PHASE 2

SOIL SAMPLING PROGRAM
FOR
CERRO CONDUIT COMPANY

Submitted to:

New York State Department
of Environmental Conservation
SUNY, Building 40
Stony Brook, NY 11794

Prepared by:

Cerro Conduit Company
39 S. LaSalle Street
Chicago, IL 60603

AVENDT GROUP, INC.
1906 Forest Drive
Annapolis, MD 21401

November 1987

THE AVENDT GROUP, INC.
ENGINEERS & SCIENTISTS

November 2, 1987

Mr. Rocky J. Piaggione
NYSDEC
Division of Environmental Enforcement
202 Mamaroneck Avenue, Room 304
White Plains, NY 10601-5381

Re: Phase 2 Soil Sampling Program
Cerro Conduit Company, Syosset, NY

Dear Mr. Piaggione:

Enclosed please find two copies of the Phase 2 Soil Sampling Program for Cerro Conduit, as requested by the September 15, 1987 memorandum from Mr. Anthony Candela to yourself. Cerro Conduit received the copy of the comments on October 7, 1987, which requested that Cerro submit a work plan for the performance of the additional sampling effort within 30 days. The additional sampling effort, which we have termed Phase 2, is outlined in the enclosed report and has been submitted to you within the 30-day limitation for approval.

Cerro will not commence performance of the additional sampling effort until we have received written approval of the program from your office to avoid any confusion over the plan's acceptability. Should you have any questions or require additional information, please call me at your convenience. We look forward to your approval of this sampling program.

Very truly yours,

AVENDT GROUP, INC.

Pamela F. Gratton

Pamela F. Gratton
Sr. Environmental Scientist

PFG/pam
Enclosure

cc: Anthony Candela
Robert W. Webb
Gerald T. Shannon
Robert D. Chesler

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PHASE 2

CERRO CONDUIT COMPANY
SOIL SAMPLING PROGRAM

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SECTION 1.0
INTRODUCTION

1.1 Purpose

The Phase 2 Soil Sampling Program for the Cerro Conduit Company facility, located in Syosset, New York (Nassau County, Long Island) was prepared in response to comments prepared by the NYSDEC to the Phase 1 Soil Sampling Program performed at the facility on March 12-14 and March 19 and 20, 1987. The Phase 1 Soil Sampling Program was performed in response to a New York Department of Environmental Conservation (NYSDEC or DEC) administrative decision to request performance of comprehensive soil sampling at the facility. The Phase 1 Soil Sampling Program was developed to investigate the potential for soil contamination which may have occurred during facility operations at Cerro. The Phase 2 investigation will focus on further identification of potential contamination at the facility by performing the soil borings requested by Mr. Anthony Candela in his memorandum to Mr. Rocky Piaggione, dated September 15, 1987.

1.2 General Methodology

NYSDEC has reviewed the Soil Sampling Program Report for Cerro Conduit that was submitted in July 1987. This report detailed all work tasks which were performed to collect 78 shallow-depth soil samples throughout the property and 16 soil borings taken around the three clarifiers and the copper pond. This report also presented the analytical results from the program which were performed by H2M Laboratories, Melville, NY. Based on the analytical results for the samples, the NYSDEC has requested the resampling of 16 of the shallow-depth soil samples and to perform an additional 5 borings in the 3 dry basins, which were originally requested to be performed by Sy Associates.

Figure 1 depicts the locations for the requested soil samples; the sample locations on this map were noted by NYSDEC.

All soil samples will be analyzed by one of the three following laboratories, Ecotest, Nytest or Century Laboratories. All samples will be analyzed using DEC Contract Laboratory Program (CLP) Protocol for the following parameters:

BORINGS
6' depth
A019
A031
A057
A061
A064
A071

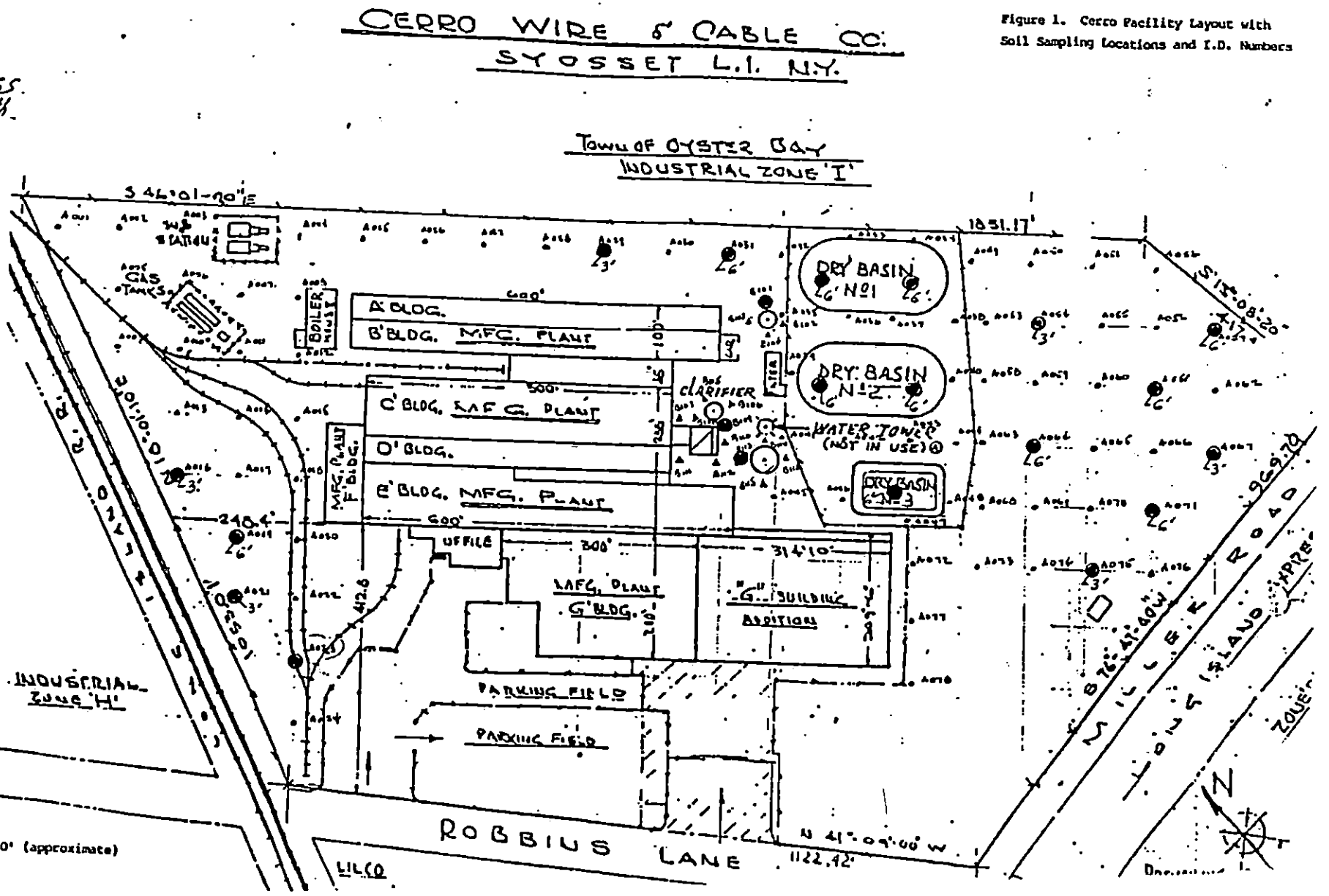

Figure 1. Cerro Facility Layout with Soil Sampling Locations and I.D. Numbers

Arsenic	Cadmium	Silver
Lead	Zinc	Iron
Copper	Selenium	Cyanide
Barium	Chromium (total)	

Soil samples will be analyzed for both total metals and by utilizing the EP toxicity procedure (except for cyanide). Both analytical techniques will be used to prevent any confusion regarding the most applicable analytical techniques which occurred during Phase 1 Soil Sampling. All parameters and analytical techniques selected were chosen by Mr. Anthony Candela, Senior Engineer, DEC, Stony Brook.

SECTION 2.0
SAMPLING PROTOCOL

2.1 Sampling Techniques

Soil samples will be collected by soil borings using a split spoon sampler. Borings will be made to the specified depth identified in Mr. Candela's September 15th letter, which is attached to this plan for reference. All soil boring will be performed by Soil Mechanics, Seaford, NY. All depths at which samples are taken will be recorded in the daily field log and the sample/core logs.

Proper use of the split spoon sampler and field sampling techniques will be utilized by field personnel involved in sample collection. Field personnel were trained in use of the equipment and associated sampling procedures prior to field implementation. Details of equipment to be utilized and a description of the sampling procedure are outlined below.

Sampling Equipment for Soil Boring

2 to 3 Split Spoon Samplers
Liquinox or Alconox Laboratory Cleaner
Brushes, Plastic Buckets, Paper Towels
Distilled Water
Surveyors Stakes and Tape
Plastic Sheeting, Plastic Bags
Surgical or Plastic Gloves
Prelabeled Sample Containers, Chain of Custody Seals,
Beverage Coolers, Ice, Thermometer

Procedure for Split Spoon Sampling by Soil Boring

1. Wear gloves and change gloves every 10 samples to avoid cross contamination of samples.
2. Prepare laboratory cleaner solution with distilled water in plastic bucket.
3. Disassemble sampler and immerse parts in detergent solution and scrub with plastic brushes to remove soil and dirt.
4. Place scrubbed parts in clean plastic bucket and flush with distilled water. Empty bucket and flush again. Repeat as necessary to remove all residue from equipment. Collect one sample of rinsewater each day of sampling for analysis as part

of QA/QC efforts.

5. Dry all parts with paper towels and reassemble on plastic sheeting for next use. Store in plastic bag if not used immediately.
6. Mark sampling site with stake and surveyors tape. Surveyors stake will be marked with site location i.d. number in indelible ink.
7. Transfer the sampler to the driller (or helper); be sure that this person also wears clean gloves. Split spoon samplers will be in good condition, i.e., exhibiting no rust and free of lubricants, greases and oils.
8. The sample will then be collected by the driller using the standard penetration test.
9. Obtain the sampler from the driller and place it on plastic sheeting.
10. Unscrew the end cap and break the spoon open to expose the sample.
11. Using only the spatula, cut off the top 2-3 inches of sample and discard; transfer an appropriate portion to the prelabeled sample container. Fill the container as completely as possible.
12. Record sample location i.d. number, date and time on sample label and cover with transparent tape. Brush off container and store in cooler with ice at 4° C.
13. Complete sample/core log including depth of boring, chain of custody form and daily field log.
14. Deliver samples to the laboratory and obtain signature on chain of custody form.

Additionally, all samples will be placed in clean containers prepared by the analytical laboratory selected in accordance with DEC CLP Protocol Methods and prelabelled with items 1 and 3, 5, 7 and 8 listed below prior to going into the field. The balance of the information will be filled out in the field.

1. Name of sampler and company affiliation
2. Date and time of sampling
3. Name sampling site (code will be assigned to maintain confidentiality)
4. Sample location i.d. number
5. Type of sample (composite)
6. Sample volume
7. Required analysis
8. Preservative (if any)

Chain of custody seals will be placed on sample jars in a manner in which the seal must be broken to remove the contents of the jar. Chain of custody seals will contain the following information and will be completed in the field:

1. Name of sampler and company affiliation
2. Date and time of sampling
3. Name of sampling site
4. Sample location i.d. number (identical to the i.d. number on the sample label)

2.2 Field QA/QC Procedures

Several critical QA/QC procedures will be associated with this sampling program namely: chain of custody documentation, daily field log notes, sample/core log notes, sample analysis request documentation and analysis of field duplicates/spikes and rinsewater from cleaning equipment. The chain of custody control will be documented by the use of chain of custody seals and forms which identify the persons in possession of and responsible for the samples from the time they are collected until the time they are analyzed. The daily field log will be completed daily to record an individual's daily sampling activities and to note any unusual conditions should they be encountered. The sample/core log records details of all boring activities. Sample analysis request forms will also be used to submit samples collected for analysis. Samples taken during the soil sampling program at Cerro will be delivered the same working day. Duplicate samples will be collected for analysis and spikes will be prepared from field samples and analyzed. Rinsewater generated through equipment cleaning will be sampled for analysis to ensure proper equipment decontamination.

Chain of Custody

A copy of a chain of custody form to be used to document the possession of soil samples is shown on the next page. This form reiterates all information on the sample label and chain of custody seals and serves as a record of persons in control of and responsible for samples from the time they are taken until the time they are analyzed. The form provides a space for the laboratory to enter its identification number for the incoming sample. Sample location i.d. numbers assigned in the field and laboratory i.d. numbers will be cross-referenced; a master cross-reference list will be generated so that samples may be identified by either number. Both numbers will be used in conjunction with the sample location map as a permanent record of samples taken at specific locations. Upon sample delivery to the laboratory, the laboratory personnel

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
SAMPLERS: *(Signature)*	

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS							REMARKS

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

responsible for receiving the samples will add the laboratory identification numbers at that time.

After collecting a sample, the container will be marked immediately with all appropriate information, the label will be covered with transparent tape, and placed inside the beverage cooler. The cooler will be in the view and possession of the designated sampler at all times. The cooler will be secured, locked in a vehicle to which no one else has access, during any breaks for the sampling crew. At the end of the work day, the samples will be delivered to the lab, the designated sampler will sign and date the chain of custody form and relinquish custody of the samples to the designated laboratory personnel, who will sign and date the chain of custody form.

Daily Field Log

Notations will be made daily in a field log to be kept by the designated sampler. At a minimum, the field log will contain the following information:

Sample date
Weather observations
Identification of samples collected during the morning/afternoon session
Documentation of field equipment cleaning procedures
Any unusual sampling circumstances
Field diagram of sample locations

The field log will be archived as permanent documentation of field sampling procedures performed as a portion of the soil sampling program.

Sample/Core Logs

All soil boring activities will be recorded on a daily sample/core log which is shown on the next page. This log tracks all details of each boring including depth and diameter of the boring and a description of the core itself. One sample/core log will be completed for each of the borings as a permanent record of drilling activities and will be archived as documentation of soil boring efforts.

Sample Analysis Request Forms

Sample analysis request forms will be completed for each delivery of samples to the laboratory. The request form will permanently document the date of delivery to the

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1906 Forest Drive
Annapolis, MD 21401
(301) 261-1177

SAMPLE/CORE LOG

Boring/Well _____ Project/No. _____ Page _____ of _____

Site Location _____ Drilling Started _____ Drilling Completed _____

Total Depth Drilled _____ (feet)

Hole Diameter _____ (inches) Type of Sample/ Coring Device _____

Length and Diameter of Coring Device _____ Sampling Interval _____ feet

Drilling Fluid Used _____ Drilling Method _____

Drilling Contractor _____ Driller _____ Helper _____

Prepared By _____ Hammer Weight _____ Hammer Drop _____ inches

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description

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SAMPLE/CORE LOG (Cont.d)

Boring/Well _____ Page _____ of _____

Prepared By _____

Sample/Core Depth (feet below land surface) From	To	Core Recovery (feet)	Time/Hydraulic Pressure or Blows per 6 inches	Sample/Core Description

lab and the analyses requested to be performed for each of the samples. The form will contain the following information:

1. Name of sampler and company affiliation, including address and phone number.
2. Date and time of sampling.
3. Location of sampling site (code will be assigned to maintain confidentiality).
4. Sample location i.d. number and laboratory i.d. number (to be added by designated laboratory personnel).
5. Type of sample.
6. Pertinent field information (if any).
7. Analysis requested for each sample.

Duplicate, Spikes and Rinsewater Analysis

Two duplicate samples will be collected for analysis during the Phase 2 sampling program. Sample locations for the two duplicates will be selected prior to sampling program initiation. Sample locations where duplicates are collected will be noted in the daily field log and the sample/core log. Duplicate sample i.d. numbers will be preceded with the letter "D" and will be cross-referenced to the sample location i.d. number, designating the location of sample collection. Duplicate sample i.d. numbers will be added to the master cross-reference list generated during the chain of custody control tasks.

Spiked samples will be prepared by the selected laboratory from a set of field samples. A known quantity of a particular analyte will be added to the sample and then analyzed. Since the quantity which was added is known, the precision and accuracy of analytical techniques and equipment can be measured. The spiked sample i.d. numbers will be added to the master cross-reference list.

One rinsewater sample will be collected each day during the sampling program (estimated 2 samples for 2 days sampling effort). Rinsewater samples will be analyzed for the identical parameters as the soil samples. The purpose of collection and analysis of rinsewater will be to determine the effectiveness of equipment decontamination procedures to ensure the elimination of potential cross-contamination effects. Rinsewater samples will be collected from the final rinse of equipment from two boring sites. These samples will be keyed to the sample location i.d. number to record the site where the sample is to be collected and added to the master cross-

reference list. All chain of custody control procedures and analytical procedures will be used for rinsewater samples.

2.3 Worker Safety

A thorough investigation of past practices was performed to identify the types and characteristics of any potential contamination which may be found at Cerro to determine any potential worker health and safety hazards. As a manufacturer of copper wire, the contaminants which have the greatest potential of being discovered at Cerro are metals, mainly copper. Due to the existence of the cyanide plating line at the facility, this compound is also of concern.

Cerro has never used the site for the landfilling of municipal solid wastes; therefore, the potential for methane generation has been judged to be negligible. As the site is not a disposal facility and was never used for drum or container burial, it is unlikely that any drums with unknown contents will be encountered. Locations of all tanks and all appurtenant piping are known. Those areas are identified on facility mapping and will be avoided during soil auguring efforts. No acids will be used for equipment cleaning which greatly reduces or eliminates the potential for formation of cyanide gas. Cerro has never used any organic chemicals in their manufacturing process nor any acutely hazardous or toxic chemicals at the site. Therefore, the potential for human exposure, through air or ingestion, to any of these types of compounds approaches zero.

Hardhats, plastic gloves and rubber boots will be used as protective equipment during sampling procedures. This level of protective equipment is adjudged to be sufficient for soil sampling procedures at Cerro due to the nature of on-site soils (sand) and the absence of any indication of severely hazardous or toxic compounds.

The selected laboratory will be apprised of the nature of the soil samples to be collected, i.e., they may contain cyanide. Any analytical technique which involves the addition of an acid will be performed using a ventilation hood.

SECTION 3.0

SOIL ANALYSIS

3.1 Parameters and Analytical Methods

Eleven parameters were selected for analysis of the 16 soil samples and are identified in Table 1 below. Parameters were selected for analysis by Mr. Tony Candela, Senior Engineer with DEC in Stony Brook. Table 1 also identifies holding times and preservation methods for all soil samples.

Table 1

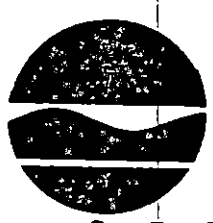
Cerro Soil Samples Analytical Parameters

Parameter	Holding Time	Preservation
Arsenic	14 days until extraction, 40 days after extraction	Cool to 4° C
Barium	14 days until extraction, 40 days after extraction	Cool to 4° C
Cadmium	14 days until extraction, 40 days after extraction	Cool to 4° C
Chromium (Total)	14 days until extraction, 40 days after extraction	Cool to 4° C
Copper	14 days until extraction, 40 days after extraction	Cool to 4° C
Cyanide	14 days until extraction, 40 days after extraction	Cool to 4° C
Iron	14 days until extraction, 40 days after extraction	Cool to 4° C
Lead	14 days until extraction, 40 days after extraction	Cool to 4° C
Selenium	14 days until extraction, 40 days after extraction	Cool to 4° C
Silver	14 days until extraction, 40 days after extraction	Cool to 4° C
Zinc	14 days until extraction, 40 days after extraction	Cool to 4° C

3.2 Laboratory QA/QC

Once a laboratory is selected to perform the required analytical work, a copy of the laboratory's QA/QC program will be sent to NYSDEC for review. All three of the laboratories are fully acquainted with NYSDEC CLP protocol; therefore, the QA/QC program in effect in these laboratories should supply the necessary level of required QA/QC.

New York State Department of Environmental Conservation
Div. of Environmental Enforcement
202 Mamaroneck Ave., Room 304
White Plains, N.Y. 10601-5381
Tel#(914)761-6660



Thomas C. Jorlin
Commissioner

October 6, 1987

Robert Chesler, Esq.
Lowenstein, Sandler, Kohl
Fisher and Boylan
65 Livingston Avenue
Roseland, New Jersey 07068

Re: Cerro Conduit
Site# 1-30-002

Dear Mr. Chesler:

If you have not received them directly, enclosed are the comments I have received regarding the soil sampling information submitted by the Advendt Group.

Please have the additional Work Plan proposal submitted within thirty days of receipt of this letter.

Very truly yours,

Rocky J. Piaggione
Assistant Counsel

RJP/jl
Enclosure
cc: A. Candela
John Vaneria, Esq.

15 (12/75)

New York State Department of Environmental Conservation

MEMORANDUM

TO: Rocky Piaggione
FROM: Anthony Candela
SUBJECT: CERRO CONDUIT - SOIL SAMPLING REPORT (AVENDT GROUP)

SEP 17 '87

DATE: September 15, 1987

We have reviewed the "Soil Sampling Program Report" for Cerra Conduit Company and have the following comments:

1. The soil sampling results were obtained using the extraction method rather than total digestion which gives total metal concentration (DEC protcol is for total metals).

2. Some duplicate sampling results in the "Analytical Data Report Package" were omitted from Table 2 - Soil Sampling Program results, in particular, Sample No. A-023 which indicated lead to be 240 ppm.

3. Aerial photos showing the soil sampling grid layout shows 5 soil borings by SY Associates. The site protocol between NYSDEC and Sy Associates only requires the installation of 4 wells. (Therefore, it will be necessary for the Avendt Group to do these 5 soil borings.)

SUMMARY

Recommend resampling of 16 points plus the 5 locations that were indicated for SY Associates.

Resampling (Ref. Figure I)

Location	Depth	Location	Depth
A-016	3 ft.	A-057	6 ft.
A-019	6 "	A-061	6 "
A-021	3 "	A-064	6 "
A-023	6 "	A-067	3 "
A-029	3 "	A-071	6 "
A-031	6 "	A-075	3 "
A-054	3 "	B-101	5 " below
		B-109	5 " structure
		B-113	5 " " "

SEP 17 '87

New Points (See Fig. I)

Basin No. 1 - 2 borings @ 6 ft.
Basin No. 2 - 2 borings @ 6 ft.
Basin No. 3 - 1 boring @ 6 ft.

Anthony Candela
Senior Sanitary Engineer

AC:cp