CERRO CONDUIT COMPANY
DECOMMISSIONING PROGRAM REPORT

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1.0 INTRODUCTION

1.1 Purpose

This Decommissioning Program Report (DPR) was prepared in response to the New York State Department of Environmental Conservation's (DEC) request to prepare a closure plan for the Cerro Conduit Company's manufacturing facility located in Syosset, Nassau County, New York. Through a series of meetings with DEC representatives, the decision was made to prepare a DPR in lieu of a closure plan. Closure plans are normally only required for treatment, storage and disposal (TSD) facilities. Although Cerro Conduit was a generator of a delisted F006 waste (ID No. NYD092363431), Cerro was not classified as a treatment, storage or disposal facility in New York State according to Mr. Robert Haggerty, Acting Supervisor, Permits Section, NYSDEC, Albany, New York. In addition, none of the regulations pertaining to TSD facilities were ever applied or enforced concerning Cerro.

The DPR addresses all requirements of the closure plan outline that was given to Cerro's representative by Mr. Robert Becherer, P.E., Regional Hazardous Waste Engineer with DEC and Project Manager overseeing the Cerro Decommissioning Project, at an agency meeting on December 17, 1986. The outline was entitled "Closure Plan for a Container Storage Area and/or Tank Storage Facility" and was dated December 19, 1985. The DPR addresses all requirements of the closure plan outline while it also provides additional information regarding the disposition of removed materials and equipment.

The DPR documents all procedures utilized to perform decommissioning activities at Cerro Conduit Company. Cerro Conduit Company phased out all manufacturing of conduit and wire products during the period October 7 to November 26, 1986. Decommissioning efforts were initiated on October 7, 1986 and were completed by the end of June 1987. Equipment and structures associated with each of the processes used in manufacturing at Cerro have been cleaned of residuals and any salvageable and waste materials have been salvaged or disposed of according to New York State and Federal regulations. The DPR tracks all materials removed from the facility to their final salvage or disposal scenario.

1.2 Background Information

The EPA solid and hazardous waste regulations promulgated in 1980 listed certain types of wastewater treatment sludges which are classified as hazardous, unless delisted by the Agency. Cerro's waste met the criteria for EPA Hazardous Waste F006 based on the definition published in 40 CFR 261.31; therefore, Cerro's waste was classified in 1980 as hazardous.

In response to the above regulation, Cerro petitioned the EPA to delist their waste on the basis that their waste did not meet the criteria for which it was listed originally (toxicity). Cerro prepared a delisting petition according to regulations in 40 CFR Part 260.22. Based upon Agency review of the petition, Cerro was granted a temporary exclusion in March 1981 (46 FR 61287) for their waste due to the low migration potential of the constituents of concern.

In response to the Hazardous and Solid Waste Amendments (HSWA) of 1984, the EPA was required to consider factors other than those for which the waste was originally listed. In 1986, the Agency re-evaluated Cerro's petition and determined that a final, permanent delisting would not be granted. This notice was published on October 21, 1986 (51 FR 37299) and became effective in six months on April 21, 1987.

All of Cerro's metal hydroxide sludge was removed and disposed of prior to April 21, 1987 under the temporary exclusion status of a delisted sludge.

2.0 FACILITY CONDITION

2.1 Facility Description

Cerro Conduit Company is located in the northeast section of Nassau County on Long Island. As shown in Figure 1, Site Location and Facility Layout, Cerro is bounded by Miller Road to the south, Robbins Lane to the west, Long Island Railroad to the north, and the Town of Oyster Bay Public Works Facility to the east. All surface features and contours can be identified on Figure 2, Aerial Photograph of Cerro Conduit (Figure 2 is located in the map pockets at the end of this report). The facility occupied a site of approximately 39 acres. The soil in the area is typically a coarse sand. The surrounding land use is industrial in nature immediately surrounding the facility with residential land use occurring within one-half mile of the facility. The facility is comprised of seven manufacturing buildings and a boiler house. The following list identifies Cerro's buildings and the manufacturing processes contained within:

Building A - Steel Strip Plating Line

Building B - Flattening Mill

Building C - Copper Rod Mill

Building D - Copper Pickling Line

Building E - Electro Metallic Tubing (EMT) Plater, 60 in. coil slittler, and Tube Mills No. 1 and 2

Building F - Copper Wire Machinery and Ribbon Slitter (Yoder Slitter)

Building G - Intermediate Metallic Conduit (IMC) Plater and Tube Mill No. 3.

2.1.1 Site Layout

The seven manufacturing buildings occupy the central portion of the facility grounds. These buildings are interconnected and serviced by truck access from the west via Robbins Lane. Rail access is available on the northern side of the facility via a spur from the Long Island Railroad but has not been used for any recent operations. All manufacturing operations took place inside the facility buildings.

Figure 3, Internal Arrangement of Manufacturing Facilities, illustrates the pre-decommissioning layout of the internal facility equipment, external storage tanks, and waste treatment systems. This figure also indicates which items were cleaned and

abandoned in place, sold, or removed by the demolition contractor as scrap. Figure 4 is the legend which accompanies Figure 3 and identifies all equipment with a description and an Item Number. The Item Numbers on Figure 4 correspond to the numbers on individual pieces of equipment represented on Figure 3. (Figures 3 and 4 are located at the end of this report in the map pockets.)

2.1.2 Manufacturing Operations

Cerro manufactured steel electrical conduits, hot rolled copper rods and steel strip for use by the construction industry. The steel electrical conduits and steel strips were fabricated from unfinished low carbon steel coils; the hot rolled copper rod was fabricated from copper wire bar. Cerro's manufacturing processes involved caustic cleaning, acid pickling, acid zinc/cyanide zinc electroplating, and rinsing.

Generally, most of the facility manufacturing operations proceeded sequentially with raw materials being introduced at one end of a building and finished intermediates and products being taken from the opposite end. Most bulk, dry, nonhazardous materials and finished products were stored in Building G. In all manufacturing processes, all liquid wastes and discarded process waters flowed into the wastewater pretreatment system at the southern end of the facility buildings.

2.1.3 Waste Treatment Processes

Wastes generated by Cerro's manufacturing operations are of three general types:

- sludges derived from treatment of process waters and wastewaters;
- pretreated wastewaters; and
- nonhazardous solid wastes and off-spec materials.

The largest volume of waste produced by Cerro's manufacturing process was the sludge derived from treatment of the various process waters and wastewaters. This process which generated sludge is described below. The facility generated an approximate maximum of 3,000 tons of sludge per year while in operation.

The process waters consisted of cooling water from the copper rod mill, the heat exchanger hydraulic system, various heat exchangers in rinse and plating tanks throughout the facility and boiler make-up water. These cooling waters were used as make-up water for the pickling, plating and rinse tanks in the manufacturing process.

The boilers operated as a closed loop system with an approximate 5 gallon-per-minute boiler blowdown to prevent build up of impurities. This boiler blowdown was discharged with the process wastewaters to the on-site wastewater pretreatment system.

The wastewaters were derived from the pickling tanks, plating tanks, brightening tanks and rinse tanks in the various manufacturing processes. These manufacturing processes involved caustic cleaning, acid pickling, acid-zinc/cyanide-zinc electroplating, and rinsing. The cyanide wastewater was initially treated with caustic and chlorine in a treatment tank to destroy the cyanide. The effluent from the cyanide treatment system was then mixed with the non-cyanide wastewaters and flowed to a second treatment system where lime and polyelectrolyte polymers were added for pH adjustment and metal flocculation. After mixing, the chemically treated wastewater flowed to one of two clarifiers (designated as A and D, respectively) for the precipitation of a metal hydroxide sludge. This sludge was then dewatered with a rotary vacuum filter and disposed of at an off-site industrial landfill. The effluent was discharged to a publicly-owned treatment works in accordance with Cerro's pretreatment permit requirements imposed by the Nassau County Department of Public Works. The pretreated effluent was flow monitored and sampled prior to discharge and analyzed in the Cerro on-site analytical laboratories.

The pickling and electroplating process, as well as the subsequent wastewater treatment processes are diagrammed in Figure 5, Aqueous Treatment and Wastewater Pretreatment Systems (located in the map pockets at the end of this report).

The sewage effluent from the rest room and shower facilities was discharged to the Nassau County sewer system and through two separate connections.

The stormwater runoff from the facility grounds and building roofs along with the noncontact cooling waters, which were not recycled as process make-up waters, were discharged to one of the two in-use, on-site groundwater recharge basins (dry basins). While the facility was in operation, noncontact cooling waters were discharged at a rate of approximately 126,700 gallons per day.

Figure 6, Sewer and Industrial Waste Lines, details the general configuration of the wastewater discharge systems (located in the map pockets at the end of this report).

Nonhazardous solid wastes typically consisted of general trash and empty bags. The off-spec material consisted of copper and steel scrap and other miscellaneous products which could not be recycled through the on-site manufacturing facilities. These materials were given or sold as recyclable scrap metal to salvage firms. These firms are DeHaviland Limited of Jenkintown, PA, which accepts copper scrap, lead, zinc, and copper mud; and Microx, of Atlanta, GA, which accepts copper scale. Steel scrap was removed by Cousins Metal Industries. Any recyclable materials generated during cleanup activities were packaged by Cerro for removal by the appropriate firm, either DeHaviland Limited or Microx.

All nonhazardous and industrial wastes were disposed of according to applicable local, State and Federal regulations. Cerro is permitted to dispose of industrial wastes according to the terms of their Nassau County Department of Health, Solid Waste Disposal Permit, No. 393. Cerro historically has used the Edgeboro Landfill in New Jersey and the Bethpage Landfill in New York for the removal and disposal of nonhazardous and industrial wastes.

2.1.4 Materials Storage

Materials storage areas were located throughout the seven buildings of the Cerro facility. The materials stored on site consisted of daily waste, raw materials for fabrication into the finished products and materials to supply the treatment processes. Most of the waste material resulting from the manufacturing processes was the metal hydroxide sludge derived from the wastewater pretreatment system. These sludge wastes were settled in the clarifiers, dewatered on the vacuum filter and loaded directly into truck trailer boxes for disposal.

Nonhazardous trash wastes normally generated within the facility were deposited directly into truck trailer boxes for disposal in a permitted landfill. No specifically segregated waste storage/handling areas were used or required for the wastes generated at the facility.

Raw steel and copper metal materials were stored in the form of rod and coil stock. These materials were stored adjacent to the operation which processed them. Figures 3 and 4 identify various storage areas located throughout the facility.

Process materials used in the plating treatment processes include:

- quick lime
- chlorine gas
- caustic
- sodium cyanide
- polyelectrolyte polymers
- muriatic acid
- sulfuric acid
- Activol 376 L
- boric acid
- Hallcoat B-1
- Coppershield 404c
- Coppershield 895
- Drewcor 2100
- Duozinc 100
- Electrobrite C-25
- HH cleaner 70 cwc
- HH zinc purifier 86
- nitric acid
- sodium bifluoride

All of these materials were added to the appropriate aqueous treatment tanks on either a constant feed or an as-needed basis. Monitoring probes were used to regulate the addition of some compounds, while other materials were regulated based on samples that were tested in Cerro's on-site analytical laboratory. These treatment materials were stored in individual areas specifically dedicated for the storage of chemical materials.

Some liquid materials were stored in six large tanks from which they could be pumped to the appropriate tanks through dedicated, chemical-resistant piping systems. These six tanks were used for the storage of corrosive liquids (sulfuric acid and plating solution) and were located outside of and adjacent to Buildings E and G. Eleven other tanks varying in size were located in dedicated areas inside Buildings A, D and E for the steel strip, copper rod pickling and EMT plating operations. These tanks are further described in Section 4.2, Tank Decommissioning. Water soluble oils and oil/water emulsions were used to cool and lubricate metals in the metal fabricating process. These oils were stored in sumps in the floor underlying the machines that used them. These oils were used in a closed loop system in which they were filtered, pumped up from the sump for use, and allowed to flow back into the sump.

Most of these process materials were consumed in the last months of operation. Any remaining materials were either sold as usable materials or treated and disposed of off site. None of these materials remained on site after February 27, 1987, except residual oil from the rod mill cooling sump, which was removed from the site on April 20, 1987.

2.2 Decommissioning Schedule

The following decommissioning schedule is not a projected set of dates for targeted completion, but rather the actual dates on which each step of the plan was executed. All manufacturing operations at Cerro Conduit Company were phased out between October 7, 1986 and November 26, 1986. The decommissioning efforts were first initiated on October 7, 1986 and were completed by June 30, 1987. Equipment and structures associated with each of the processes used in manufacturing at Cerro were cleaned of residuals and any salvageable and waste materials were prepared for salvage or disposal according to New York State and Federal regulations. Close liaison was maintained between representatives of Cerro Conduit and the Nassau County Department of Health (NCDH) and the New York State Department of Environmental Conservation (NYSDEC) to ensure proper decommissioning of the facility.

The following set of five decommissioning schedule tables (Tables 2-1 through 2-5) presents the dates of completion for each step in the decommissioning process. The column entitled "Notes" provides information as to where materials were ultimately disposed of, how rinse and wash waters were managed or who actually performed the work if not performed by Cerro personnel. These tables each represent different manufacturing operations at Cerro: the steel strip plating line, copper rod mill and copper rod pickling, tube mills, EMT and IMC plating lines and miscellaneous equipment.

3.0 WASTE MANAGEMENT TECHNIQUES

3.1 Decommissioning Waste Streams

The decommissioning of the Cerro Conduit Company facility in Syosset, NY produced waste streams atypical of those produced during the facilities operation. The decommissioning process involved cleaning all manufacturing and processing equipment, storage tanks and wastewater treatment systems; selling all remaining raw materials; dismantling almost all of the manufacturing and process equipment for sale as usable equipment or scrap; abandoning in place numerous large storage tanks; steam cleaning the walls and floor; rinsing the ceiling and cleaning the sumps and any remaining equipment to a "broom clean" condition. This decommissioning process resulted in the generation of wastes in the form of: 1) partially used or unsellable raw materials; 2) treated plating and rinsewater solutions; 3) wash waters and rinsewaters from the facility and equipment cleaning processes; 4) oil and grease waste from the machinery and oil sumps; 5) materials scraped and swept from the floors throughout the buildings; 6) laboratory analytical chemicals; 7) unspent insecticides; and 8) a small quantity of asbestos. Each of these materials is discussed below under the appropriate heading.

3.1.1 Nonhazardous Industrial Wastes

Nonhazardous industrial waste included: general trash and empty bags from throughout the facility; oil and grease waste from process machinery; sludge from the wastewater treatment facility; lime and other nonhazardous process materials; and wood, fire brick, pallets, empty drums, dollies and other discarded facility items. Most of these wastes were sent to the Edgeboro industrial landfill in East Brunswick, New Jersey. Wood, firebrick, and pallets were disposed of at the Bethpage Landfill. Solid oil and grease and bagged asbestos wastes were sent to the CECOS International industrial waste landfill in Niagara Falls, New York. Liquid oil and grease wastes were sent to Environmental Waste Resources in Waterbury, Connecticut or Flowen Oil Delaware Valley, Inc. of Camden, New Jersey.

Those wastes which were sent to the Edgeboro and Bethpage landfills were loaded into truck trailer boxes as they were accumulated. As the boxes became full, they were covered with tarpaulins and trucked to either of the landfills for disposal.

The solid oil and grease wastes which were sent to the CECOS Niagara Falls landfill were placed in fifty-five gallon drums for shipment and disposal. The asbestos waste was wetted and triple-bagged in plastic and manifested to CECOS in Niagara Falls (see Manifest Number 39, Appendix A). The liquid oil waste was pumped into tanker trucks and delivered to one of the two aforementioned facilities for recovery and disposal.

3.1.2 Recyclable Materials

The recyclable materials consisted of scrap and raw metal materials which were not consumed prior to the facility shutdown, copper scale and mud materials, metal filings and trimmings, cleaned copper, zinc and lead anodes and zinc nuggets from the plating line. These materials were sold or given to one of the following salvage firms: DeHaviland Limited, which accepts copper scrap, lead, zinc, and copper mud; Microx, which accepts copper scale; or Cousins Metal Industries, which accepts steel scrap. The full names and addresses of each of the firms are as follows:

DeHaviland Limited
Benson East, Suite 203
Jenkintown, PA 19046

Microx
P.O. Box 29505
1770 Century Blvd.
Atlanta, GA 30359

Cousins Metal Ind., Inc.
460 Brown Court
Oceanside, NJ 11572

In addition to the recycled metal materials, some raw process materials were sold for reuse. Although most of the raw materials were consumed in the last months of the facility operation, some materials were present when all production ceased in November 1986, most notably, 2309 gallons of virgin aluminum lacquer which had to be disposed of as a hazardous waste. Table 3-1 presents a list of the raw materials that remained after November and purchasers of the material. No raw materials have been on site since February 27, 1987.

3.1.3 Hazardous Wastes

Although Cerro's operations typically did not produce hazardous wastes, the decommissioning of the Cerro facility did produce some waste streams which are classified as hazardous under Subtitle C of the Resource Conservation and Recovery Act (RCRA). The wastes generated during the decommissioning of the facility include:

D001 waste consisting of unused aluminum lacquer paint with a flammable vehicle and some various laboratory analytical chemicals;

D002 waste acid sludge from the steam cleaning of acid storage tanks, treatment tanks and supply lines and some various laboratory analytical chemicals;

TABLE 3-1
CHEMICALS AND VIRGIN MATERIALS SOLD AS RAW MATERIALS

MATERIAL DESCRIPTION	DATE REMOVED	PURCHASER	AMOUNT	CONTAINER TYPE	COMMENTS
Kemidol Hydrate Lime	Jan. 29, 1987	Chemical Management, Inc.	27,500 lbs.	50 lb. bags	11 skids @ 50 bags/skid
Mobil Lubricants	Jan. 29, 1987	Purvis Company of New York	168 gals.	Drums	4 drums
Hallcoat B-1	Feb. 10, 1987	Kessler Industries	300 lbs.	100 lb. pails	Sale arranged through vendor, Sun Metal Finishing Co.
Cyanogram "M" (Sodium cyanide)	Nov. 11, 1986	Captree Chemical Corp.	10,800 lbs.	200 lb. drums	54 unopened drums returned to vendor
Chlorine Gas	Dec. 1, 1986	Marzahl Chemical	3 full tanks 10 empty tanks	compressed gas tanks	Returned to vendor
Empty Water Soluble Oil Bins	Dec. 12, 1986	Cook's Industrial Lubricants	2,100 lbs.	liqua-bins	Returned to supplier

D008 waste consisting of floor sweepings containing lead and some various laboratory analytical chemicals;

F007 waste plating solution and rinsewater resulting from steam cleaning and triple rinsing the cyanide solution storage tanks;

F008 waste plating bath sludge and floor sweepings and equipment scrapings containing plating bath sludge and cyanide salts; and

U061 virgin, unused insecticides which were used for insect control.

CECOS International was contracted for the removal and disposal of some nonhazardous industrial waste and all hazardous wastes generated through facility decommissioning. Any hazardous wastes or rinsewater generated by cleaning the interiors of cyanide solution storage tanks were placed in drums or tanker trucks for removal and disposal at a facility permitted to accept hazardous waste in compliance with all RCRA regulations and applicable State and local requirements. The full names and addresses of Edgeboro and CECOS are:

Edgeboro Disposal, Inc.
39 Edgeboro Street
East Brunswick, NJ 08816

CECOS International
40 Brunswick Street
Edison, NJ 08818-0679

As part of the decommissioning program, all cyanide solutions from the plating lines were transferred to dedicated cyanide holding tanks. These cyanide plating solution holding tanks, located adjacent to Buildings E and G, were heated, drained, steam cleaned and subsequently rinsed for removal of all carbonate and cyanide residues. The cyanide solution and rinsewaters were filtered and pumped from Cerro's 98,000-gallon storage tank system to CECOS tank trucks (5,000-gallon capacity) for transport to a permitted disposal facility. Solids which were filtered were drummed for disposal. All cyanide removal and clean up activities were performed by CECOS personnel trained and certified in the safe management of hazardous materials.

Cyanide removal commenced during the week of December 17, 1986. An average of four CECOS tank trucks (5,000 gallons) per day removed the cyanide solution and rinsewater from the storage tanks. All cyanide-containing liquid materials were removed off site by February 15, 1987. The remaining cyanide-containing materials consisted of filtered materials and floor scrapings from under the platers which were removed off site on April 20, 1987. The disposal method identified by CECOS for the

cyanide-containing liquid materials was underground injection into their EPA-permitted facility located in Odessa, Texas. Cyanide-bearing solids were disposed of in the CECOS secure landfill in Williamsburg, Ohio.

All rinsewaters which resulted from cleaning the process equipment, including rinsewaters generated through cleaning equipment in contact with cyanide, were treated directly through Cerro's on-site wastewater pretreatment system prior to the shutdown of the system.

The rinsewater was treated for discharge to the Nassau County sewage system for eventual discharge to the Cedar Creek Sewage Treatment Facility in Wantagh, New York. Discharge to the Cedar Creek influent sewer system is regulated under the conditions of Cerro Conduit Company's pretreatment program administered by the Nassau County Department of Public Works.

The rinsewaters generated through cleaning items which were in contact with cyanide solutions were pretreated with sodium hydroxide solution and chlorine gas for cyanide destruction.

Table 3-2 is a list of all of the hazardous wastes and some nonhazardous wastes removed from the facility during the decommissioning. Appendix A presents copies of each of the manifests that accompanied these waste shipments to their destinations.

3.2 Hazardous Waste Characterization

3.2.1 Hazardous Waste Description and Quantities

As identified in Section 3.1.3, several hazardous wastes were generated from decommissioning efforts at Cerro. The following information describes the physical and chemical characteristics of each waste, quantities which were generated during decommissioning and the process which generated the waste.

D001 - Waste Paint (UN 1263, Manifest Numbers 37, 38 and 46)

Physical Properties at 25°C

Blue or amber single phase liquid
Density - 7.2 lbs./gal.
Odor - mild
Solubility (g/100g/H_2O) - none
Flashpoint - 100°F, closed cup
Reactivity - none

Chemical Composition

Mineral Spirits - 60-65%
Linseed/Tung Oil - 30-40%
Xylene - 3-5%
Toluene - 3-5%

Quantity Removed During Decommissioning - 2309 gallons

Waste paint was simply left over from manufacturing operations and could not be utilized completely for painting steel conduit since conduit manufacturing had ceased. Conduit quantities present at the time production was terminated were not sufficient to completely utilize the paint.

D001 and D002 - Discarded Chemicals from Cerro Analytical Laboratory

Waste Flammable Liquid, NOS (UN 1993)
Waste Oxidizer Poisonous Solid, NOS (NA 9200)
Waste Corrosive Liquid, NOS (UN 1760)
Waste Corrosive Poisonous Liquid (UN 2922)
(All wastes listed on Manifest Number 20)

The following Drum Inventory Sheets from CECOS Environmental, Inc. detail each of the laboratory chemicals and the quantities removed for disposal. Each sheet contains the UN/NA Number for the corresponding material listed above.

DRUM INVENTORY SHEET

CECOS

Waste flammable liquid NOS

PROPER SHIPPING NAME

UN/NA # 1993 EPA Code F EPA D001

Cerro Conduit

CECOS GROUP D

4

1 of

12/19/86

formaldehyde	1 x 1 gAl	1 x 1 qt	1 x ½ gAl
Carbon disulfide	½ gAl (double packed)		
pyridine	1 x 1 qt		
methyl methacrylate (double packed)	1 pint x 1	(stabilized)	

THIS IS TO CERTIFY that the above listing is an accurate description of the contents of this drum and that it contains no pyrophoric, radioactive, explosive or shock sensitive materials.

Signature

TABLE 4-7

TUBE MILL NO. 1
(Building E, Reference 6)

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
1	Pay-Off	Sold at auction	Sold as used equipment	2/27/87
2	Shear	Sold at auction	Sold as used equipment	2/27/87
3	Butt Welder	Sold at auction	Sold as used equipment	2/27/87
4	Looper (Accumulator)	Sold at auction	Sold as used equipment	2/27/87
5	Marking & Pinch Roll Stand	Sold at auction	Sold as used equipment	2/27/87
6	Forming Mill with E.R. Welder	Sold at auction	Sold as used equipment	2/27/87
7	Quench Trough	Sold at auction	Sold as used equipment	2/27/87
8	Sizing Mill	Sold at auction	Sold as used equipment	2/27/87
9	Cut-Off Press & Run-Out Table	Sold at auction	Sold as used equipment	2/27/87
10	Conveyor	Sold at auction	Sold as used equipment	2/27/87
11	Straightener	Sold at auction	Sold as used equipment	2/27/87
12	Conveyor	Sold at auction	Sold as used equipment	2/27/87
13	Hopper & Up-Conveyor	Sold at auction	Sold as used equipment	2/27/87
14	Rotary Plug Dedimpler	Sold at auction	Sold as used equipment	2/27/87
15	Brush Deburrer	Sold at auction	Sold as used equipment	2/27/87
16	Conveyor	Sold at auction	Sold as used equipment	2/27/87
17	Hopper & Up-Conveyor	Dismantled	Removed as steel scrap	3/25/87
18	Turn Around	Dismantled	Removed as steel scrap	3/25/87
19	Motor-Generator Unit	Dismantled	Removed as steel scrap	2/27/87

TABLE 4-8

TUBE MILL NO. 2
(Building E, Reference 7)

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
1	Pay-Off	Sold at auction	Sold as used equipment	3/24/87
2	Shear	Sold at auction	Sold as used equipment	3/24/87
3	Butt Welder	Sold at auction	Sold as used equipment	3/24/87
4	Marking Stand	Sold at auction	Sold as used equipment	3/24/87
5	Looper (Accumulator)	Sold at auction	Sold as used equipment	3/24/87
6	Pinch Roll Stand	Sold at auction	Sold as used equipment	3/24/87
7	Forming Mill with E.R. Welder	Sold at auction	Sold as used equipment	3/24/87
8	Quench Trough	Sold at auction	Sold as used equipment	3/24/87
9	Sizing Mill	Sold at auction	Sold as used equipment	3/24/87
10	Cut-Off Press & Run-Out Table	Sold at auction	Sold as used equipment	3/24/87
11	Conveyor	Sold at auction	Sold as used equipment	3/24/87
12	Straightener	Sold at auction	Sold as used equipment	3/24/87
13	Tube Run-Out	Sold at auction	Sold as used equipment	3/24/87
14	Hopper & Up-Conveyor	Sold at auction	Sold as used equipment	3/24/87
15	Dedimpler & Endfacing Machine	Sold at auction	Sold as used equipment	3/24/87
16	Conveyor	Sold at auction	Sold as used equipment	3/24/87
17	Overhead Conveyor	Sold at Auction	Sold as used equipment	3/24/87

TABLE 4-9

TUBE MILL NO. 3
(Building E, Reference 8)

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
1	Pay-Off	Sold at auction	Sold as used equipment	2/27/87
2	Shear & Butt Welder	Sold at auction	Sold as used equipment	2/27/87
3	Floor (Accumulator)	Sold at auction	Sold as used equipment	2/27/87
4	Marking Stand	Sold at auction	Sold as used equipment	2/27/87
5	Forming Mill with H.F. Welder	Sold at auction	Sold as used equipment	2/27/87
6	Cooling Unit of H.F. Welder	Sold at auction	Sold as used equipment	2/27/87
7	Quench Trough	Sold at auction	Sold as used equipment	2/27/87
8	Sizing Mill	Sold at auction	Sold as used equipment	2/27/87
9	Cut-Off Press & Run-Out Table	Sold at auction	Sold as used equipment	2/27/87
10	Conveyor	Sold at auction	Sold as used equipment	2/27/87
11	Straightener	Sold at auction	Sold as used equipment	2/27/87
12	Conveyor & Tube Kick-Off	Dismantled	Removed as steel scrap	3/16/87
13	Hopper & Up-Conveyor	Dismantled	Removed as steel scrap	3/16/87
14	Rotary Plug Dedimpler	Sold at auction	Sold as used equipment	2/27/87
15	Brush Deburrer	Sold at auction	Sold as used equipment	2/27/87
16	Tube Kick-Off	Dismantled	Removed as steel scrap	3/13/87
17	Tube Threading Machine 1/2" - 2' IMC	Sold at auction	Sold as used equipment	2/27/87
18	Tube Threading Machine 1/4" - 4' IMC	Sold at auction	Sold as used equipment	2/27/87
19	Hopper & Up-Conveyor	Dismantled	Removed as steel scrap	3/13/87
20	Hopper & Up-Conveyor	Dismantled	Removed as steel scrap	3/13/87

TABLE 4-9

TUBE MILL NO. 3
(Building E, Reference 8)
cont'd

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
21	Hopper & Up-Conveyor	Dismantled	Removed as steel scrap	3/13/87
22	2 Conveyors	Dismantled	Removed as steel scrap	3/13/87
23	Unloading Conveyor	Dismantled	Removed as steel scrap	3/13/87
24	Tube Kick-Off	Dismantled	Removed as steel scrap	3/13/87
25	Cross Conveyor	Dismantled	Removed as steel scrap	3/13/87
26	Hopper & Up-Conveyor	Dismantled	Removed as steel scrap	3/13/87
27	Turn-Around Conveyor	Dismantled	Removed as steel scrap	3/13/87
28	Automatic Tube Hopper	Dismantled	Removed as steel scrap	3/13/87
29	Long Tube Wagon	Dismantled	Removed as steel scrap	3/13/87
30	Track & Wagon Puller	Dismantled	Removed as steel scrap	3/13/87
31	Hydraulic Unit of Item #18	Dismantled	Removed as steel scrap	3/13/87

TABLE 4-10

RIBBON SLITTING
(Building F, Reference 9)

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
1	Pay-Off	Sold prior to decommissioning	Sold as used equipment	12/86
2	Shear	Sold prior to decommissioning	Sold as used equipment	12/86
3	Tig Welder	Sold prior to decommissioning	Sold as used equipment	12/86
4	Yoder Slitter (cap. 10 cuts, .040 x 12" total widths)	Sold prior to decommissioning	Sold as used equipment	12/86
5	Arc Spray System	Sold prior to decommissioning	Sold as used equipment	12/86
6	Hydraulic Power Unit of Coiler (Item # 7)	Sold prior to decommissioning	Sold as used equipment	12/86
7	Slitter Control Console	Sold prior to decommissioning	Sold as used equipment	12/86

TABLE 4-11

EMT PLATING LINE
(Building E, Reference 10)

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
1	Hopper & Up-Conveyor	Dismantled	Removed as steel scrap	3/20/87
2	Cleaner Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/20/87
3	Cleaner Reclaim Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/20/87
4	Hot Water Rinse	Residues removed and drummed for disposal by CECOS, tanks steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/23/87
5	Sulfuric Acid Pickling Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/23/87
6	Cold Water Rinse Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/23/87
7	Cold Water Rinse Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/23/87
8	Plating Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/23/87

NOTE: All rinsewaters generated through decommissioning of equipment in contact with cyanide plating solution, except for the interior of the cyanide plating solution storage tanks, were treated for cyanide destruction with sodium hydroxide and chlorine gas, prior to discharge to Cerro's wastewater pretreatment system.

TABLE 4-11

EMT PLATING LINE
(Building E, Reference 10)
Cont'd

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
9	Plating Solution Reclaim Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/25/87
10	Rinse Tank (Effluent to W.T. Room)	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/25/87
11	Nitric Acid Dip Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/25/87
12	Chromate Acid Rinse Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/26/87
13	Hot Water Rinse Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/26/87
14	Hot Water Rinse Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/27/87
15	Hot Water Rinse Tank	Residues removed and drummed for disposal by CECOS, tank steam cleaned, triple rinsed, and exteriors cleaned	Removed as steel scrap	3/27/87
16	Wet-Tube Dryer	Dismantled	Removed as steel scrap	3/27/87
17	Paint Machine (5 Wands)	Dismantled	Removed as steel scrap	3/27/87
18	Paint Dryer	Dismantled	Removed as steel scrap	3/28/87

TABLE 4-11

EMT PLATING LINE
(Building E, Reference 10)
Cont'd

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
19	Hopper & Up-Conveyor	Dismantled	Removed as steel scrap	3/28/87
20	Markem Machine	Dismantled	Removed as steel scrap	3/09/87
21	Tube Bundler & Bundle Ejector	Dismantled	Removed as steel scrap	3/09/87
22	Bundle Conveyor	Dismantled	Removed as steel scrap	3/09/87
23	Baler	Dismantled	Removed as steel scrap	3/09/87
24	1-5000 Amp. Motor Generator Unit	Dismantled	Removed as steel scrap	3/09/87
25	3-2000 Amp. Motor Generator Units	Dismantled	Removed as steel scrap	3/09/87
26	Electrical Switch Gear	Abandoned	Remains on site	N/A
27	EMT Plating Solution Storage Tank (cap. 28,000 gals.)	Contents heated, agitated using steam lances, solution removed by CECOS; tank steam cleaned and triple rinsed, rinsewaters removed by CECOS	Remains on site	N/A
28	EMT Plating Solution Storage Tank (cap. 25,000 gals.)	Contents heated, agitated using steam lances, solution removed by CECOS; tank steam cleaned and triple rinsed, rinsewaters removed by CECOS	Remains on site	N/A
29	2 Cleaner Holding Tanks	Dismantled	Removed as steel scrap	3/24/87
30	Nitric Acid & Chromate Dump Metering Tank	Dismantled	Removed as steel scrap	3/04/87

TABLE 4-12

IMC PLATING LINE
(1/2" - 4" IMC & 1/2" - 4" EMT)
(Building G, Reference 11)

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
1	Hopper & Up-Conveyor	Sludge removed by shoveling and drummed for disposal by CECOS, hopper steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/10/87
2	Cleaner Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/10/87
3	Hot Water Rinse Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/10/87
4	Cold Water Rinse Tank	Sludge removed by shoveling and drummed for disposal by CECOS tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/10/87
5	Cold Water Rinse Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/11/87
6	Acid Pickling Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/11/87
7	Cold Water Rinse Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/11/87

NOTE: All rinsewaters generated through decommissioning of equipment in contact with cyanide plating solution, except for the interiors of the plating solution storage tanks, were treated for cyanide destruction with sodium hydroxide and chlorine gas, prior to discharge to Cerro's wastewater pretreatment system.

TABLE 4-12

IMC PLATING LINE
(1/2" - 4" IMC & 1/2" - 4" EMT)
(Building G, Reference 11)
Cont'd

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
8	Cold Water Rinse Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/11/87
9	Plating Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/11/87
10	Plating Solution Recovery Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/13/87
11	Cold Water Rinse Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/13/87
12	Nitric Acid Dip Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/13/87
13	Chromate Dip Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/13/87
14	Hot Water Rinse Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/13/87
15	Hot Water Rinse Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/23/87

TABLE 4-12

IMC PLATING LINE
(1/2" - 4" IMC & 1/2" - 4" EMT)
(Building G, Reference 11)
Cont'd

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
16	Hot Water Rinse Tank	Sludge removed by shoveling and drummed for disposal by CECOS, tank steam cleaned, triple rinsed and exterior washed	Removed as steel scrap	3/23/87
17	Wet-Tube Dryer	Dismantled	Sold as steel scrap	3/23/87
18	Paint Machine (6 Wands)	Scraped off excess dried paint, paint chips drummed for disposal at Edgeboro Landfill, sold at auction	Sold as steel scrap	3/14/87
19	Paint Dryer	Scraped off excess dried paint, paint chips drummed for disposal at Edgeboro Landfill	Sold as steel scrap	3/14/87
20	Hopper & Up-Conveyor	Sold at auction	Sold as steel scrap	3/14/87
21	Coupling Machine	Sold at auction	Sold as steel scrap	3/14/87
22	Markem Machine	Sold at auction	Sold as steel scrap	3/14/87
23	Tube Bundler & Bundle Ejector	Sold at auction	Sold as steel scrap	3/14/87
24	Bundle Conveyor	Sold at auction	Sold as steel scrap	3/14/87
25	Bale Conveyor	Sold at auction	Sold as steel scrap	3/14/87
26	1-10,000 Amp Motor-Generator Unit	Sold at auction	Sold as steel scrap	3/14/87
27	2-7500 Amp Motor-Generator Unit	Sold at auction	Sold as steel scrap	3/14/87
28	3-15,000 Amp Motor-Generator Unit	Sold at auction	Sold as steel scrap	3/14/87
29	1-IMC Plating Solution Storage Tank (cap. 25,000 gals.)	Plating solution pumped to exterior storage tanks for disposal by CECOS, tanks steam cleaned, triple rinsed and exterior washed; rinsewater contained for disposal by CECOS	Remains at facility	Plating solution removed, 2/01/87

TABLE 4-12

IMC PLATING LINE
(1/2" - 4" IMC & 1/2" - 4" EMT)
(Building G, Reference 11)
Cont'd

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
30	2-IMC Plating Solution Storage Tanks, Cap. 10,000 gals.	Plating solution pumped to exterior storage tanks for disposal by CECOS, tanks steam cleaned, triple rinsed and exterior washed; rinsewater contained for disposal by CECOS	Remains at facility	Plating solution removed, 2/01/87

TABLE 4-13

WASTE TREATMENT PROCESS
(External Equipment)

ITEM NO.	DESCRIPTION OF EQUIPMENT	DECOMMISSIONING TECHNIQUE	FINAL DISPOSITION	DATE OF FINAL DISPOSITION
1	Copper Pond	All slurry pumped to treatment process, walls scraped, rinsed; area fenced	Remains at facility	Equipment cleaned 1/16/87, fence installed 3/20/87
2	Clarifier A	All slurry pumped to treatment process, walls scraped, rinsed; area fenced	Remains at facility	Equipment cleaned 1/16/87, fence installed 3/20/87
3	Clarifier C	All slurry pumped to treatment process, walls scraped, rinsed; area fenced	Remains at facility	Equipment cleaned 1/16/87, fence installed 3/20/87
4	Clarifier D	All slurry pumped to treatment process, walls scraped, rinsed; area fenced	Remains at facility	Equipment cleaned 3/25/87, fence installed 3/20/87
5	Treatment Room	Walls and floors scraped, steam cleaned, tripled rinsed after processing the final copper slurry from the Cerro manufacturing process, equipment removed	Equipment sold as steel scrap, treatment room remains at facility	Final processing 3/31/86, equipment removed 4/7/87

4.1.2 Decommissioning Techniques

The decommissioning techniques utilized to clean all equipment and structures in contact with hazardous chemicals at the Cerro facility are described herein. Any equipment involved in a process where hazardous materials were used was determined to require specialized cleaning techniques. Cleaning techniques utilized and the sequence for decommissioning equipment in contact with hazardous materials is documented for the Steel Strip Plating Line (sulfuric and muriatic acid), the Copper Rod Mill, Copper Rod Pickling (copper sulfate and sulfuric acid), the EMT Plating Line (cyanide solution), the IMC Plating Line (cyanide solution) and the Waste Treatment Process Equipment (unprocessed wastewater).

4.1.2.1 Steel Strip Plating Line

1. Approximately 16,000 gallons of acid plating solution were neutralized. Treated solution was discharged to the sanitary sewer in compliance with Nassau County pretreatment requirements. Task completion date: October 24, 1986.

2. All zinc anodes were removed, steam cleaned, triple rinsed and prepared for salvage. Anodes were reclaimed by DeHaviland Limited. Task completion date: December 19, 1986.

3. All carbon anode carriers were removed, steam cleaned, triple rinsed and prepared for salvage. All anode carriers were reclaimed by DeHaviland Limited. Task completion date: December 19, 1986.

4. All acidic sludge (non-cyanide bearing) from plating tanks was removed by shoveling and was processed in Cerro's waste treatment system. Resulting sludges were disposed of in the Edgeboro landfill. Task completion date: October 31, 1986.

5. The inside of the 300 foot-long plating tank was steam cleaned and triple rinsed; the tank exterior was also washed. Task completion date: December 5, 1986.

6. The contents of five plating solution storage tanks were drained and treated. The treated wastewater was discharged to the sanitary sewer. Then the tanks were filled with caustic and left to sit for a reaction time of three days. This solution

was drained and treated. The tank interiors were steam cleaned and triple rinsed and the exteriors were washed. Task completion date: November 7, 1986.

7. The contents of a 3,000-gallon sulfuric acid tank, estimated at 1,000 gallons, were neutralized with a caustic solution and then drained. The tank was steam cleaned, triple rinsed and this water was discharged through the treatment system. After rinsing the tank, it was abandoned in place in the following manner: the liner was removed for disposal in a permitted facility and a hole was cut in the bottom of the tank. Task completion date: November 7, 1986.

8. The contents of an 8,000 gallon muriatic acid tank, estimated at 1,000 gallons, were neutralized and discharged to the Nassau County sewer system. The tank was triple rinsed and this water also was discharged through Cerro's pretreatment system. Task completion date: October 30, 1986.

9. Sodium chloride was dissolved over a period of several days for disposal through the pretreatment system to the sanitary sewer. Task completion date: October 24, 1986. The bagged lime was sold. Task completion date: January 27, 1987.

10. The contents of the muriatic pickle tank, estimated at 1,000 gallons, were neutralized, drained and discharged to the pretreatment system prior to discharge to the sanitary sewer. The tank was steam cleaned, triple rinsed and the tank exterior was washed. Task completion date: October 21, 1986.

11. The debris in trenches under plater was removed by scraping and the area was flushed with water. The rinsewater was sent to the pretreatment system prior to discharge. Task completion date: December 5, 1986.

12. All lead residue and lead oxides from the molten lead annealer furnace (decommissioned in 1984) and surrounding trenches was removed, drummed and disposed of by CECOS. Task completion date: February 1, 1987.

13. The coolant water from solid state rectifiers was drained. Task completion date: December 1, 1986.

14. The oil from open gear boxes and chain drives on the steel strip take up was drained and disposed of by burning in the industrial boiler. Task completion date: October 27, 1986.

15. All chemical piping and duct work over acid tank and the lead annealing furnace (decommissioned in 1984) was rinsed with rinsewaters sent through the pretreatment system prior to discharge to the sanitary sewer. Task completion date: November 12, 1986.

16. All steel strip was segregated into categories for salvage and was sold. Task completion date: January 14, 1987.

4.1.2.2 Copper Department (Copper Rod Mill and Copper Rod Pickling)

1. All salvageable scrap copper was collected and baled for shipment. Copper scrap was sold to DeHaviland Limited. Task completion date for copper scrap shipment was December 22, 1986.

2. Copper scale pots were pumped clean to remove all scale for processing. Clean copper scale pots were covered with metal plates welded in place. Copper scale was drummed for sale and removal by Microx. Task completion date for copper scale removal was January 9, 1987.

3. The outside copper pond was drained and all scale and mud was removed for processing. Final cleaning consisted of using a rubber scraper over the walls and floor to remove copper. Copper scale and mud removed from the pond was salvaged by Microx and DeHaviland Limited, respectively. A fence was installed around the copper pond to prevent accidental entry. Cerro currently awaits the NYSDEC decision concerning the fate of the liner installed in the pond. Task completion date for draining and cleaning of pond was October 31, 1986. Task completion date for fence installation was March 20, 1987.

4. Accumulations of copper scale, mud and grease were removed from under each mill. The material was placed in drums and was removed as follows:

   Copper scale - Microx

Task completion date: January 15, 1987

Copper mud - DeHaviland Limited
Task completion date: February 1, 1987

Grease - industrial landfill, CECOS, Niagara Falls, NY
Task completion date: February 1, 1987

5. Oil from mill oil cellars was drained and used to fuel on-site industrial boilers. Walls and tanks were scraped to remove any heavy accumulation of grease and oil; this oil was also placed in drums. Drums were removed by CECOS for disposal in a permitted industrial landfill. Task completion date: January 15, 1987.

6. Approximately 300,000 lbs. of copper scale were dried and processed for salvage. After processing, scale was placed in drums and sold to Microx. Task completion date: January 15, 1987.

7. All cathodes, lead anodes and copper bars from copper reclaim tanks were removed, steam cleaned and triple rinsed prior to removal by DeHaviland Limited. Task completion date: January 14, 1987.

8. Approximately 25,000 gallons of copper sulfate and 1,000 gallons of sulfuric acid were treated prior to discharge. Copper sulfate and acid solutions were treated using Cerro's existing treatment and neutralization processes; both were discharged to the sanitary sewer. Task completion date: November 7, 1986.

9. Accumulations of copper sulfate crystals were removed from equipment, tanks and wood tank supports. All surfaces were triple rinsed with water. Task completion date: November 11, 1986.

10. All remaining unused process chemicals stored in pickle room were disposed of as follows:

Borax - industrial landfill, Edgeboro, NJ.
Task completion date: December 4, 1986.

Reclaimed oil - burned in Cerro's industrial boiler as fuel.
Task completion date: December 2, 1986.

Soap - industrial landfill, Edgeboro, NJ.

Task completion date: December 4, 1986.

11. Tracer lathe was cleaned and all coolants were removed. Coolants were drummed for disposal by CECOS. Task completion date: January 9, 1987.

12. All hydraulic oils were drained and burned in the industrial boiler. Task completion date: December 2, 1986.

13. Approximately 2,000 gallons of wire drawing solution were drained and removed by CECOS. Wire drawing mud was placed into drums for removal by DeHaviland Limited. Surfaces of tank and floor were cleaned of any accumulation of grease and oil; this residue was drummed for removal by CECOS. Task completion date: January 9, 1987.

4.1.2.3 EMT and IMC Plating Lines

1. Plating solution from both plating lines, approximately 75,000 gallons, was pumped into exterior storage tanks for removal by CECOS. Task completion date: January 30, 1987.

2. All zinc anodes from the plating tank were steam cleaned to dissolve cyanide salts prior to removal from plating tank. Any cleaning residuals were contained for removal by CECOS. Zinc anodes were rinsed with hot water and removed from plating tanks for salvage by DeHaviland Limited. Task completion date: January 8, 1987.

3. All anode carriers, chains, and electrified rails were steam cleaned. Both the carriers and rails were disconnected and removed for rinsing in hot water baths to dissolve encrusted salts. Any cleaning residuals were contained for removal by CECOS. These components subsequently were removed as scrap. Task completion date for removal of cleaning residuals: February 1, 1987.

4. All accumulated plating sludge was shoveled out from underneath the equipment and drummed for disposal by CECOS. Zinc nuggets were removed by screening and washing. Liquid generated by zinc screening was pumped into cyanide holding tanks for disposal by CECOS. Task completion date: January 30, 1987.

5. All hoods, duct work, buss bars, mechanical equipment and tank exteriors were steam cleaned. All of these items were rinsed with water and all liquid generated was pumped to cyanide storage tanks for disposal. All cyanide salts were drummed for disposal by CECOS. Rinsewater contained in the storage tank was also removed by CECOS. Task completion date: February 1, 1987.

6. All lime pits and treatment areas were broom cleaned. Accumulated sludge was removed for disposal with filter cake at the Edgeboro landfill. All areas were scraped, steam cleaned where necessary, and rinsed with water. Task completion date: November 18, 1986.

7. All equipment floors, trenches and walls were washed and steam cleaned to remove accumulated material and all liquid was processed through the facility pretreatment system prior to discharge. The tanks were washed and the pits were cleaned of all accumulated waste by scraping and shoveling into drums for disposal. Pits were rinsed with water and the cyanide-bearing rinsewater was pumped to cyanide holding tanks for disposal by CECOS. Non-cyanide rinsewater was processed through the waste treatment system for discharge to the Nassau County sewer system. Task completion date for cyanide rinsewater disposal: February 1, 1987.

8. All clarifiers were pumped down and all sludge was removed for processing in the filter house. All equipment, clarifier walls and the floor were scraped and flushed with water. Fences were installed around the clarifiers to prevent accidental entry. Task completion date: March 25, 1987.

9. The slurry pit in the filter house was pumped down; the walls and floor were scraped with all solids and liquids going to vacuum filter. All equipment, walls and floors were steam cleaned and all liquids and solids pushed into the slurry pit for processing by the vacuum filter. After all slurry was processed, all equipment and tanks were washed with a large volume of water that was collected in a slurry pit and discharged to the sanitary sewer. Task completion date: December 2, 1986.

10. The contents of the cyanide plating solution storage tanks were heated and agitated using steam lances to dissolve the carbonates and cyanide on the tank

walls. The cyanide solution was transported off site for disposal by CECOS. The tanks were then steam cleaned and triple rinsed. All rinsewater from the cleaning of these tanks was also disposed of by CECOS. All of this work was performed by CECOS personnel. Task completion date: February 13, 1987.

4.1.2.4 Miscellaneous Equipment

1. All propane gas in the 30,000-gallon and 12,000-gallon storage tanks at the north end of the property was used for heating purposes. Once emptied, the tanks were purged with nitrogen gas and sealed. Task completion date: February 9, 1987.

2. Most of the paint from the 4,760-gallon pressurized storage tank was used in production. Unused paint, 2,309 gallons, was disposed of by Solvent Recovery of New Jersey. The empty tank was vented by using a forced air blower to dry all paint on internal tank surfaces. Task completion date: February 10, 1987. Three unopened, 100-pound pails of this paint were purchased by Kessler Industries on February 10, 1987.

3. Approximately 500 steel and plastic drums containing dross, plating waste, sludge, scale, mud and other industrial waste were segregated for proper disposal. Drums were emptied and triple rinsed prior to reuse or disposal. Task completion date: February 2, 1987.

4. The contents of one underground No. 6 fuel oil storage tank was used to heat the facility through the winter of 86/87 and any remaining fuel will be used by the new owner. One other underground storage tank contains gasoline for vehicles. This tank and the associated gas pump have been left in place in fully operational condition for use by the next facility occupant. Both underground tanks are registered with the NYSDEC according to underground storage tank (UST) requirements.

4.1.2.5 Other Manufacturing Equipment

Equipment associated with the Steel Strip Flattening Mill, Copper Wire Machinery, 60" Coil Slitter, Tube Mill No. 1, Tube Mill No. 2, Tube Mill No. 3 and the Ribbon Slitter was not in contact with or connected to any of the plating, pickling or waste treatment processes; therefore, specialized decommissioning techniques were not

employed. However, several of these processes utilized oils and greases as coolants and lubricants; methods for removal of oils and grease from trenches and oil collection sumps are given for the equipment in the above-referenced process lines.

Cooling and lubricating systems for these processes were closed loop systems which recycled the oil; when the oil was spent, it was drained and drummed for disposal. While the oil was still usable, it was stored in sumps underlying the equipment. Grates over coolant trenches and oil collection sumps were removed, steam cleaned and replaced after cleaning. Interiors of the trenches and oil collection sumps were cleaned with a rubber scraper and washed to remove excess accumulations of oil (Task completion date: December 5, 1986). Unused drawing solutions and oils were drained from liquid storage bins and burned in Cerro's industrial boiler (Task completion date: November 5, 1986). Used oil was drummed for disposal by CECOS in their Niagara Falls, NY landfill (Task completion date: February 1, 1987). Metal filings from tube mills were removed and disposed of as scrap (Task completion date: December 12, 1980). Approximately 10,000 gallons of soluble oil coolants and threading compounds were drummed and removed by CECOS to their treatment facility in Connecticut (Task completion date: January 9, 1987).

4.1.2.6 Structure Decommissioning

A comprehensive environmental agency survey was performed during April and May of 1987 to obtain available information detailing procedures to decommission the internal portion of a building and determine the effectiveness of the procedures in eliminating contamination. The purpose of the survey was threefold for the identification of: 1) pertinent documents detailing decommissioning/decontamination techniques, 2) methods to sample building surfaces for evidence and quantifiable levels of contamination and to determine the efficacy of decontamination, and 3) information on any other metal finishing or similar facilities that had been decommissioned to the level similar to that requested by the NYSDEC.

The agencies listed below were surveyed for information on the above three subjects. Emphasis was placed on surveying the staff of the New Jersey Department of Environmental Protection (NJDEP) due to the existence of the NJ Environmental Cleanup Responsibility Act (ECRA).

USEPA, Headquarters
Characterization & Assessment Div.
Office of Solid Waste
David Friedman - Chief Chemist
Paul Friedman - Staff Chemist
Alan Corson - Deputy Director

USEPA, Region II
Dick Salkie
Lisa Gatton - Staff Chemist

NYSDEC, Albany
John Rankin - Chief Chemist
Maureen Hogan

NYSDEC, Stony Brook
Robert Becherer - Regional Hazardous Waste Engineer
Tanya Hermos - Chemical Engineer

NJDEP
Bill Lowry - Quality Control Audit Program
Lou Beviloqua - Environmental Chemistry Monitoring and Management Branch
Tom Kerns - ECRA Program
John Trela - Director, Dvision of Hazardous Waste Management
John Mateo - Bureau of Environmental Measurement and Quality Assurance
George King - Bureau of Site Operations
Dr. Dennis Stankin - Office of Science and Research

OSHA
Lee Larsen - Salt Lake City Laboratory
Harvey Shapiro - Region II

NIOSH
Cincinnati Laboratory

National Association of Metal Finishers (NAMF)

Results of the survey indicate that a decommissioning of a manufacturing facility to the extent being requested by the NYSDEC has not been reported and, therefore, no guidelines for performing decommissioning were available nor were any sampling and analytical methods standardized or proven to be accurate. Therefore, a joint decision was made by Mr. Robert Becherer, NYSDEC's Project Engineer for Cerro, and Mr. John Rankin, Chief Chemist, NYSDEC, Albany, not to embark on an exhaustive sampling program to identify portions of the internal structure that may exhibit levels of contamination. Sampling techniques available to identify surficial contamination are in the developmental phase and have not been approved by the USEPA nor have their results been accepted by either the NYSDEC or the NJDEP.

The NYSDEC stated, in their June 1st letter which follows, that "steam cleaning the walls and floors with a detergent could be an effective method of decontaminating

New York State Department of Environmental Conservation

Division of Solid & Hazardous Waste
Building 40, SUNY
Stony Brook, NY 11794

(516) 751-7900

Henry G. Williams
Commissioner

June 1, 1987

Ms. Pamela F. Gratton
The Avendt Group, Inc.
1906 Forest Drive
Annapolis, MD 21401

RE: Cerro Wire
EPA ID #NY092363431
Superfund Site #1-30-002

Dear Ms. Gratton:

In response to your letter of May 14, 1987, I have spoken to John Rankin about surface testing procedures at Cerro.

I transmitted the information to Ray Avendt verbally. Essentially, the Department feels rather than embarking on an exhaustive surface sampling program, Cerro would be better off cleaning the walls with a method that was known to be effective in removing the contaminants of concern. At Cerro, cyanide would be of concern; the Department feels that steam cleaning the walls and floors with a detergent, that would occlude the cyanide, could be an effective method of decontaminating the building.

With respect to your request for the DEC to request information from the National Association of Metal Finishers, I have contacted the Association and expect to hear from them shortly.

Very truly yours,

Robert A. Becherer
Regional Hazardous Waste Engineer

RAB:cmp
cc: T. Candela
T. Hermos

the building". On June 15, 1987, MFN Inc. was contracted to:

- o pressure spray rinse the ceilings over the plating lines (Buildings A, E and G) to remove accumulated dust and grime;
- o pressure wash the walls and floors of all buildings with an alkaline detergent;
- o remove accumulated grease and scale from all building floors; and
- o steam clean the floors of cyanide plating lines (Buildings E and F).

The internal cleaning was completed on June 30, 1987. All steam condensate and rinsewaters were collected in floor drains and are contained in the on-site clarifiers. No discharge was made to the sanitary sewer. Mr. Robert Becherer inspected the performance of this work on June 17, 1987 and Ms. Tanya Hermos, Chemical Engineer with NYSDEC in Stony Brook, inspected the work on June 25, 1987.

4.1.2.7 Determination of Decommissioning Effectiveness

Decontamination of the plating equipment, storage tanks and structures was performed by plant maintenance personnel and outside contractors specializing in industrial waste management. The efficiency of the decontamination of the plating equipment and storage tanks was demonstrated by monitoring the rinsate from the plating and storage tanks. All rinsewaters generated from cleaning with concentrations of cyanide greater than 0.1 mg/l were discharged to the on-site wastewater treatment facility at Cerro for alkaline oxidation. The effluent from the on-site treatment facility was discharged into the Nassau County sewer system and was monitored continuously by Cerro laboratory personnel and periodically by Nassau County industrial pretreatment inspectors. The decontamination of the structures was effected by first rinsing all surfaces (ceilings, walls and floors) with high pressure sprayers to remove dust and surface grime. The walls and floors were then spray washed with an oxidizer detergent to remove any accumulated contaminants. The walls and floors around the cyanide platers were then subsequently steam cleaned. This rinsing, washing and steam cleaning procedure has been documented by the USEPA in decommissioning structures. All rinsate was collected and monitored for trace metals, cyanide and pH. The rinsate remains on-site in the clarifiers receiving floor drainage.

4.1.3 Cleaning Residuals Management

Various rinsewaters were generated during decommissioning efforts at the Cerro plant. All rinsewater, except rinsewater generated through cleaning the interiors of

the cyanide plating solution tanks, was treated by Cerro's existing wastewater pretreatment process described in Section 2.0. Rinsewater was treated by the existing process for discharge to the Nassau County sewer system.

Any rinsewater generated through cleaning the interiors of the cyanide plating solution storage tanks were contained in dedicated cyanide solution storage tanks for disposal off-site by CECOS. The cyanide plating solution storage tanks located adjacent to Buildings E and G were heated, drained, steam cleaned and triple rinsed to remove carbonate and cyanide residues. The cyanide solution and rinsewaters were filtered and pumped from Cerro's 98,000 gallon storage tank system by CECOS tank trucks (5,000 gallon capacity). All cyanide removal and clean up activities were performed by CECOS personnel trained and certified in the safe management of hazardous materials. Cyanide removal commenced during the week of December 17, 1986. An average of four CECOS tank trucks per day removed the cyanide solution from the storage tanks. All liquid cyanide-containing materials were removed off-site by February 13, 1987, 10 drums of floor sweepings from underneath the platers were removed from the facility on April 20, 1987. The disposal method for the cyanide-containing liquid materials utilized by CECOS was underground injection into their EPA-permitted facility located in Odessa, Texas. Cyanide-bearing solids were disposed of in the CECOS secure landfill in Williamsburg, Ohio.

As identified throughout the Decommissioning Program Report, drums were used for the temporary storage of scrap, muds, wastes, and other materials generated during decommissioning and for off-site transport. Drums which were not used for off-site transport were triple rinsed with the rinsewater being sent through the on-site pre-treatment system prior to discharge. The cleaned metal drums were crushed and removed by Cousins Metal Industries as steel scrap. The plastic drums were cleaned as described above, cut into sections and disposed of at the Edgeboro landfill.

4.2 Tank Decommissioning

4.2.1 Tank Descriptions

The tanks on the Cerro property fall into three categories; above-and below-ground fuel storage tanks, above-ground materials storage tanks (six external and eleven internal) and in-ground open top tanks which include the clarifiers and the copper line cooling pond.

There are two underground fuel storage tanks located on the facili
One underground fuel storage tank is 15,000 gallon capacity and was used
6 fuel oil for the on-site industrial boilers. The other fuel tank is a 1,000-gallon capacity tank used to store gasoline for fueling vehicles. Both of these tanks are registered with NYSDEC according to Underground Storage Tank (UST) Program requirements. The No. 6 fuel oil was used to fuel the on-site boilers until they were shut down on March 27, 1987.

In addition to the underground fuel storage tank, the boilers were also fueled by propane which was stored in one 30,000-gallon above-ground storage tank and one 12,000-gallon above-ground storage tank. These tanks were emptied, vented to the atmosphere and purged with nitrogen gas in February, 1987.

There are six above-ground, external materials storage tanks located on bermed concrete pads outside of the north walls of Buildings E and G. These six tanks were:

- one 28,000-gallon tank for storage of plating solution for the electrometallic tubing (EMT) plater;
- one 25,000-gallon tank for storage of plating solution for the EMT plater;
- one 25,000-gallon tank for storage of plating solution for the intermediate metallic conduit (IMC) plater;
- two 10,000-gallon tanks for storage of plating solution for the IMC plater; and
- one 10,600-gallon sulfuric acid storage tank for the copper pickling line (located between Buildings D and E).

Each of these tanks was drained of materials, steam cleaned and triple rinsed to remove all residues. Each tank was then abandoned in place with a hole cut in the bottom and all associated piping removed.

The eleven internal, above-ground chemical storage tanks are listed below:

- five 7,700-gallon plating solution storage tanks in Building A;
- one 9,500-gallon muriatic acid storage tank in Building A;
- one 2,700-gallon muriatic acid storage tank in Building A;

- o one 275-gallon portable sulfuric acid storage tank in Building A;
- o one 25,200-gallon copper sulfate storage tank in Building D;
- o one 4,200-gallon nitric acid storage tank in Building E; and
- o one 6,000-gallon caustic storage tank in Building E.

The five plating solution storage tanks were steam cleaned and triple rinsed to remove residues and were abandoned in place. The five acid and one caustic storage tanks were drained, contents were neutralized and finally rinsed with clean water. All of these tanks were removed as steel scrap.

The three clarifiers, designated clarifiers A, C and D were constructed of steel reinforced concrete and set into the ground. Both A and C clarifiers had an approximate capacity of 18,800 gallons each. D clarifier had a capacity of approximately 57,500 gallons. These clarifiers were used to settle sludge out of suspension from the wastewater discharges. The clarifier effluent was discharged to Cerro's industrial sewer connection to the Nassau County sewer system. The sludge was discharged to the on-site filter house where it was dewatered to an approximate solids content of 25 percent, prior to disposal in an approved industrial landfill. The engineering drawings for these three clarifiers are included in Appendix C.

The copper line cooling pond measures approximately 45-feet long by 47-feet wide by 10-feet deep and has an approximate volume of 20,000 gallons. This pond was used to cool process waters from the copper rod mill and the copper pickling line. In addition, the circulation of water through the pond allowed a certain amount of copper scale and mud to settle out of solution in the bottom of the pond. Periodically, this copper sludge was pumped out for polyelectrolyte addition and mixed with the other process waters for sludge settling in one of the clarifiers.

4.2.2 Tank Integrity

The underground boiler fuel storage tank and the gasoline storage tank fuel levels were monitored via inventory monitoring. This permitted detection of any large or sudden leaks in these tanks. The two above-ground propane storage tanks were subject to daily visual inspection to determine the presence of any leaks. The six external and eleven internal materials storage tanks were located above ground and on

concrete bermed pads, or on the facility's concrete flooring, respectively. This made them available for daily visual inspection.

4.2.3 Final Tank Disposition

The final disposition of the tanks has been presented in Section 4.1.1, Equipment Description, Decommissioning and Final Disposition. This information is summarized below:

The underground boiler fuel storage tank, containing No. 6 fuel oil, remains in the ground in fully operational condition as part of the on-site boiler and power plant system. The underground gasoline storage tank and on-site gas pump are in place in fully operational condition for use by the next occupants of the facility. The two above-ground propane boiler fuel storage tanks have been sold at auction as usable equipment.

The five external and five internal cyanide plating solution storage tanks were emptied, steam cleaned with lances and then triple rinsed. All of the cyanide salts, as well as the cyanide plating solution, steam cleaning condensate and rinsewaters were disposed of by CECOS in permitted disposal facilities (reference Section 3.3). The external cyanide solution storage tanks were abandoned in place in the following manner:

- o all piping was disconnected from the tanks; and
- o a hole was cut in the bottom of each tank to prevent its future use.

The five internal and the one external sulfuric acid storage tanks and the one internal caustic storage tank were decommissioned by neutralizing and draining the contents to the sanitary sewer with appurtenant piping disconnected. The clean tanks were cut into pieces and removed as steel scrap.

The three clarifiers and the copper pond were all decommissioned in the following manner:

- o all remaining sludge and slurry was pumped to the filter house for dewatering, the resulting sludge cake was sent to the Edgeboro landfill for disposal;
- o the walls of each unit were scraped down with a rubber squeegee, all residuals were also processed through the filter house;

- each unit was rinsed to remove all remaining sludge and slurry, rinsewater was processed through the filter house; and
- a six foot chain link fence was erected around each individual item to prevent accidental and/or unauthorized entry.
- the copper pond clarifier (C) was pressure washed to further remove any accumulated copper scale. This scale was drummed and sold.

These procedures were performed first for the copper pond and clarifiers A and C. Clarifier D was left in operation until June 30, 1987, then it was taken out of service. Cerro currently awaits a decision from the NYSDEC concerning the fate of liner in the copper pond. Spray washing of the copper pond liner was attempted and showed no effect. The accumulated rain waters in the copper pond were monitored June 16, 1987 and contained 0.35 mg/l copper with a pH of 7.7. This water can be discharged to the Nassau County sewer system in compliance with the industrial discharge regulations.

5.0 SOIL SAMPLING

A comprehensive uniform grid soil sampling program was developed for Cerro Conduit Company to investigate the existence of any soil contaminants on the property. The plan was submitted to the NYSDEC on February 25, 1987 and was approved by Mr. Robert Becherer on March 3, 1987. The plan was implemented on March 12, 13 and 14, 1987 by the Avendt Group, Inc. of Annapolis, MD. Full chain of custody control procedures and New York State Contract Lab Protocol (CLP) procedures were implemented for all sampling events. Details of the plan are included in the document titled "Soil Sampling Plan for Cerro Conduit Company" which is an accompanying document to this report. The reader is referred to that document for information on sampling and analytical techniques. Additional soil samples around the clarifiers and copper pond were taken by soil boring methods. This program and the corresponding results are also reported in the Soil Sampling Plan Report. This work was conducted on March 19 and 20, 1987 by the Avendt Group, Inc. and Soil Mechanics, Inc.

6.0 CERTIFICATION OF DECOMMISSIONING

Pursuant to 6 NYCRR Subpart 373-3.7(f), we, the undersigned, as representatives of Cerro Conduit Company, hereby certify, under the penalty of perjury, that the facility was decommissioned in accordance with the specifications in this approved Decommissioning Program Report.

Gerald T. Shannon, Vice President
Cerro Conduit Company
Date:

Raymond J. Avendt, Ph.D., P.E.
President, Avendt Group, Inc.
Registered Professional Engineer
New York State, Number 57739
Date: July 28, 1987