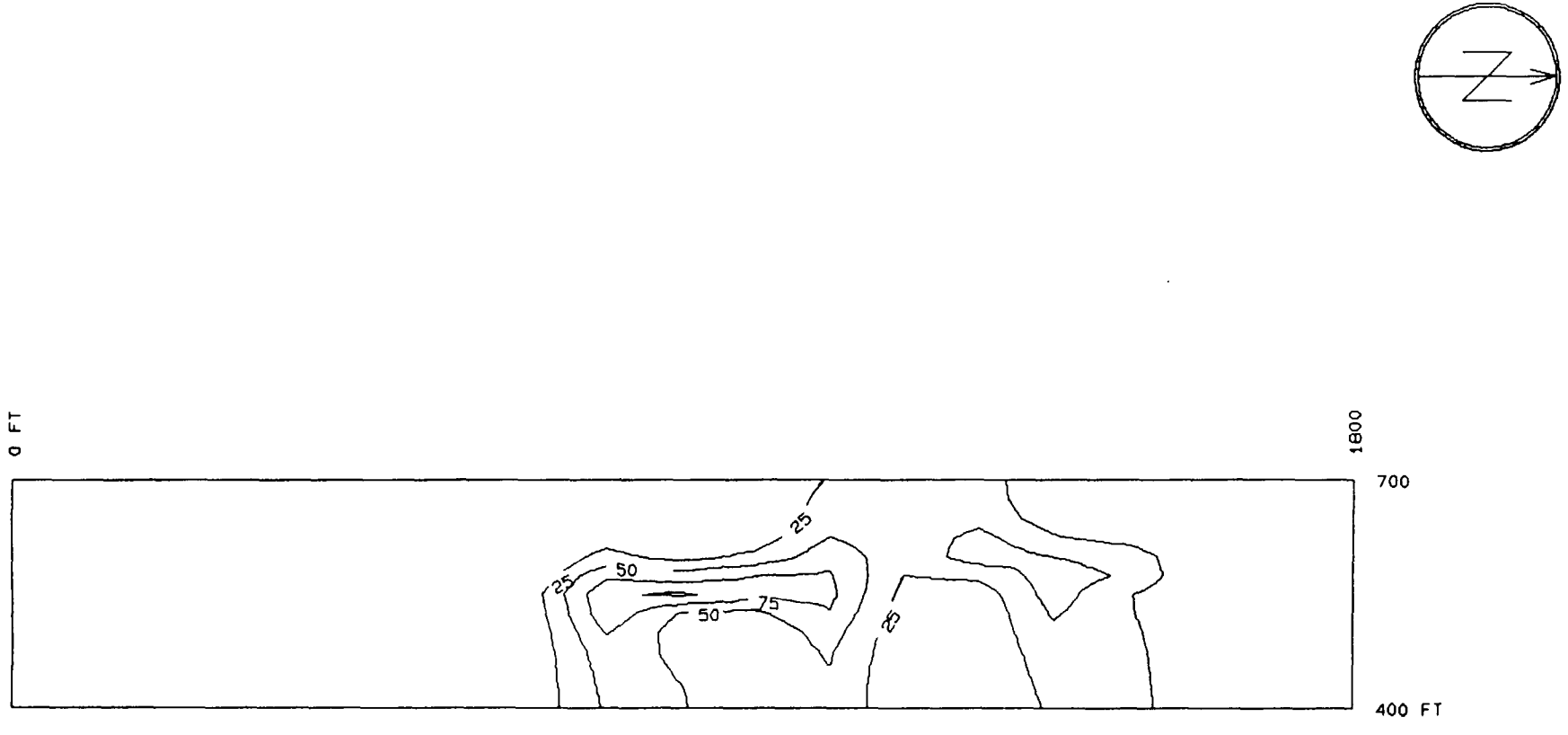


Cerro Copper Products:
Antimony Concentrations

X: Y: Z=1: 1: 2

THE AVENDT GROUP, INC.

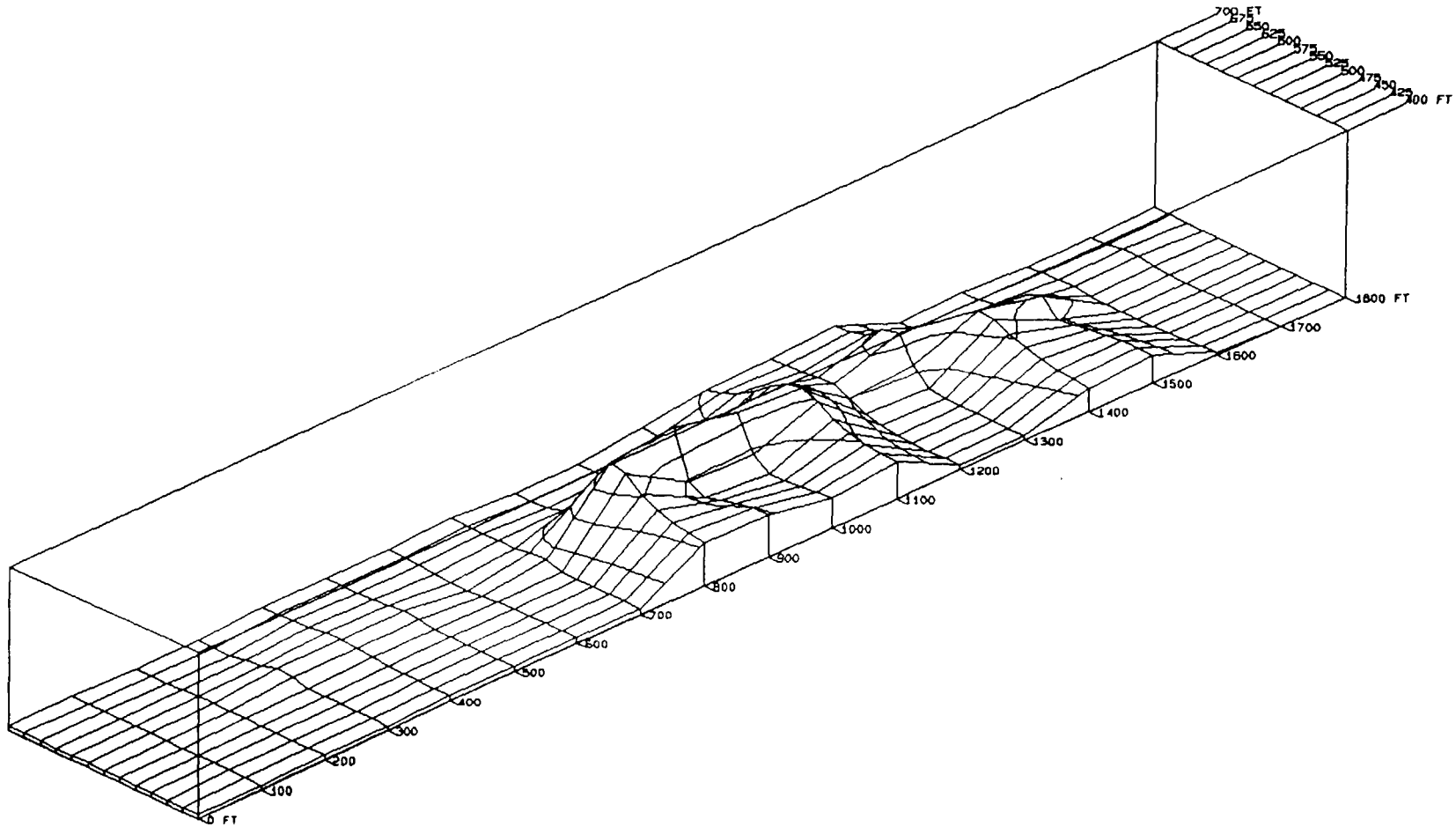
Figure : 1 of 1



Cerro Copper Products.
Arsenic Concentrations

THE AVENOT GROUP, INC.

Figure : 1 of 1

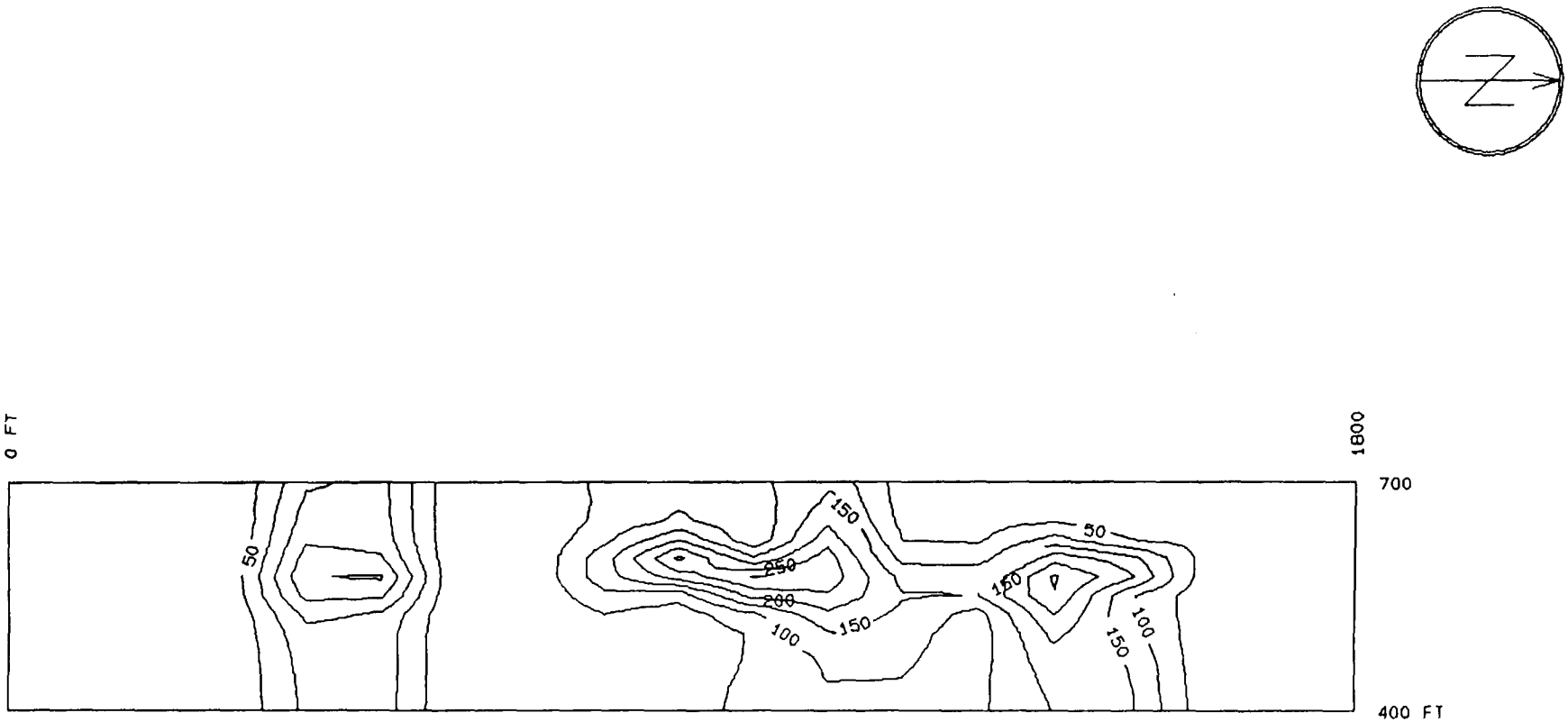


Cerro Copper Products:
Arsenic Concentrations

X, Y, Z=1: 1: 2

THE AVENDT GROUP, INC.

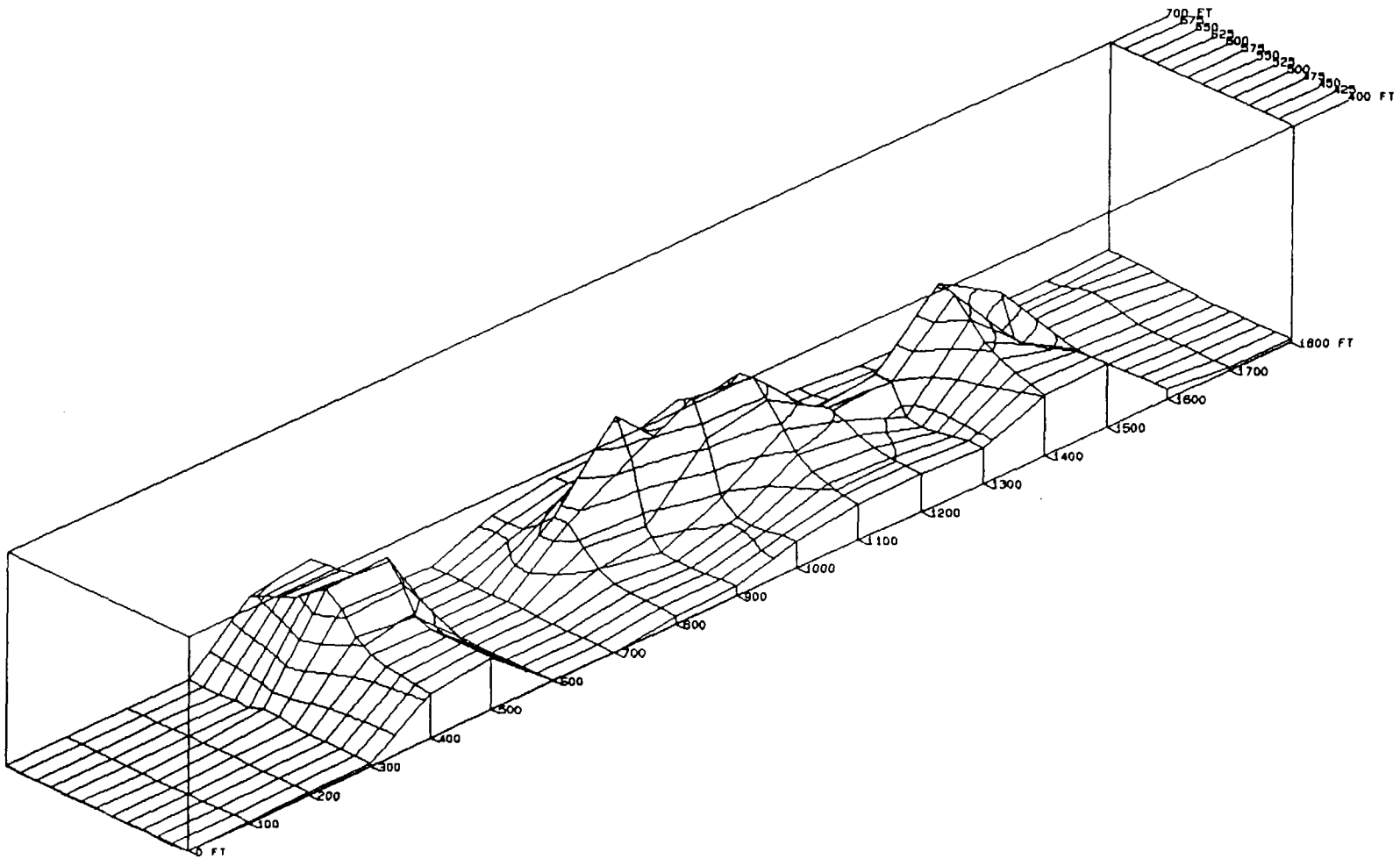
Figure : 1 of 1



Cerro Copper Products
Cadmium Concentrations

THE AVENOT GROUP, INC.

Figure : 1 of 1

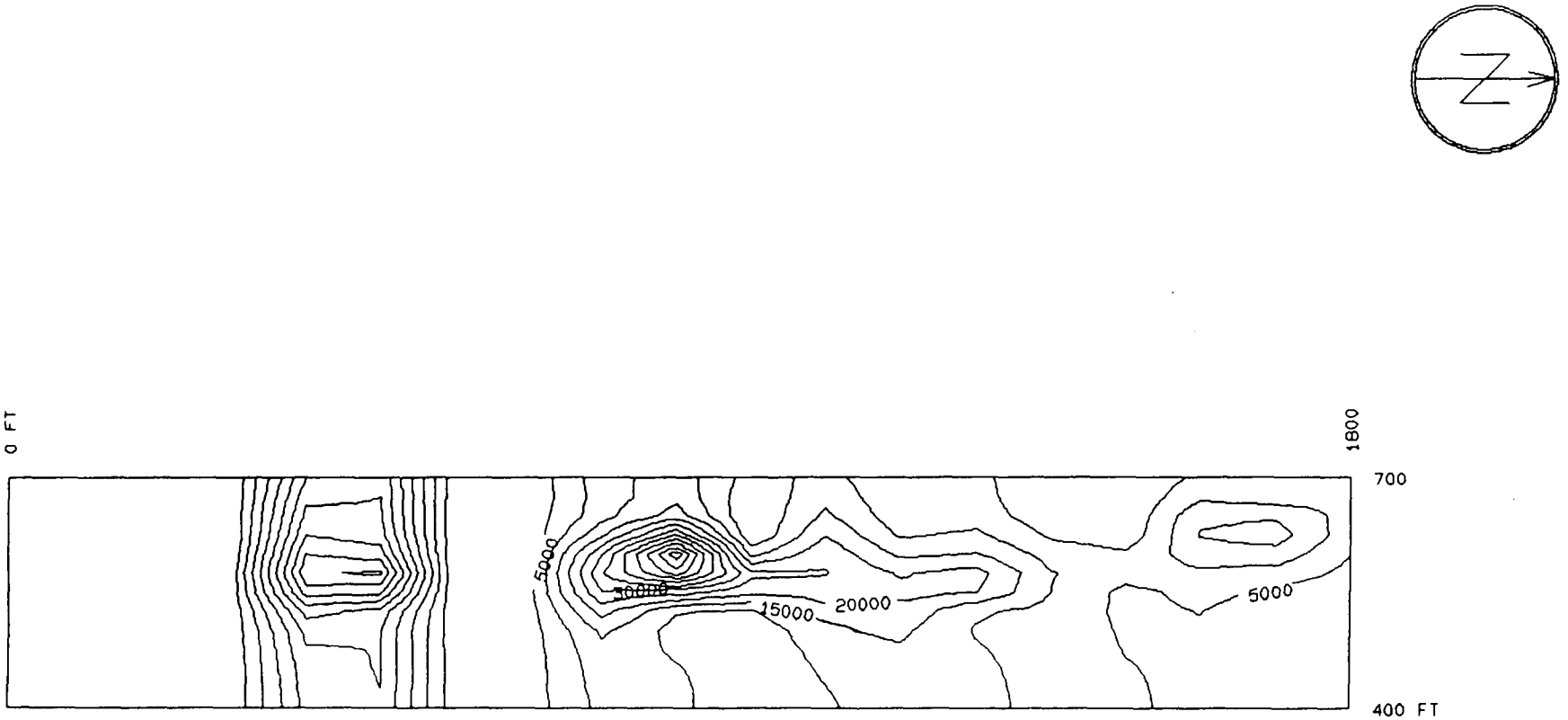


Cerro Copper Products:
Cadmium Concentrations

X, Y: Z=1: 1: 1

THE AVENDT GROUP, INC.

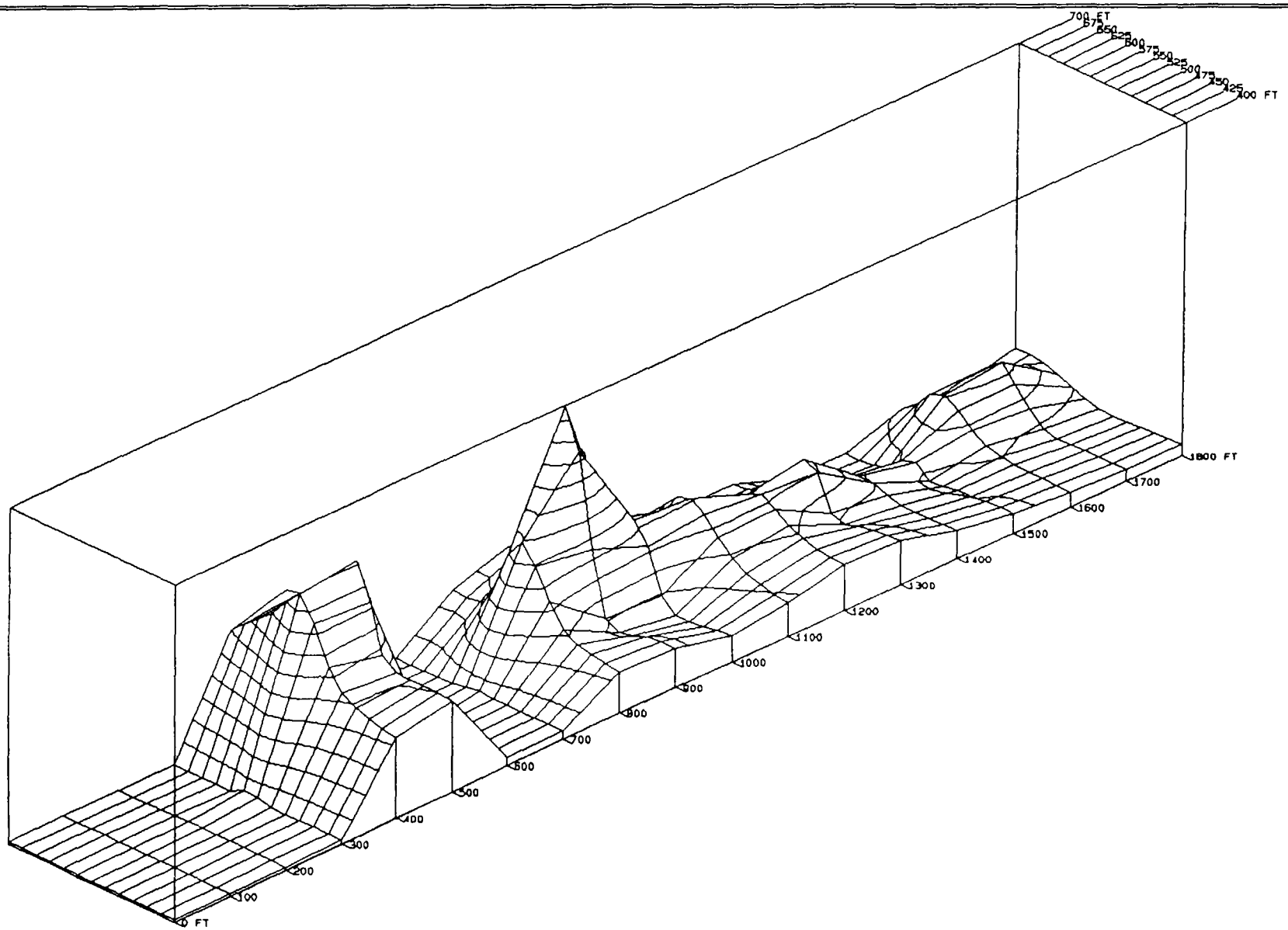
Figure : 1 of 1



Cerro Copper Products.
Copper Concentrations

THE AVENDT GROUP, INC.

Figure : 1 of 1

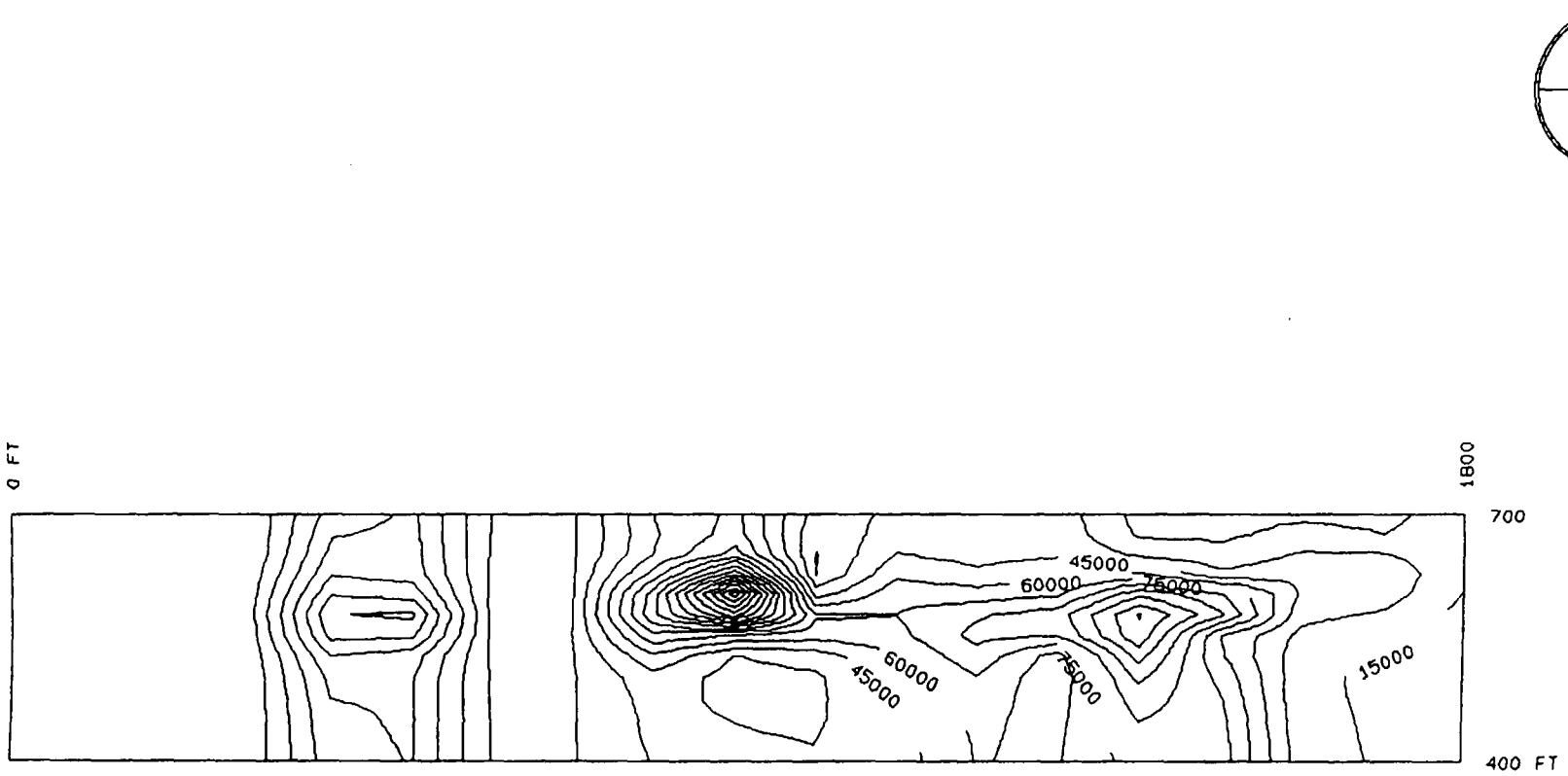


Cerro Copper Products:
Copper Concentrations

X, Y, Z=50: 50: .5

THE AVENDT GROUP, INC.

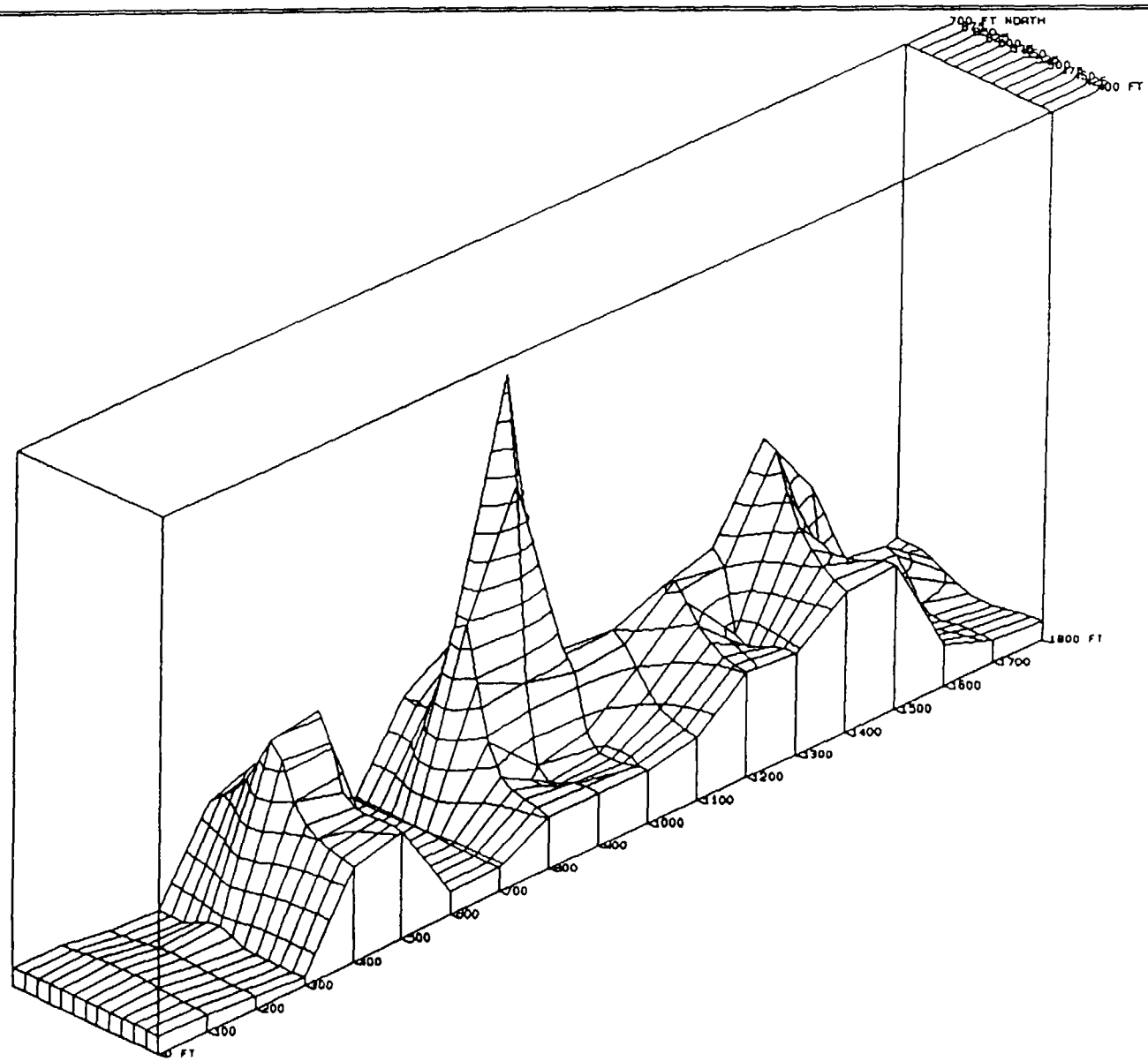
Figure : 1 of 1



Cerro Copper Products:
Iron Concentrations

THE AVENDT GROUP, INC.

Figure : 1 of 1

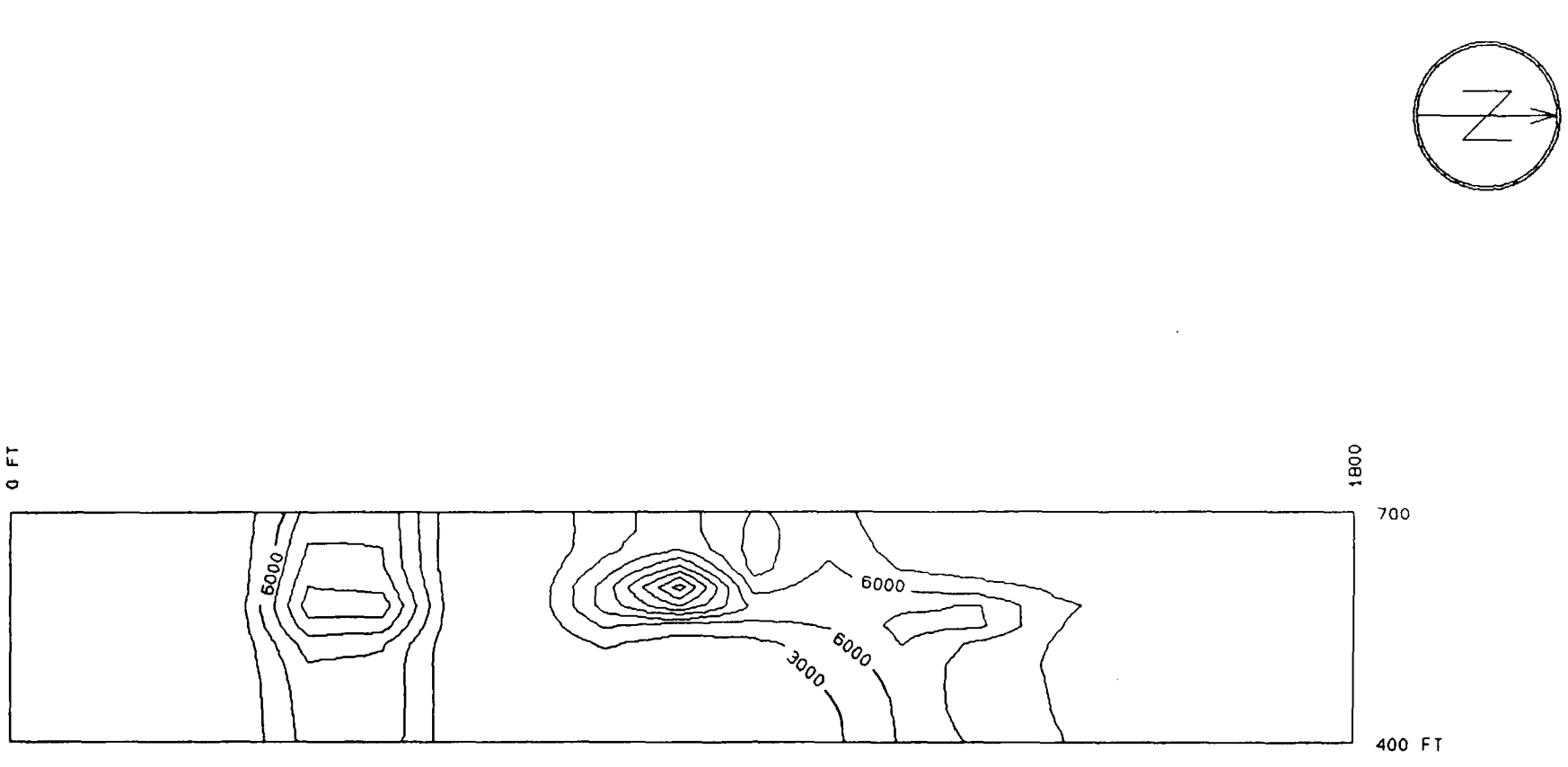


Cerro Copper Products:
Iron Concentrations

X: Y: Z=130: 130: .7

THE AVENDT GROUP, INC.

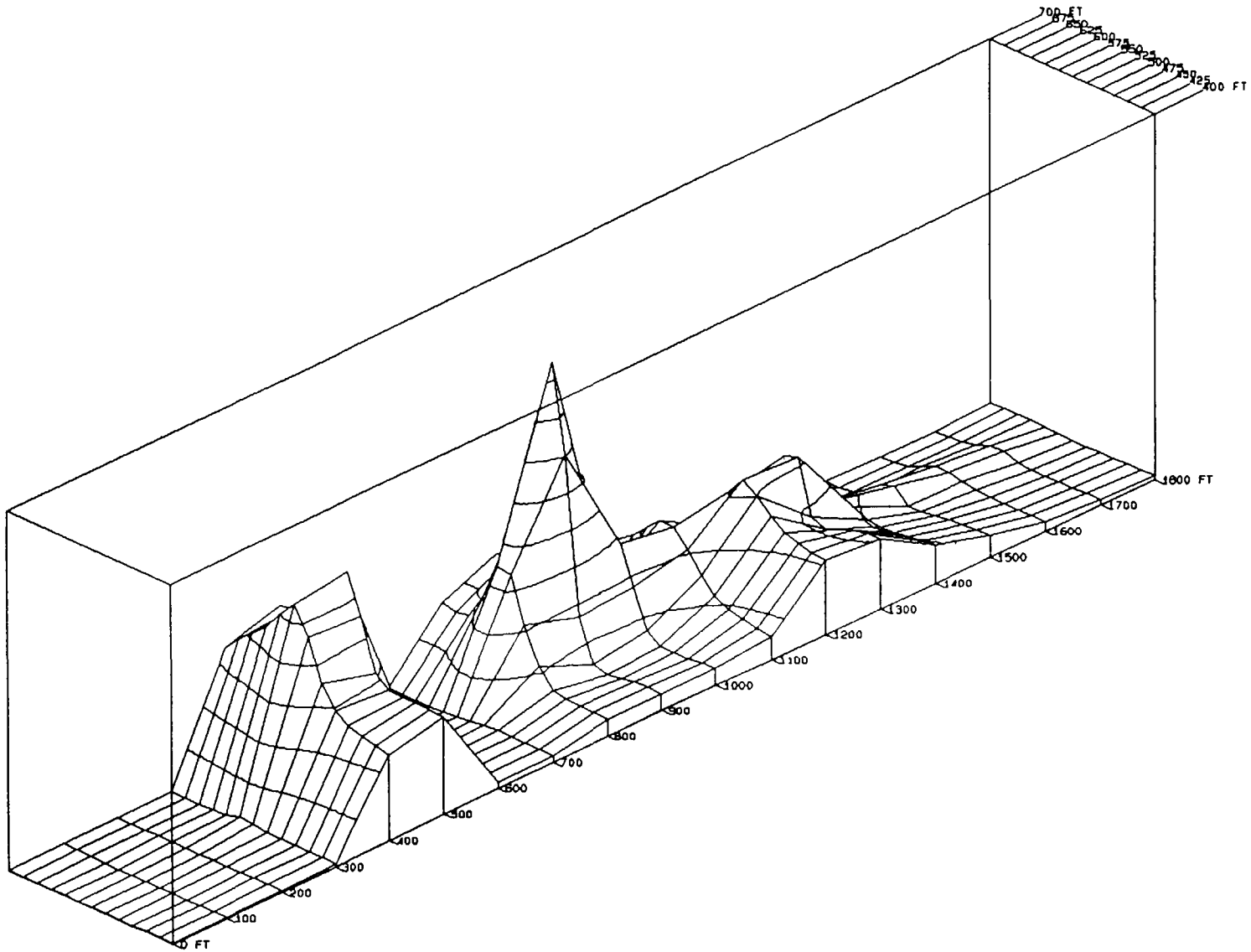
Figure : 1 of 1



Cerro Copper Products:
Lead Concentrations

THE AVENDT GROUP, INC.

Figure : 1 of 1

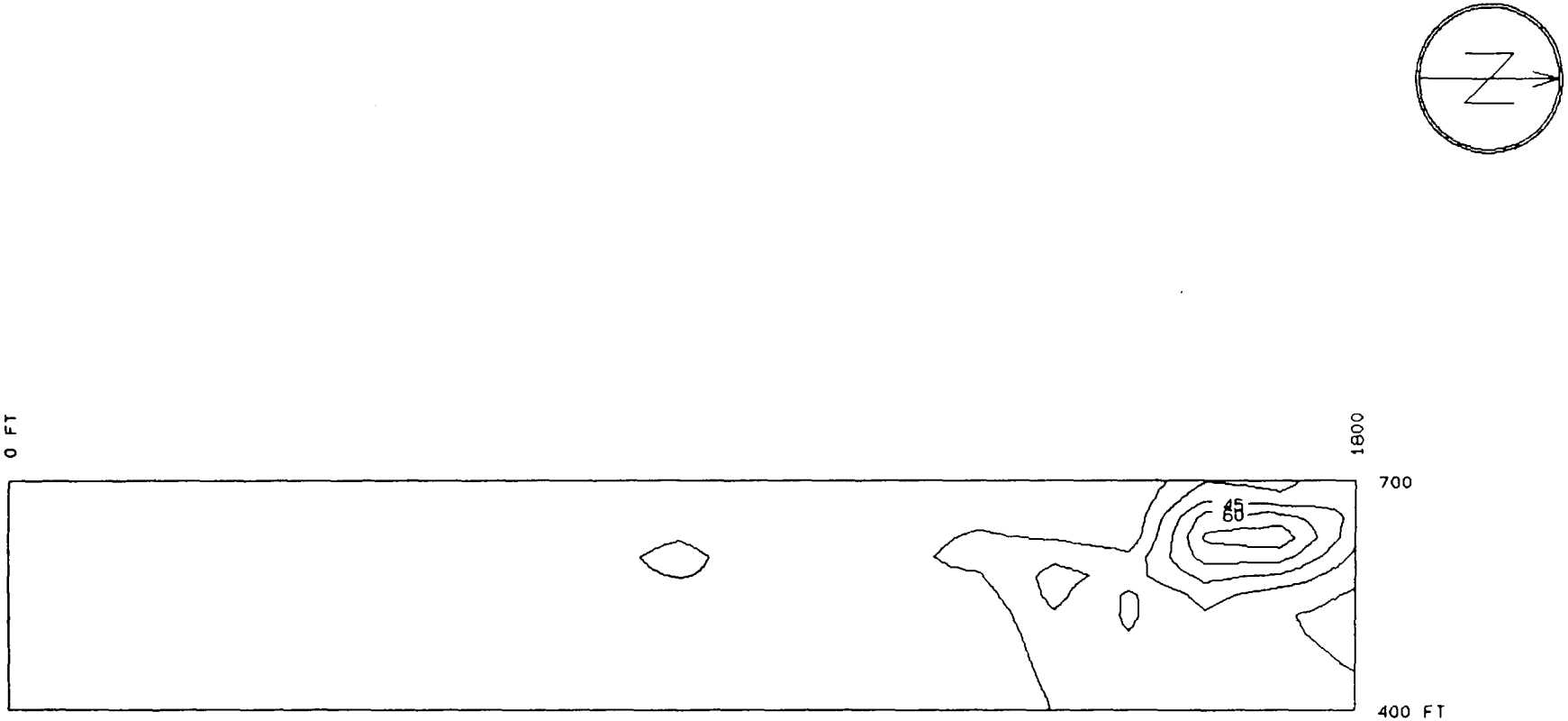


Carro Copper Products:
Lead Concentrations

X, Y, Z=15: 15: .5

THE AVENOT GROUP, INC.

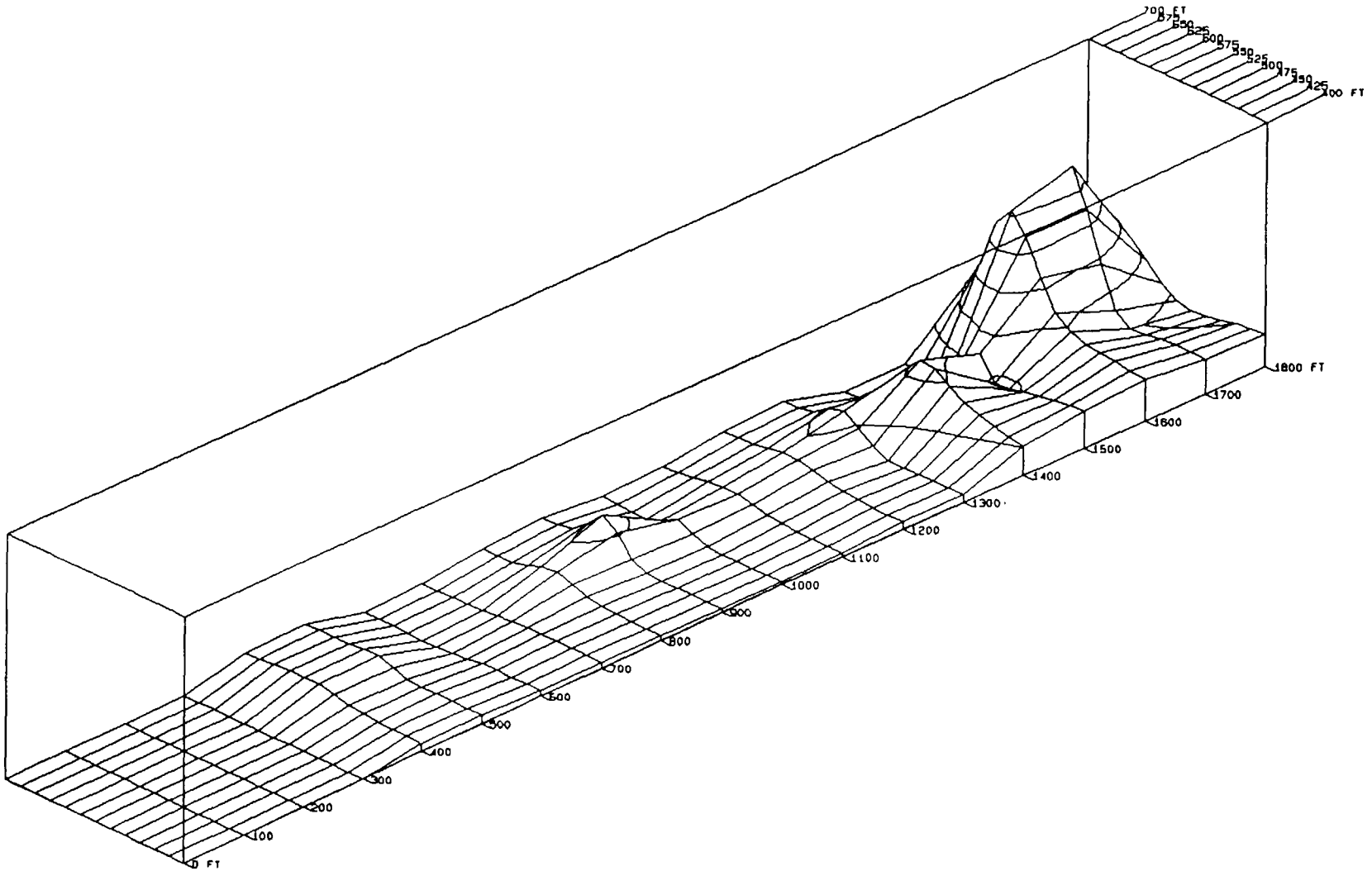
Figure : 1 of 1



Cerro Copper Products:
Mercury Concentrations

THE AVENOT GROUP, INC.

Figure : 1 of 1

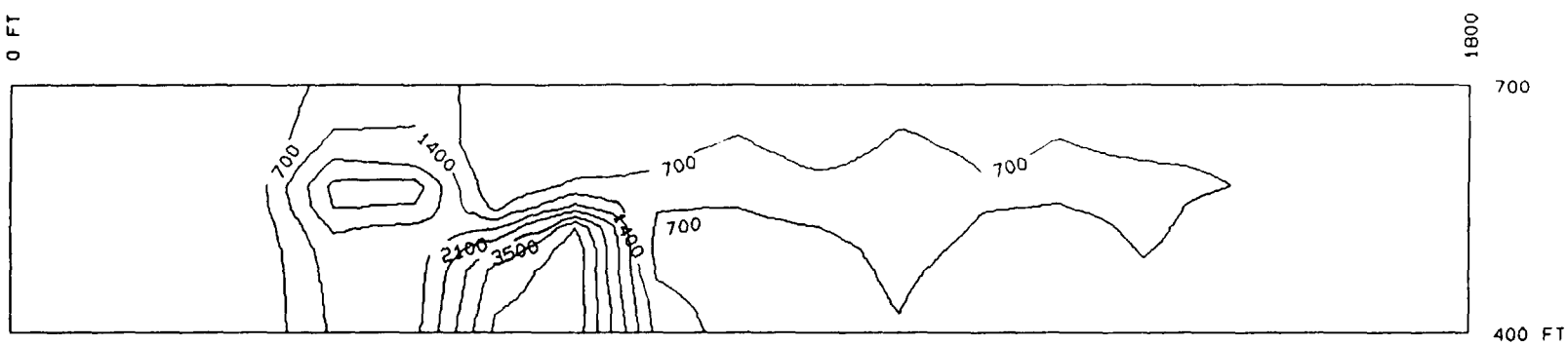


Carb Copper Products:
Mercury Concentrations

X: Y: Z=1: 1: 5

THE AVENOT GROUP, INC.

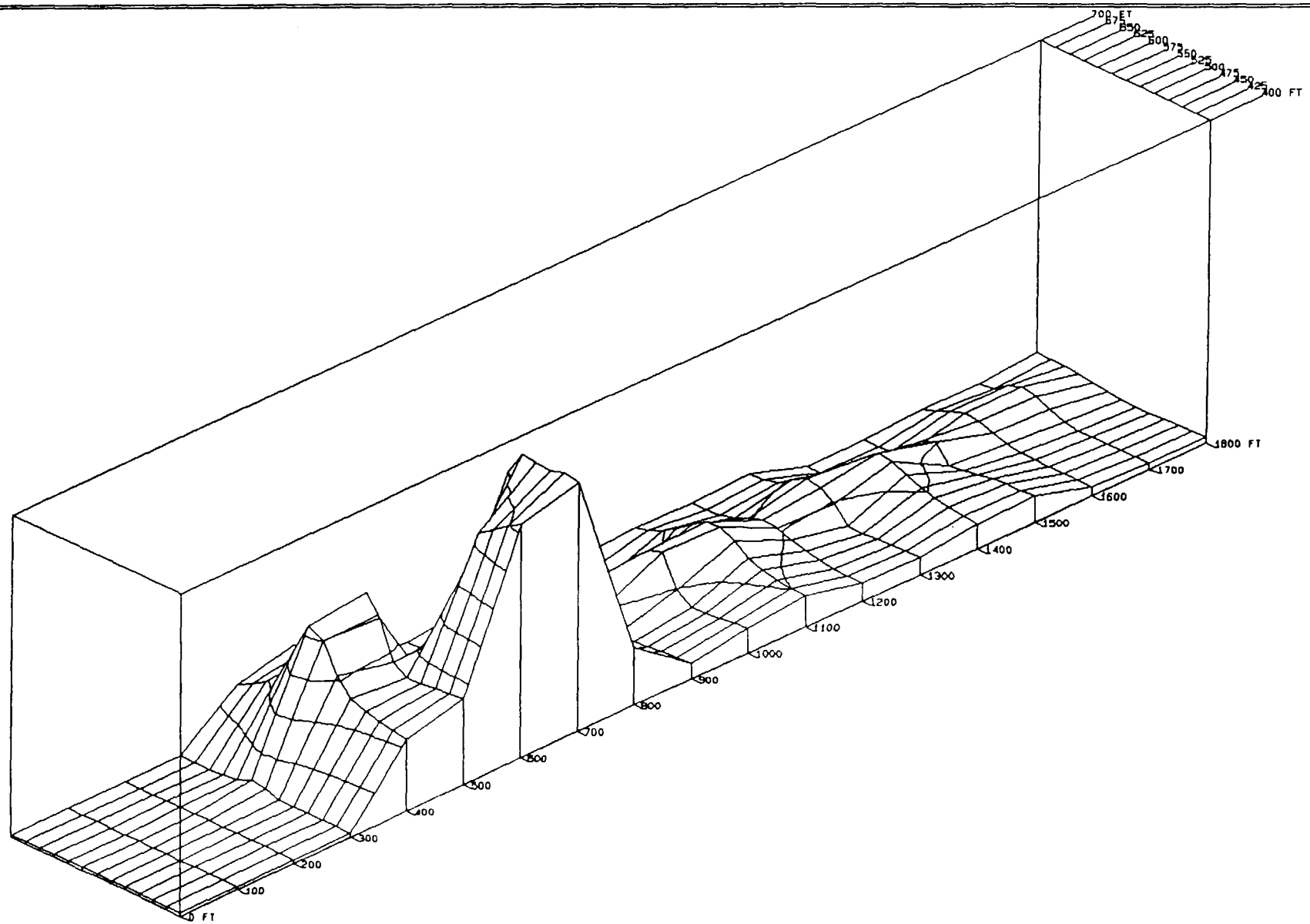
Figure : 1 of 1



Cerro Copper Products:
Nickel Concentrations

THE AVENDT GROUP, INC.

Figure : 1 of 1

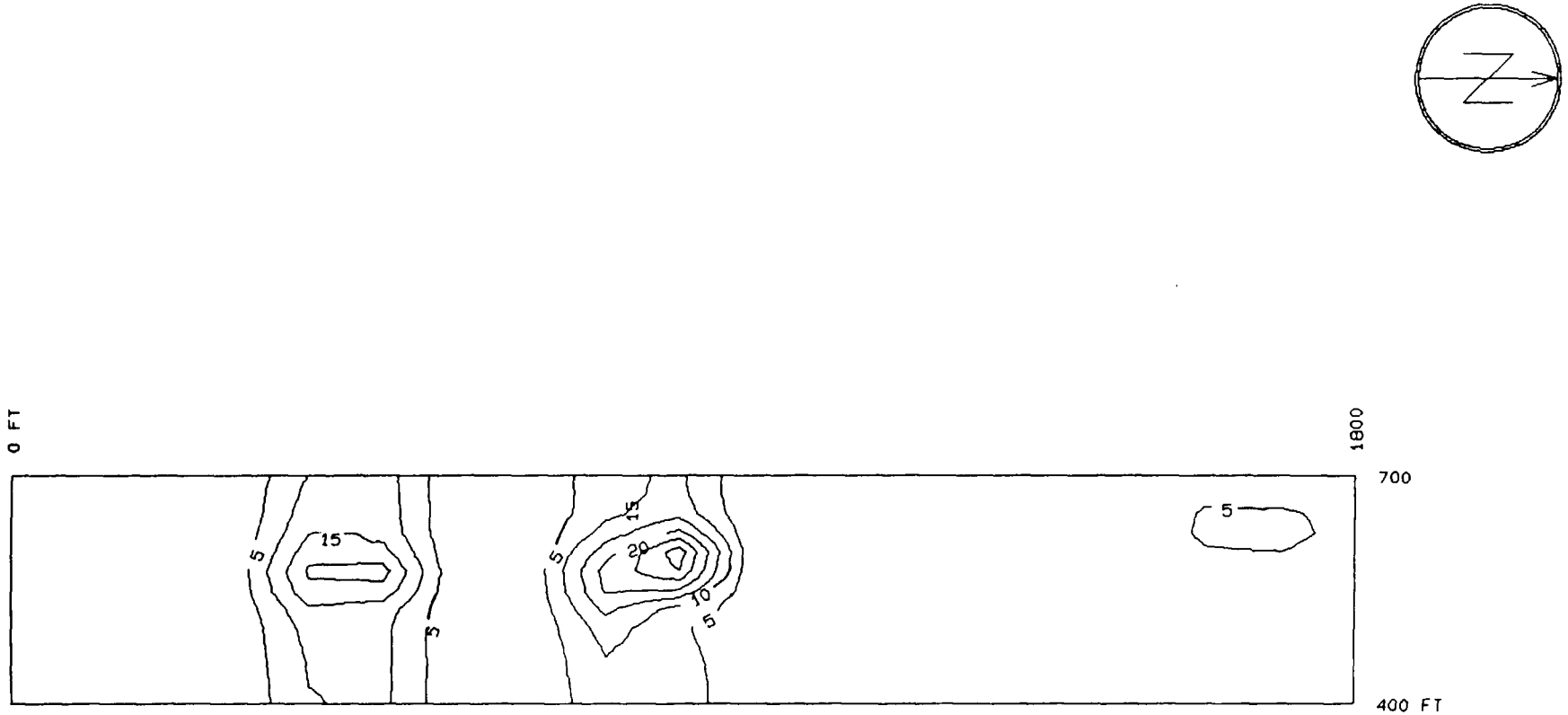


Cerro Copper Products:
Nickel Concentrations

X: Y, Z=4: 4: .5

THE AVENOT GROUP, INC.

Figure : 1 of 1



Cerro Copper Products:
Selenium Concentrations

THE AVENDT GROUP, INC.

Figure : 1 of 1

Characteristics of Hazardous Waste

Sample I.D.		Date	Ash (%)	Solids (%)	Alkalinity (%)	Cyanide Reactive (mg/kg)	Cyanide Total (mg/kg)	Flash Point (deg F)	pH	Sulfide (mg/kg)	Sulfide Reactive (mg/kg)	Total PCBs mg/kg	Observed Creek Sediment
A10	6-7	08/22		85.9								0	
A10	9-10	08/22		64.4								0	
A10	15-17	08/22	96.8	76.3	0.87	ND	ND	>200	7.9	ND	ND	.48	
A10	20-22	08/22		70.6								1.4	
A10	24-29	08/22		79.2								14.3	
A10	37-38	08/22		81.0								3.88	
A11A	8-13	07/19		71.9								0	
A11A	13-18	07/19		65.8								0	
A11B	4-8	07/18	96.8	72.6	0.12	ND	ND	>200	7.7	86.0	ND	.53	
A11B	8.1-10.6	07/18		57.3								.21	
A11B	12-17	07/18		76.9								.92	
A11C	2-6.5	07/18	99.7	72.6	ND	ND	ND	>200	7.6	ND	ND	55	
A11C	6.5-10.5	07/18		78.0								13	
A11C	12.5-16.5	07/18		83.7								1.3	
A11D	8-10	07/18	80.8	72.9	0.13	ND	2.5	>200	8.8	ND	ND	0	
A11D	18.5-23.5	07/18	98.5	82.2	0.13	ND	ND	>200	8.0	ND	ND	38	
A12A	8-11	07/19		74.2								0	
A12A	11-20.5	07/19		79.4								.067	
A12B	3-7	08/22	89.0	12.2	6.3	ND	1.6	>200	6.9	ND	ND	32	*
A12B	9-12	08/22		75.3								13.83	
A12B	14-17	08/22		80.6								0	
A12B	17-19	08/22		78.6								.27	
A12C	4-9	07/12	91.7	55.8	1.0	ND	ND	>200	6.2	ND	ND	0	*
A12C	10-13	07/12		78.5								0	
A12C	14-16	07/12		82.8								0	
A12D	6-13	07/18		76.2								530	
A12D	17-20	07/18	98.6	74.1	0.17	ND	ND	>200	7.9	ND	ND	101	
A12D	20-25	07/18		81.3								15.8	
A13A	9-14	07/20										0	
A13A	14-19	07/20										0	
A13A	19-20.5	07/20										0	
A13B	4.5-6	07/11	86.1	32.9	2.2	ND	5.8	>180	6.6	ND	ND	440	*
A13B	6-9.5	07/11		74.9								50	
A13B	9.5-12	07/11		81.6								2.25	
A13C	4-8.5	07/12	91.3	41.0	1.5	ND	ND	98 FLASHES	6.2	ND	ND	910	*
A13C	6-13	07/12		77.5								25.5	
A13C	13-16	07/12		83.1								0	
A13D	18-23	07/19	99.2	76.0	0.14	ND	ND	>200	7.7	ND	ND	1.3	
A14A	4-9	07/20										.099	
A14A	13.5-23.5	07/20										.062	
A14A	23.5-28.5	07/20										0	
A14B	4-8.5	07/11	94.3	59.9	1.1	ND	ND	>200	6.6	ND	ND	114	*
A14B	8.5-13	07/11		84.1								6.3	
A14C	4-8.5	07/11	87.2	23.1	2.7	ND	2.9	>180	6.0	ND	ND	540	*
A14C	8.5-10.5	07/11		59.1								2.22	
A14C	13.5-16.5	07/11		84.0								6.2	
A14D	10-14	07/12	95.8	79.9	0.68	ND	ND	>200	8.0	ND	ND	0	
A14D	15-19	07/12		77.1								0	
A14D	24-29	07/12		84.5								0	

Characteristics of Hazardous Waste

Sample I.D.		Date	Ash (%)	Solids (%)	Alkalinity (%)	Cyanide Reactive (mg/kg)	Cyanide Total (mg/kg)	Flash Point (deg F)	pH	Sulfide (mg/kg)	Sulfide Reactive (mg/kg)	Total PCBs	
A15A	9-14	07/20										0	
A15A	14-19	07/20										0	
A15A	19-24	07/20										0	
A15B	6-9	07/07	95.1	59.0	1.1	ND	ND	>200	7.9	ND	ND	3.7	
A15B	13-16	07/07		83.8								9	
A15B	16-19	07/07		79.6								0	
A15C	4.5-9	07/10	85.4	26.0	0.97	ND	1.8	>200	7.4	ND	ND	980	*
A15C	9.5-14.5	07/10		79.9								1.66	
A15C	14.5-17.5	07/10		82.3								17.3	
A15D	4-9	07/12	96.6	83.0	0.64	ND	ND	>200	8.5	ND	ND	0	
A15D	12-14	07/12		85.9								0	
A15D	19-24	07/12		81.2								0	
A15D	24-29	07/12		75.0								0	
A16A	9-14	07/20										0	
A16A	14-19	07/20										2.96	
A16A	24-29	07/20										0	
A16B	9-12	07/18	75.3	23.5	0.56	ND	19.2	>200	6.8	ND	ND	1600	*
A16B	14-19	07/18		74.7								5.4	
A16C	2-5	07/18	84.6	20.2	0.14	ND	5.8	>200	6.8	ND	ND	0	*
A16C	7-12	07/18		69.2								13	
A16C	12-17	07/18		79.7								1.55	
A16D	13-18	07/20										0	
A16D	18-23	07/20										.09	
A16D	23-31	07/20										0	
A16E	13-18	07/20										.81	
A16E	18-23	07/20										1.99	
A16E	25.5-28	07/20										.95	
A21B	1-6	08/22	80.6	40.3	2.1	ND	6.0	>200	7.0	1.7	ND	27	*
A21B	6-10	08/22		54.4								.2	
A21B	10-13	08/22		79.4								0	
A21C	4-8	07/14	87.7	23.2	4.2	ND	5.0	>200	7.2	ND	ND	30	*
A21C	8-11	07/14		72.9								0	
A21C	13-14.5	07/14		85.8								0	
A21D	4-9	07/10		82.8								.09	
A21D	9-14	07/10		78.1								.15	
A21D	14-19	07/10		69.6								0	
A22A	9-14	07/11		71.4								0	
A22A	19-22	07/11		79.4								0	
A22A	24-28	07/11		77.4								0	
A22B	0-7	08/22	97.4	72.9	0.88	ND	ND	>200	7.8	ND	ND	120	*
A22B	7-13	08/22		77.2								0	
A22C	3-9	08/22	94.9	70.4	1.1	ND	ND	>200	7.9	41.7	6.6	19	*
A22C	10-15	08/22		79.8								0	
A22D	4-9	07/11		80.7								12	
A22D	9-14	07/11		74.1								0	
A22D	24-27	07/11		84.8								0	
A23A	12-13	07/14		87.6								3.99	
A23A	13-19	07/14		74.0								6.9	
A23A	19-20	07/14	94.7	66.1	1.3	ND	ND	>200	8.6	9.4	ND	150	
A23A	21-23	07/14		83.8								1.6	

APPENDIX IX: VOLATILES TABLE

VOLATILES

APPENDIX D ORGANICS BY GC Mass Spec. pg 1

SAMPLE I.D. :	A11	A11B	A11C	A12B	A12C	A13B	A14C	A15B	A15C	A16B	A16C	A21C	A22B	A23A
DEPTH (ft) :	15-17	4-8	2-6.5	3-7	4-9	4.5-6	8.5-10	6-9	4.5-9	9-12	2-5	4-8	0-7	19-20
PARAMETERS														
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	1500	1500	1700	25000	5400	44[illegible]	2500	2300	6300	20000	30000	5800	3100	2100
Acetone	ND	BDL	BDL	BDL	4500	BDL	BDL	2300	12000	16000	BDL	BDL	BDL	2400
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	BDL	ND
1,2-Dichloroethene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	15000	ND	ND	1400	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	BDL	ND	ND	ND	ND	ND	ND	ND	ND	100000	BDL	ND	BDL	2100
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	ND	ND	ND
Trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	ND	ND	ND	ND	BDL	BDL	ND	ND	BDL	BDL	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	BDL	ND	BDL	BDL	ND	ND	ND	BDL	ND	ND	ND	5700
Chlorobenzene	BDL	BDL	BDL	BDL	4600	[illegible]	BDL	BDL	BDL	31000	24000	6100	BDL	18000
Ethylbenzene	1100	2900	ND	BDL	ND	BDL	ND	ND	ND	80000	50000	ND	BDL	BDL
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene(total)	ND	360	3500	ND	ND	BDL	ND	ND	ND	500000	240000	ND	ND	ND
Acrolein	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	BDL	ND	BDL	ND	ND	ND	ND	ND
Dichlorodifluoromethane	ND	ND	ND	ND	ND	[illegible]	ND	ND	ND	ND	ND	ND	ND	ND
Acetonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	BDL	BDL	ND	ND	BDL	BDL	BDL	BDL	BDL	ND	ND	BDL	BDL	ND
Propionitrile (Ethyl Cyanide)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Chloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methacrylonitrile	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isobutyl alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromoethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,4-Dichloro-2-butene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloro-1,3-Butadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

APPENDIX IX: SEMI-VOLATILES TABLE

Semi-Volatiles ppb.

SAMPLE I.D. :	A10	A11B	A11C	A12B	A12C	A13B	A14C	A15B	A15C	A16B	A16C	A21C	A22B	A23A
DEPTH (ft) :	15-17	4-8	2-6.5	3-7	4-9	4.5-6	8.5-10.	6-9	4.5-9	9-12	2-5	4-8	0-7	4-8
PARAMETERS														
Phenol	ND	BDL	ND	ND	ND	BDL	ND	ND	ND	610000	BDL	ND	ND	38000
bis(2-Chloroethyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ND	ND	ND	BDL	ND	5100	ND	BDL	BDL	BDL	BDL	ND	ND	ND
1,4-Dichlorobenzene	BDL	ND	BDL	58000	BDL	39000	730	1100	64000	390000	260000	BDL	BDL	BDL
Benzyl alcohol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	92000
1,2-Dichlorobenzene	BDL	ND	BDL	BDL	ND	12000	BDL	1100	74000	650000	360000	ND	ND	6100
2-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL
bis(2-Chloroisopropyl)ether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12000
N-Nitroso-Di-n-propylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isophorone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	55000
Benzoic acid	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	280000
bis(2-Chloroethoxy)methane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	ND	ND	8800	BDL	BDL	47000	ND	490	46000	160000	BDL	BDL	ND	9500
Naphthalene	BDL	ND	BDL	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	BDL
4-Chloroaniline	BDL	17000	9400	BDL	ND	ND	ND	ND	ND	ND	BDL	ND	ND	73000
Hexachlorobutadine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyridine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND
Ethyl methacrylate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Picoline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosomethylethylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl methanesulfonate	ND	ND	DN	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiethylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl methanesulfonate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL
Pentachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12000
N-Nitrosopyrrolidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetophenone	BDL	ND	BDL	ND	ND	24000	BDL	BDL	BDL	ND	BDL	ND	ND	BDL
N-Nitrosomorpholine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Toluidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosopiperidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
a,a-Dimethylphenethylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

p-Phenylenediamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitroso-di-n-butylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Safrole	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	ND	ND	19000	BDL	BDL	28000	ND	BDL	BDL	BDL	ND	ND	ND	ND
Isoafrole	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Naphthoquinone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dinitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorobenzene	ND	ND	13000	BDL	BDL	19000	BDL	BDL	28000	BDL	ND	ND	ND	ND
2,4,6-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dimethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethylphthalate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine (1)	BDL	ND	ND	ND	ND	ND	ND	BDL	BDL	ND	BDL	ND	ND	ND
4-Bromophenyl-phenylether	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	ND	ND	BDL	ND	ND	ND	ND	BDL	BDL	ND	ND	ND	ND	ND
Pentachlorophenol	BDL	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND
Phenanthrene	BDL	ND	BDL	BDL	ND	BDL	ND	ND	BDL	ND	BDL	BDL	BDL	BDL
Anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-Butylphthalate	BDL	BDL	BDL	ND	BDL	ND	ND	BDL	ND	ND	ND	ND	ND	BDL
Fluoranthene	ND	ND	BDL	BDL	BDL	BDL	ND	ND	ND	ND	BDL	BDL	ND	ND
Pyrene	ND	ND	BDL	BDL	ND	BDL	ND	ND	ND	ND	BDL	BDL	BDL	ND
Butylbenzylphthalate	ND	ND	ND	ND	ND	BDL	ND	BDL	BDL	BDL	100000	ND	ND	BDL
3,3'-Dichlorobenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	ND	BDL
bis(2-Ethylhexyl)phthalate	BDL	ND	ND	BDL	BDL	6200 B	190 JB	240 JB	11000	JBDL	ND	BDL	ND	20000
Di-n-Octyl phthalate	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	BDL	BDL	ND	ND
Benzo(b)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(g,h,i)perylene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1-Naphthylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Naphthylamine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	ND	ND	ND
1,3,5-Trinitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diallate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenacetin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diphenylamine	BDL	ND	ND	ND	ND	ND	ND	BDL	BDL	ND	BDL	ND	ND	ND
5-Nitro-o-toluidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

4-Aminobiphenyl	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pronamide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-sec-Butyl-4,6-dinitrophenol	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachloronitrobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroquinoline-1-oxide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methapyrilene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Aramite	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzilate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Dimethylaminoazobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dimethylbenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Aacetylaminofluorene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
7,12-Dimethylbenzidine	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorophene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Methylcholanthrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

** units : ug/kg **

TCLP DATA

TCLPs - Inorganic

Locations:	DCA-HB1	DCA-HB2
Parameters		
Silver	ND	ND
Arsenic	ND	.18
Barium	3.2	1.4
Cadmium	.056	.011
Chromium	ND	.042
Mercury	ND	ND
Lead	2.6	.093
Selenium	ND	ND

** units: mg/L (ppm)**

TCLPs - Organics

Locations:	DCA-HB1	DCA-HB2
Compound:		
2,4-Dichlorophenoxyacetic Acid	BDL	BDL
2,4,5-Trichlorophenoxy Propionic Acid	BDL	BDL
Pyridine	BDL	BDL

**units: UG/L (ppb) **

TCLPs- Volatiles by GC/MS

Locations:	DCA-HB1	DCA-HB2
PARAMETERS		
Chloromethane	BDL	BDL
Bromomethane	BDL	BDL
Vinyl Chloride	BDL	BDL
Chloroethane	BDL	BDL
Methylene Chloride	13 T	32 T
Acetone	200 T	460 T
Carbon Disulfide	BDL	BDL
1,1-Dichloroethene	BDL	BDL
1,1-Dichloroethane	BDL	BDL
1,2-Dichloroethene (total)	BDL	BDL
Chloroform	BDL	4 J
1,2-Dichloroethane	BDL	BDL
2-Butanone	8 J	34
1,1,1-Trichloroethane	BDL	BDL
Carbon Tetrachloride	BDL	BDL
Vinyl Acetate	BDL	BDL
Bromodichloromethane	BDL	BDL
1,2-Dichloropropane	2 TJ	BDL
cis-1,3-Dichloropropene	BDL	BDL
Trichloroethene	BDL	3 J
Dibromochloromethane	BDL	BDL
1,1,2-Trichloroethane	BDL	BDL
Benzene	BDL	4 J
Trans-1,3-Dichloropropene	BDL	BDL
Bromoform	BDL	BDL
4-Methyl-2-pentanone	68 T	66 T
2-Hexanone	BDL	15
Tetrachloroethene	BDL	BDL
1,1,2,2-Tetrachloroethane	BDL	BDL
Toluene	2 T	4 JT
Chlorobenzene	BDL	BDL
Ethylbenzene	3 J	25
Styrene	BDL	BDL
Xylene(total)	16	23
2-Chloroethylvinylether	BDL	BDL
Trichlorofluoromethane	BDL	BDL
Dichlorodifluoromethane	BDL	BDL
Bis(Chloromethyl)ether	BDL	BDL
1,1,1,2-Tetrachlorethane	BDL	BDL
1,2,3-Trichloropropane	BDL	BDL
Chloroacetaldehyde	BDL	BDL
1-Chlorohexane	BDL	BDL

**units: UG/L (ppb) **

TCLPs- Semivolatiles by GC/MS

PARAMETERS	DCA-H81	DCA-[illegible]
Phenol	BDL	BDL
bis(2-Chloroethyl)ether	BDL	BDL
2-Chlorophenol	BDL	BDL
1,3-Dichlorobenzene	3 J	16
1,4-Dichlorobenzene	47	24[illegible]
Benzyl Alcohol	BDL	BDL
1,2-Dichlorobenzene	8 J	7[illegible]
2-Methylphenol	BDL	BDL
bis(2-Chloroisopropyl)ether	BDL	BDL
4-Methylphenol	BDL	BDL
N-Nitroso-Di-n-propylamine	BDL	BDL
Hexachloroethane	BDL	BDL
Nitrobenzene	BDL	BDL
Isophorone	BDL	BDL
2-Nitrophenol	BDL	BDL
2,4-Dimethylphenol	BDL	BDL
Benzoic Acid	BDL	BDL
bis(2-Chloroethoxy)methane	BDL	BDL
2,4-Dichlorophenol	BDL	[illegible] J
1,2,4-Trichlorobenzene	9 J	5[illegible]
Naphthalene	13	[illegible] J
4-Chloroaniline	2 J	[illegible] J
Hexachlorobutadiene	BDL	BDL
4-Chloro-3 methylphenol	BDL	BDL
2-Methylnaphthalene	8 J	BDL
Hexachlorocyclopentadiene	BDL	BDL
2,4,6-Trichlorophenol	BDL	BDL
2,4,5-Trichlorophenol	BDL	BDL
2-Chloronaphthalene	BDL	BDL
2-Nitroaniline	BDL	BDL
Dimethylphthalate	BDL	BDL
Acenaphthylene	.9 J	BDL
2,6-Dinitrotoluene	BDL	BDL
3-Nitroaniline	BDL	BDL
Acenaphthene	BDL	BDL
2,4-Dinitrophenol	BDL	BDL
4-Nitrophenol	BDL	BDL
Dibenzofuran	BDL	BDL
2,4-Dinitrotoluene	BDL	BDL
Diethylphthalate	BDL	BDL
4-Chlorophenyl-phenylether	BDL	BDL
Fluorene	BDL	BDL
4-Nitroaniline	BDL	BDL
4,6-Dinitro-2-methylphenol	BDL	BDL
N-Nitrosodiphenylamine (1)	BDL	BDL
4-Bromophenyl-phenylether	BDL	BDL

Hexachlorobenzene	BDL	BDL
Pentachlorophenol	BDL	BDL
Phenanthrene	2 J	BDL
Anthracene	BDL	BDL
Di-n-Butylphthalate	BDL	BDL
Fluoranthene	BDL	BDL
Pyrene	BDL	BDL
Butylbenzylphthalate	BDL	BDL
3,3'-Dichlorobenzidine	BDL	BDL
Benzo(a)anthracene	BDL	BDL
Chrysene	BDL	BDL
Bis(2-Ethylhexyl)phthalate	12 5	8 JB
Di-n-octyl phthalate	BDL	BDL
Benzo(b)fluoranthene	BDL	BDL
Benzo(k)fluoranthene	BDL	BDL
Benzo(a)pyrene	BDL	BDL
Indeno(1,2,3-cd)pyrene	BDL	BDL
Dibenzo(a,h)anthracene	BDL	BDL
Benzo(g,h,i)perylene	BDL	BDL
2-Chlorotoluene	BDL	BDL
4-Chlorotoluene	BDL	BDL

Units: ug/l (ppb)

TCLPs - Pesticide/PCBs by GC

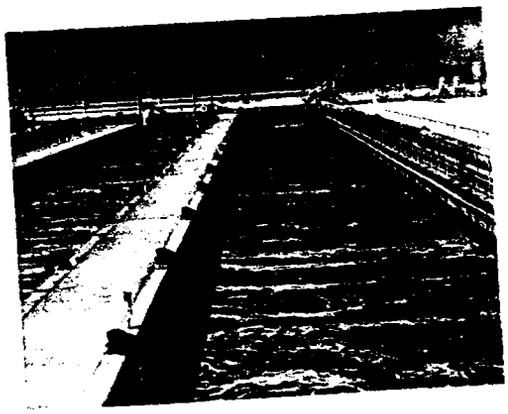
Locations:	DCA-HB1	[illegible]
Compound:		
Alpha-BHC	BDL	[illegible]
Beta-BHC	.034 J	[illegible]
Delta-BHC	.011 J	[illegible]
Gamma-BHC (Lindane)	BDL	[illegible]
Heptachlor	BDL	[illegible]
Aldrin	BDL	[illegible]
Heptachlor epoxide	BDL	[illegible]
Endosulfan I	BDL	[illegible]
Dieldrin	BDL	[illegible]
4,4'-DDE	BDL	[illegible]
Endrin	BDL	[illegible]
Endosulfan II	BDL	[illegible]
4,4'-DDD	BDL	[illegible]
Endosulfan sulfate	BDL	[illegible]
4,4'-DDT	BDL	[illegible]
Methoxychlor	BDL	[illegible]
Endrin Ketone	BDL	[illegible]
alpha-Chlordane	BDL	[illegible]
gamma-Chlordane	BDL	[illegible]
Toxaphene	BDL	[illegible]
Endrin aldehyde	BDL	[illegible]
Aroclor-1016	BDL	[illegible]
Aroclor-1221	BDL	[illegible]
Aroclor-1232	BDL	[illegible]
Aroclor-1242	BDL	[illegible]
Aroclor-1248	BDL	[illegible]
Aroclor-1254	BDL	[illegible]
Aroclor-1260	BDL	[illegible]

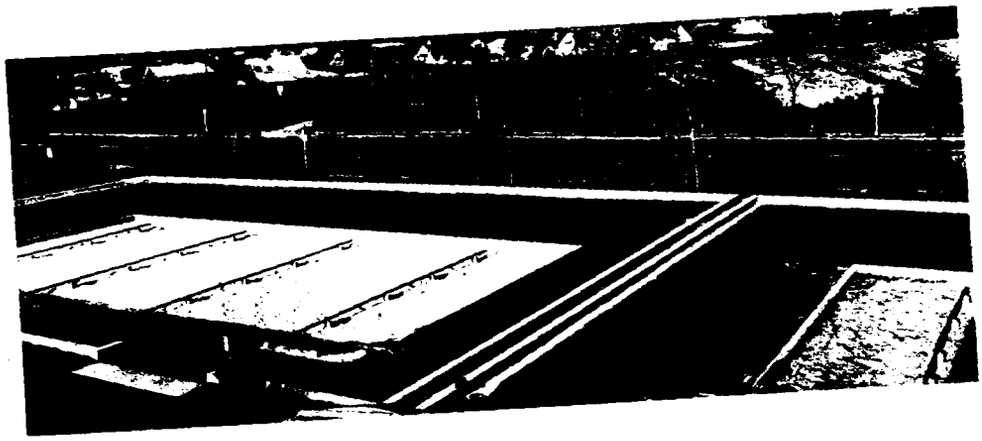
units: UG/L (ppb)

OPERATIONS DIVISION

O/M Cost Reduction

The operating and maintenance costs associated with water, wastewater and solid wastes management reflect continuing increases in labor, energy and materials. A thorough review and projection of O/M costs by the Avendt Group's experienced administrative and operations personnel can identify cost areas where reductions are warranted. Assisting in budget preparation, developing maintenance programs, determining spare parts inventories and performing energy audits are additional services that the firm can provide.



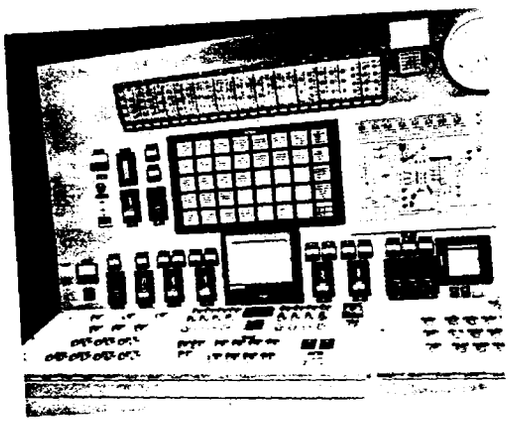


Technical Support

A recognized staff of experts in all engineering specialties including civil, environmental, chemical, electrical, mechanical and control instrumentation is available to provide technical support to clients involved with water and wastes management. Additional technical expertise of agronomists, biologists, chemists, hydrogeologists, planners and estimators is available to complement technical programs, acquire permits and complete the most demanding environmental engineering projects.

Training Program

Avendt Group, Inc. has extensive project experience in the development of plant operating personnel organizations, operator training programs, preventive maintenance work schedules, and continuing operational assistance. Training is conducted both in the classroom and in the field to assure that the proper operating procedures can be demonstrated using available process controls. The firm is a leader in the application of computerized process control, data logging and on-site monitoring of remote facilities.



Diagnostic Evaluations

The hands-on experience of our professional staff assures effective resolution of difficult water, wastewater and solid wastes problems. In-plant process modifications and improvements necessary to meet budgets and regulatory agency requirements are provided with design and operating criteria specifically tailored on an individual basis.

Regulatory Compliance Programs

The increasing emphasis on higher degrees of waste management and environmental protection is in direct response to federal legislation. Knowledge of these regulations combined with practical experience in reducing capital and operating expenses allows the Avendt Group, Inc. to provide cost-effective compliance programs for municipal and industrial clients. Site assessments and audits, environmental sampling, waste characterization studies, and permit application preparation are also provided to clients to supplement regulatory compliance programs.