160 400

# SAMPLING DATA

REF 53

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

# CONFIDENTIAL MEMORANDUM

DATE: October 12, 1989

TO: Bob Carson and Gary King

FROM: Ron Turpin

SUBJECT: Review of Data Package
L1630200005 -- St. Clair County
Cerro Copper Products

The Division of Laboratories Quality Assurance Section has reviewed the above referenced data package. The data package is for one sample delivered to ARDL, Inc., on September 27, 1989 to be analyzed for Target Compound List organics and metals.

The sample contained gross levels of contaminants (both target and non-target analytes) which adversely affected the QC parameters. Many of the QC results were outside of the limits or not determinable due to the high levels of contaminants in the sample. The results of the QC analyses do not affect the validity of the results since the QC parameters were designed for trace level analyses. The results from this sample approach the percent level in all the organic fractions. The results of the analyses are valid as qualified on the Forms I provided by the laboratory.

cc: Paul Takacs
Karl Reed

RECEIVED
OCT 13 1989
IEPA-DLPC

# INORGANIC ANALYSIS DATA SHEET
## METALS

Lab Name: ARDL, Inc. IEPA Sample No. DI02

Matrix (soil/water): Soil Lab Sample ID: 200110-1

Level (low/med): Date Received: 9/27/89

% Solids: 77

Concentration Units (ug/L or mg/kg dry weight) mg/Kg dry

| CAS No. | Analyte | Concentration | C | M | Q |
|---|---|---|---|---|---|
| 7429-90-5 | Aluminum | 3700 | | P | * |
| 7440-36-0 | Antimony | 9.9 | u | P | N |
| 7440-38-2 | Arsenic | 5.8 | | BH | |
| 7440-39-3 | Barium | 20 | u | P | N |
| 7440-41-7 | Beryllium | 0.39 | u | P | N |
| 7440-43-9 | Cadmium | 2.2 | | P | * N |
| 7440-70-2 | Calcium | 25000 | | P | - |
| 7440-47-3 | Chromium | 49 | | P | * N E |
| 7440-48-4 | Cobalt | 23 | | P | * E |
| 7440-50-8 | Copper | 590 | | P | * |
| 7439-89-6 | Iron | 11000 | | P | * |
| 7439-92-1 | Lead | 13 | | F | * |
| 7439-95-4 | Magnesium | 1710 | | P | * E |
| 7439-96-5 | Manganese | 58 | | P | * N |
| 7439-97-6 | Mercury | 0.36 | | CV | |
| 7440-02-0 | Nickel | 830 | | P | * |
| 7440-09-7 | Potassium | 550 | | P | * |
| 7782-49-2 | Selenium | 1.0 | u | EE | |
| 7440-22-4 | Silver | 3.7 | | P | * N |
| 7440-23-5 | Sodium | 530 | | P | |
| 7440-28-0 | Thallium | 0.62 | u | F | |
| 7440-62-2 | Vanadium | 26 | | P | * E |
| 7440-66-6 | Zinc | 270 | | P | * N E |
| | | | | | |

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DI02

Lab Name: ARDL, INC. Contract: CERRO COPPER

Lab Code: ------- Case No.: 200110 SAS No.: ---- SDG No.: ----

Matrix: (soil/water) SOIL Lab Sample ID: 200110-1

Sample wt/vol: 4.0 (g/mL) G Lab File ID: >H1791

Level: (low/med) MED Date Received: 9/27/89

% Moisture: not dec. 23 Date Analyzed: 9/28/89

Column: PACK Dilution Factor: 1.00000

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | Unknown | 12.41 | 7800. | |
| 2. | | Unknown | 16.39 | 1200. | |
| 3. | | Unknown | 22.63 | 1200. | |
| 4. | | Unknown | 26.66 | 170. | |
| 5. | | Unknown | 29.02 | 69. | |
| 6. | | | | | |
| 7. | | | | | |
| 8. | | | | | |
| 9. | | | | | |
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| 29. | | | | | |
| 30. | | | | | |

FORM I VOA-TIC 1/87 Rev.

1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET
## TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

DIG2DL

Lab Name: ARDL, INC. Contract: CERRO COPPER

Lab Code: ------- Case No.: 200110 SAS No.: ---- SDG No.: ----

Matrix: (soil/water) SOIL Lab Sample ID: 200110-1DL

Sample wt/vol: 4.0 (g/mL) G Lab File ID: >H1805

Level: (low/med) MED Date Received: 9/27/89

% Moisture: not dec. 23 Date Analyzed: 9/29/89

Column: PACK Dilution Factor: 10.0000

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/Kg

| | CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|---|
| 1. | | Unknown | 26.64 | 5100. | D |
| 2. | | | | | |
| 3. | | | | | |
| 4. | | | | | |
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1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

DI02

Lab Name: ARDL, INC. Contract: CERRO COPPER

Lab Code: ----- Case No.: 200110 SAS No.: ---- SDG No.: ----

Matrix: (soil/water) SOIL Lab Sample ID: 200110-1

Sample wt/vol: 1.0 (g/mL) G Lab File ID: >B1154

Level: (low/med) MED Date Received: 9/27/89

% Moisture: not dec. 23 dec. ---- Date Extracted: 10/02/89

Extraction: (Sepf/Cont/Sonc) SONC Date Analyzed: 10/03/89

GPC Cleanup: (Y/N) N pH:--- Dilution Factor: 5.00000

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg | Q |
|---|---|---|---|
| 99-09-2 | 3-Nitroaniline | 620000. | U D |
| 83-32-9 | Acenaphthene | 22000. | J D |
| 51-28-5 | 2,4-Dinitrophenol | 620000. | U D |
| 100-02-7 | 4-Nitrophenol | 620000. | U D |
| 132-64-9 | Dibenzofuran | 130000. | U D |
| 121-14-2 | 2,4-Dinitrotoluene | 130000. | U D |
| 84-66-2 | Diethylphthalate | 130000. | U D |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 130000. | U D |
| 86-73-7 | Fluorene | 6000. | J D |
| 100-01-6 | 4-Nitroaniline | 620000. | U D |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 620000. | U D |
| 86-30-6 | N-Nitrosodiphenylamine (1) | 11000. | J D |
| 101-55-3 | 4-Bromophenyl-phenylether | 130000. | U D |
| 118-74-1 | Hexachlorobenzene | 830000. | D |
| 87-86-5 | Pentachlorophenol | 290000. | J D |
| 85-01-8 | Phenanthrene | 130000. | U D |
| 120-12-7 | Anthracene | 130000. | U D |
| 84-74-2 | Di-n-butylphthalate | 130000. | U D |
| 206-44-0 | Fluoranthene | 130000. | U D |
| 129-00-0 | Pyrene | 130000. | U D |
| 85-68-7 | Butylbenzylphthalate | 130000. | U D |
| 91-94-1 | 3,3'-Dichlorobenzidine | 260000. | D |
| 56-55-3 | Benzo(a)anthracene | 130000. | U D |
| 218-01-9 | Chrysene | 130000. | U D |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 130000. | U D |
| 117-84-0 | Di-n-Octyl Phthalate | 130000. | U D |
| 205-99-2 | Benzo(b)fluoranthene | 130000. | U D |
| 207-08-9 | Benzo(k)fluoranthene | 130000. | U D |
| 50-32-8 | Benzo(a)pyrene | 130000. | U D |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 130000. | U D |
| 53-70-3 | Dibenzo(a,h)anthracene | 130000. | U D |
| 191-24-2 | Benzo(g,h,i)perylene | 130000. | U D |

(1) - Cannot be separated from Diphenylamine

9

REF 52

CERRO COPPER
PO BOX 681
EAST ST. LOUIS, IL 62202

ENVIROMETRICS
2345 Millpark Drive
Maryland Heights
St. Louis County, MO 63043
(314) 427-0550

ATTN: JOE GRANA
INVOICE #6107

## SEMI-VOLATILE ORGANIC ANALYSIS

### METHOD SW-846 8270 & LIBRARY SEARCH

SAMPLE ID: JMG09/22/89-1 Auger Sample from Hole Drilling Dirudent on 9/20/89

| CAS NUMBER | | RESULTS |
|---|---|---|
| 541-73-1 | 1,3-DICHLOROBENZENE | ~ 220 ppm |
| 106-46-7 | 1,4-DICHLOROBENZENE | ~ 210 |
| 100-51-6 | BENZYL ALCOHOL | ~ 99 |
| 95-50-1 | 1,2-DICHLOROBENZENE | ~ 86 |
| 120-83-2 | 2,4-DICHLOROPHENOL | ~ 360 |
| 120-82-1 | 1,2,4-TRICHLOROBENZENE | ~ 140 |
| 91-57-6 | 2-METHYLNAPHTHALENE | ~ 4 |
| 118-74-1 | HEXACHLOROBENZENE | ~ 16 |
| | DOCOSANE | ~ 602 |
| | 2,6,10,15-TETRAMETHYLHEPTADECANE | ~ 410 |
| | PENTATRIACONTANE | ~ 500 |
| | 2,4,6-TRICHLORO-1,1-BIPHENYL | ~ 150 |
| | 2,3,6-TRICHLORO-1,1-BIPHENYL | ~ 210 |

These laboratory tests results are intended to be helpful and informative. They are based on our best experience, current industry testing procedures, and information provided with the sample, which we believe to be reliable. We cannot assume responsibility for any loss or accident that may result from use of the information given.

SEPTEMBER 25, 1989

WAYNE L. COOPER
LABORATORY DIRECTOR

**ENVIRONMETRICS**
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CERRO COPPER
PO BOX 681
EAST ST. LOUIS, IL 62202

ATTN: JOE GRANA
INVOICE #6107

## VOLATILE ORGANIC ANALYSIS

## METHOD SW-846 8240 & LIBRARY SEARCH

SAMPLE ID: JMG09/22/89-1 Auger Sample from Hole Drilling Incident on 9/20/89

| CAS NUMBER | | RESULTS |
|---|---|---|
| 79-01-6 | TRICHLOROETHENE | - 391 ppm |
| 71-43-2 | BENZENE | - 11 |
| 127-18-4 | TETRACHLOROETHENE | - 26 |
| 108-88-3 | TOLUENE | - 14 |
| 108-90-7 | CHLOROBENZENE | - 121 |
| 100-41-4 | ETHYLBENZENE | - 16 |
| 95-50-1 | 1,2-DICHLOROBENZENE | - 66 |

These laboratory tests results are intended to be helpful and informative. They are based on our best experience, current industry testing procedures, and information provided with the sample, which we believe to be reliable. We cannot assume responsibility for any loss or accident that may result from use of the information given.

SEPTEMBER 22, 1989

WAYNE L. COOPER
LABORATORY DIRECTOR