102192

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

**SUBJECT:** Southern Maryland Wood Treating Site
Non-significant Change to Record of Decision

SEP 18 1998.

**FROM:** Stephanie Dehnhard, RPM (3HS23)
Hazardous Site Cleanup Division
General Remedial Section

**TO:** Site File and Administrative Record

This non-significant change to the September 1995 Record of Decision (ROD) for the Southern Maryland Wood Treating Site will allow the option of treating water treatment plant residuals onsite in the thermal desorption process in addition to the offsite disposal at a RCRA hazardous waste disposal facility currently specified in the ROD.

The ROD for the Southern Maryland Wood Treating Site included the delisting of hazardous wastes (K001, F032, and F034) found in site soil. Soil contaminated with these listed wastes will be managed as hazardous waste until it is treated by thermal desorption onsite and meets the established delisting criteria. The treated soil will then be backfilled onsite.

The Performance Standards found in Section 10.1, paragraph 6 of the ROD also state that "any water treatment residuals determined to be hazardous wastes, either listed or characteristic, shall be disposed of offsite at a RCRA hazardous waste facility." Because the sludge is derived from the treatment of soil contaminated with a listed hazardous waste, and contains the same contaminants as the soil, the sludge must also be managed as a hazardous waste until it is treated and shown to meet the delisting criteria established for the soil. The sludge is amenable to treatment by onsite thermal desorption because it contains similar contaminants to the soil. The thermal desorption process has been successfully treating contaminated soil onsite since the Proof of Performance testing was conducted in June 1998. Analytical data also show that the sludge is not a characteristic waste (see attached data) as defined at COMAR 26.13.02.14, and 40 CFR Section 261.24.

Therefore, rather than necessarily disposing of the sludge offsite as a hazardous waste, the sludge may be treated onsite in the thermal desorption process. The treated sludge will then be analyzed to ensure that it meets all established delisting levels before it is backfilled onsite.

With respect to the volume of sludge generated over the life of the project, it is estimated that the volume will be small, approximately 600 cubic yards, relative to the volume of soil used to determine the delisting criteria in the ROD, approximately 80,000 cubic yards. Therefore, this is

an insignificant increase in the volume, less than one percent, which will not change the Dilution Attenuation Factor used to calculate the delisting criteria.

The difference in the cost could be substantial- $1,196,800 for offsite disposal as hazardous waste versus $112,400 for onsite treatment. Treating the sludge onsite could help to contain the costs of the cleanup at the site.

Since the water treatment plant sludge can be treated onsite in compliance with ARARs and at a potentially significant cost savings over offsite disposal, the remedial action may then employ onsite treatment for the treatment plant sludge in addition to offsite disposal as called for in the ROD. This change is a non-significant change to the Record of Decision.

**Volume Estimate for Entire Project**

(40 $ft^3$/day) x (1 $yd^3$/27$ft^3$) x 400 days production = 600 $yd^3$

**Disposal Cost for the Entire Project**:

For estimating purposes:

$1/lb for transportation/disposal. Actual costs at the Southern Maryland Wood Treating Site confirm that this is a reasonable estimate.

40$ft^3$ /day sludge produced

(40 $ft^3$/day) x (7.48 gal/$ft^3$) x (10 lbs/gal) = 2992 lbs/day

**Disposal Cost = (2992 lbs/day) x (400 days production) x ($1/lb) = $1,196,800**

**Onsite Treatment Cost for Entire Project**

Labor to transport sludge to onsite treatment process: (8 hrs/day) x (400 days) x ($24/hour) = $76,800

Processing cost at the onsite thermal desorption units (TDUs): assume 14 tons per hour at TDU will cost $20,000/day of operation

(2992 lbs/day) x (400 days) x (1ton/2000lbs) x (1 day/24 hrs) x ($20,000/day of operation) x (1 hr/14 tons) = $35,600

**Onsite Treatment Cost = $76,800 + $35,600 = $112,400**

ICF Kaiser Engineers

# Memo

**To:** Joseph Kelleher

**From:** Wendy Werkheiser

**cc:** Ralph Buckles, Mike Flaherty, Randy Ortland, Bill Simpson, Brian Roebuck

**Date:** 07/27/98

**Re:** Filter Press Cake

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Attached are the results of the TCLP analysis of the filter press cake sampled during the POP (6/14/98) and the WTP-1 sludge sampled on 12/18/98 (sludge was re-sampled for ignitability on 3/10/98). Results show that these materials can be successfully treated by the TDUs. We therefore recommend that these materials be treated by the TDUs. Also attached is Kirk's analysis that shows the cost benefit of retreating this material versus sending it off-site for disposal. Please obtain USACE approval to treat this material in the TDUs before August 7, 1998. Otherwise, we well likely have to dispose of this material off-site, which Kirk estimates will cost $20,000 for the first shipment.

## FILTER PRESS CAKE RESULTS (6/14/98)

| Parameter | Result (ug/L) | Reporting Limit (ug/L) | HW Char/Toxicity Regulatory Level (ug/L) |
|---|---|---|---|
| **Semivolatile Organic Compounds by 1311/3520C/8270C** | | | |
| 1,4-Dichlorobenzene | ND | 100 | 7500 |
| 2,4-Dinitrotoluene | ND | 100 | 130 |
| Hexachlorobenzene | ND | 100 | 130 |
| Hexachlorobutadiene | ND | 100 | 500 |
| Hexachloroethane | ND | 100 | 3000 |
| 2-Methylphenol | ND | 100 | 200000 |
| 3-Methylphenol | 10J | 100 | 200000 |
| 4-Methylphenol | ND | 100 | 200000 |
| Nitrobenzene | ND | 100 | 2000 |
| Pyridine | 46J | 100 | 5000 |
| 2,4,5-Trichlorophenol | ND | 100 | 400000 |
| 2,4,6-Trichlorophenol | ND | 100 | 2000 |
| **Pesticides by 1311/8081A** | | | |
| γ-BHC (Lindane) | ND | 0.5 | 400 |
| Chlordane | ND | 10 | 30 |
| Endrin | ND | 1 | 20 |
| Heptachlor (and its oxides) | ND | 0.5 | 8 |
| Methoxychlor | ND | 5 | 10000 |
| Toxaphene | ND | 50 | 500 |
| **Volatile Organic Compounds by 1311/5030/8260B** | | | |
| Benzene | ND | 130 | 500 |
| 2-Butanone (MEK) | ND | 130 | 200000 |
| Carbon tetrachloride | ND | 130 | 500 |
| Chlorobenzene | ND | 130 | 100000 |
| Chloroform | ND | 130 | 6000 |
| 1,2-Dichloroethane | ND | 130 | 500 |
| 1,1-Dichloroethene | ND | 130 | 700 |
| Tetrachloroethene | ND | 130 | 700 |
| Trichloroethene | ND | 130 | 500 |
| Vinyl chloride | ND | 130 | 200 |
| **Herbicides and Pentachlorophenol by 1311/8151A** | | | |
| 2,4-D | ND | 5 | 10000 |
| 2,4,5-TP | ND | 0.5 | 1000 |
| Pentachlorophenol | ND | 1 | 100000 |
| **Metals by 1311/3005A/7470A** | | | |
| Mercury | ND | 0.2 | 200 |
| **Metals by 1311/3005A/6010B** | | | |
| Arsenic | ND | 17 | 5000 |
| Barium | 888 | | 100000 |
| Cadmium | ND | 3 | 1000 |
| Chromium | 28.2 | | 5000 |
| Lead | ND | 13 | 5000 |
| Selenium | ND | 31 | 1000 |
| Silver | ND | 12 | 5000 |

## WTP-1 SLUDGE RESULTS (12/18/98)

| Parameter | Result (ug/L) | Reporting Limits (ug/L) | HW Char/Toxicity Regulatory Levels (ug/L) |
|---|---|---|---|
| **Semivolatile Organic Compounds by 1311/8270** | | | |
| 1,4-Dichlorobenzene | ND | 50 | 7500 |
| 2,4-Dinitrotoluene | ND | 50 | 130 |
| Hexachlorobenzene | ND | 50 | 130 |
| Hexachlorobutadiene | ND | 50 | 500 |
| Hexachloroethane | ND | 50 | 3000 |
| 2-Methylphenol | 8J | 50 | 200000 |
| 3-Methylphenol | 16J | 50 | 200000 |
| 4-Methylphenol | 16J | 50 | 200000 |
| Nitrobenzene | ND | 50 | 2000 |
| Pentachlorophenol | ND | 250 | 100000 |
| Pyridine | 8J | 50 | 5000 |
| 2,4,5-Trichlorophenol | ND | 50 | 400000 |
| 2,4,6-Trichlorophenol | ND | 50 | 2000 |
| **Pesticides by 1311/8080** | | | |
| γ-BHC (Lindane) | ND | 0.2 | 400 |
| Chlordane | ND | 0.7 | 30 |
| Endrin | ND | 0.3 | 20 |
| Heptachlor (and its oxides) | ND | 4.2 | 8 |
| Methoxychlor | ND | 8.8 | 10000 |
| Toxaphene | ND | 12 | 500 |
| **Volatile Organic Compounds by 1311/8240** | | | |
| Benzene | ND | 100 | 500 |
| 2-Butanone (MEK) | ND | 100 | 200000 |
| Carbon tetrachloride | ND | 100 | 500 |
| Chlorobenzene | ND | 100 | 100000 |
| Chloroform | ND | 100 | 6000 |
| 1,2-Dichloroethane | ND | 100 | 500 |
| 1,1-Dichloroethene | ND | 100 | 700 |
| Tetrachloroethene | ND | 100 | 700 |
| Trichloroethene | ND | 100 | 500 |
| Vinyl chloride | ND | 100 | 200 |
| **Herbicides by 1311/8150** | | | |
| 2,4-D | ND | 60 | 10000 |
| 2,4,5-TP | ND | 8.5 | 1000 |
| **Metals by 1311/7470** | | | |
| Mercury | ND | 2 | 200 |
| **Metals by 1311/6010** | | | |
| Arsenic | ND | 100 | 5000 |
| Barium | 1260 | 100 | 100000 |
| Cadmium | ND | 30 | 1000 |
| Chromium | ND | 50 | 5000 |
| Lead | ND | 30 | 5000 |
| Selenium | ND | 50 | 1000 |
| Silver | ND | 30 | 5000 |

| Parameter | Results | Reporting Limits | HW Char. Regulatory Levels |
|---|---|---|---|
| **Ignitability by 1010** | | | |
| Flashpoint (3/10/98) | >205.7°F | ±0.1°F | >140°F |
| **Corrosivity by 9045** | | | |
| pH | 7.96 | ±0.01 | 2-12.5 |
| **Total Reactive Cyanide by SW846 7.3.3** | | | |
| Reactive Cyanide | ND | 0.025 mg/kg | 250 mg/kg |
| **Total Reactive Sulfide by SW846 7.3.4** | | | |
| Reactive Sulfide | ND | 4.93 mg/kg | 500 mg/kg |

# GP ENVIRONMENTAL SERVICES
# ORGANIC ANALYSIS RESULTS



GP ID: 9712113-02A
Client ID: 97-031 SLUDGE
Collected: 12/18/97
Dilution: 1

Matrix: SOLID
Method: 8270 TCLP
Units: ug/L

Analyst: MN
Analyzed: 01/06/98
Prepared:

## SEMIVOLATILE TARGET COMPOUNDS

| Parameter | Result | Det.Lim. | Qualifier |
|---|---|---|---|
| 1,4-Dichlorobenzene | BQL | 50 | |
| 2,4,5-Trichlorophenol | BQL | 50 | |
| 2,4,6-Trichlorophenol | BQL | 50 | |
| 2,4-Dinitrotoluene | BQL | 50 | |
| Hexachlorobenzene | BQL | 50 | |
| Hexachlorobutadiene | BQL | 50 | |
| Hexachloroethane | BQL | 50 | |
| m + p-Cresol | 16 | 50 | J |
| Nitrobenzene | BQL | 50 | |
| o-Cresol | 8 | 50 | J |
| Pentachlorophenol | BQL | 250 | |
| Pyridine | 8 | 50 | J |

# GP ENVIRONMENTAL SERVICES
## ORGANIC ANALYSIS RESULTS



GP ID: 9712113-02A
Client ID: 97-031 SLUDGE
Collected: 12/18/97
Dilution: 10

Matrix: SOLID
Method: 8240 TCLP
Units: ug/L

Analyst: JAH
Analyzed: 01/02/98
Prepared:

VOLATILE TARGET COMPOUNDS

| Parameter | Result | Det.Lim. | Qualifier |
|---|---|---|---|
| 1,1-Dichloroethene | BQL | 100 | |
| 1,2-Dichloroethane | BQL | 100 | |
| 1,4-Dichlorobenzene | BQL | 100 | |
| 2-Butanone | BQL | 100 | |
| Benzene | BQL | 100 | |
| Carbon tetrachloride | BQL | 100 | |
| Chlorobenzene | BQL | 100 | |
| Chloroform | BQL | 100 | |
| Tetrachloroethene | BQL | 100 | |
| Trichloroethene | BQL | 100 | |
| Vinyl chloride | BQL | 100 | |

# GP ENVIRONMENTAL SERVICES
# ORGANIC ANALYSIS RESULTS



GP ID: 9712113-02A
Client ID: 97-031 SLUDGE
Collected: 12/18/97
Dilution: 1

Matrix: SOLID
Method: 8080 TCLP
Units: ug/L

Analyst: AK
Analyzed: 01/07/98
Prepared: 01/04/98

## GC TARGET COMPOUNDS

| Parameter | Result | Det.Lim. | Qualifier |
|---|---|---|---|
| Chlordane | BQL | 0.70 | |
| Endrin | BQL | 0.30 | |
| gamma-BHC (Lindane) | BQL | 0.20 | |
| Heptachlor | BQL | 0.15 | |
| Heptachlor epoxide | BQL | 4.2 | |
| Methoxychlor | BQL | 8.8 | |
| Toxaphene | BQL | 12 | |

# GP ENVIRONMENTAL SERVICES
# ORGANIC ANALYSIS RESULTS



GP ID: 9712113-02A
Client ID: 97-031 SLUDGE
Collected: 12/18/97
Dilution: 1

Matrix: SOLID
Method: 8150 TCLP
Units: ug/L

Analyst: AK
Analyzed: 01/05/98
Prepared: 01/02/98

## GC TARGET COMPOUNDS

| Parameter | Result | Det.Lim. | Qualifier |
|---|---|---|---|
| 2,4-D | BQL | 60 | |
| Silvex | BQL | 8.5 | |

# GP ENVIRONMENTAL SERVICES
## ORGANIC ANALYSIS RESULTS



GP ID: 9712113-02
Client ID: 97-031 SLUDGE

Matrix: SOLID
Collected: 12/18/97

| Parameter | Method | Result | Det.Lim. | Units | Dil. | Prepared | Analyzed By |
|---|---|---|---|---|---|---|---|
| Flash point | SW846 1010 | 35 | 100 | deg. C | | | 12/20/97 DH |

# GP ENVIRONMENTAL SERVICES
## METALS ANALYSIS RESULTS



GP ID: 9712113-01
Client ID: 97-031 CARBON

Matrix: SOLID
Collected: 12/18/97

| Parameter | Method | Result | | Det.Lim. | Units | Dil. | Prepared | Analyzed By |
|---|---|---|---|---|---|---|---|---|
| TCLP Silver | SW846 6010T | | BQL | 30.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Arsenic | SW846 6010T | | BQL | 100 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Barium | SW846 6010T | 811 | | 100 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Cadmium | SW846 6010T | | BQL | 30.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Chromium | SW846 6010T | | BQL | 50.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Mercury | SW846 7470T | | BQL | 2.00 | UG/L | 1 | 01/02/97 | 01/02/98 DDH |
| TCLP Lead | SW846 6010T | | BQL | 30.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Selenium | SW846 6010T | | BQL | 50.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |

GP ID: 9712113-02
Client ID: 97-031 SLUDGE

Matrix: SOLID
Collected: 12/18/97

| Parameter | Method | Result | | Det.Lim. | Units | Dil. | Prepared | Analyzed By |
|---|---|---|---|---|---|---|---|---|
| TCLP Silver | SW846 6010T | | BQL | 30.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Arsenic | SW846 6010T | | BQL | 100 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Barium | SW846 6010T | 1260 | | 100 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Cadmium | SW846 6010T | | BQL | 30.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Chromium | SW846 6010T | | BQL | 50.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Mercury | SW846 7470T | | BQL | 2.00 | UG/L | 1 | 01/02/97 | 01/02/98 DDH |
| TCLP Lead | SW846 6010T | | BQL | 30.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |
| TCLP Selenium | SW846 6010T | | BQL | 50.0 | ug/L | 1 | 01/02/98 | 01/02/98 SD |

# GP ENVIRONMENTAL SERVICES
## WET CHEMISTRY ANALYSIS RESULTS



GP ID: 9712113-02
Client ID: 97-031 SLUDGE

Matrix: SOLID
Collected: 12/18/97

| Parameter | Method | Result | Det.Lim. | Units | Dil. | Prepared | Analyzed By |
|---|---|---|---|---|---|---|---|
| Reactive Cyanide | SW846 7.3.3 | BQL | 0.025 | mg/Kg | 1 | | 12/23/97 AS |
| pH | SW846 9045 | 8.96 | 0.010 | pH | 1 | | 12/26/97 AS |
| Reactive Sulfide | SW846 7.3.4 | BQL | 4.93 | mg/Kg | 1 | | 12/23/97 TD |
| Percent Solids | MCAWW 160.3 | 10.3 | | % | | | 12/24/97 JH |

# IGNITABILITY
Method 1010

Lab Name: Paragon Analytics, Inc.
Client Name: ICF Kaiser Engeneers, Inc.
Client Project ID: 66716-505-03
Lab Workorder Number: 98-03-075

Date Collected: 03/10/98
Date Analyzed: 03/13/98
Sample Matrix: Water

| Sample ID | Lab Sample ID | Ignitable At (degree C) | Non-Ignitable Below (degree C) |
|---|---|---|---|
| SEDTK1 | 98-03-075-10 | | 96.5 |
| SEDTK1D | 93-03-075-11 | | 96.5 |

# Semi-volatile Organics by GC/MS

## Method SW8270–TCLP Leachate

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9806138
Client Name: ICF Kaiser Engineers, Inc.
ClientProject ID: 66716-505-03

PRELIMINARY RESULTS

Reported on: Friday, July 10, 1998

FCC ID: PPFPC01
Lab ID: 9806138-23

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Jun-98
Date Extracted: 26-Jun-98
Date Analyzed: 06-Jul-98
Prep Batch: EX980626-3

Sample Aliquot: 100
Final Volume: 1
Dilution: 1
LEACH DATE: 6/21/98

| CASNO | Target Analyte | Result | Units | Reporting Limit | Result Qualifier | Result Footnote |
|---|---|---|---|---|---|---|
| 110-86-1 | PYRIDINE | 0.046 | mg/l | 0.1 | J | |
| 106-46-7 | 1,4-DICHLOROBENZENE | 0.1 | mg/l | 0.1 | U | |
| 95-48-7 | 2-METHYLPHENOL | 0.1 | mg/l | 0.1 | U | |
| 108-39-4 | 3+4-METHYLPHENOL | 0.01 | mg/l | 0.1 | J | |
| 67-72-1 | HEXACHLOROETHANE | 0.1 | mg/l | 0.1 | U | |
| 98-95-3 | NITROBENZENE | 0.1 | mg/l | 0.1 | U | |
| 87-68-3 | HEXACHLOROBUTADIENE | 0.1 | mg/l | 0.1 | U | |
| 88-06-2 | 2,4,6-TRICHLOROPHENOL | 0.1 | mg/l | 0.1 | U | |
| 95-95-4 | 2,4,5-TRICHLOROPHENOL | 0.1 | mg/l | 0.1 | U | |
| 121-14-2 | 2,4-DINITROTOLUENE | 0.1 | mg/l | 0.1 | U | |
| 118-74-1 | HEXACHLOROBENZENE | 0.1 | mg/l | 0.1 | U | |
| 87-86-5 | PENTACHLOROPHENOL | 0.05 | mg/l | 0.05 | U | |
| 108-95-2 | PHENOL | 0.052 | mg/l | 0.1 | J,B | |
| 95-57-8 | 2-CHLOROPHENOL | 0.1 | mg/l | 0.1 | U | |
| 105-67-9 | 2,4-DIMETHYLPHENOL | 0.1 | mg/l | 0.1 | U | |
| 59-50-7 | 4-CHLORO-3-METHYLPHENOL | 0.1 | mg/l | 0.1 | U | |
| 51-28-5 | 2,4-DINITROPHENOL | 0.1 | mg/l | 0.1 | U | |
| 58-90-2 | 2,3,4,6-TETRACHLOROPHENOL | 0.1 | mg/l | 0.1 | U | |
| 86-74-8 | CARBAZOLE | 0.1 | mg/l | 0.1 | | |

# Semi-volatile Organics by GC/MS

## Method SW8270--TCLP Leachate

PRELIMINARY RESULTS

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9806138
Client Name: ICF Kaiser Engineers, Inc.
ClientProject ID: 66716-505-03
Reported on: Friday, July 10, 1998

| | |
|---|---|
| CLIENT ID: | PPFPC01 |
| LAB ID: | 9806138-23 |

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Jun-98
Date Extracted: 26-Jun-98
Date Analyzed: 08-Jul-98
Prep Batch: EX980626-3

Sample Aliquot: 100
Final Volume: 1
Dilution: 1
LEACH DATE: 6/21/98

## Surrogate Recovery

| CASNO | Surrogate Analyte | Result | Units | Spike Amount | Percent Recovery | Control Limits |
|---|---|---|---|---|---|---|
| 118-79-6 | 2,4,6-TRIBROMOPHENOL | 0.544 | mg/l | 0.75 | 73 | 23 - 100 |
| 321-60-8 | 2-FLUOROBIPHENYL | 0.344 | mg/l | 0.5 | 69 | 21 - 106 |
| 367-12-4 | 2-FLUOROPHENOL | 0.523 | mg/l | 0.75 | 70 | 21 - 100 |
| 4165-60-0 | NITROBENZENE-D5 | 0.399 | mg/l | 0.5 | 80 | 34 - 111 |
| 4165-62-2 | PHENOL-D5 | 0.613 | mg/l | 0.75 | 82 | 15 - 104 |
| 1718-51-0 | TERPHENYL-D14 | 0.476 | mg/l | 0.5 | 95 | 33 - 111 |

AR305091

# Volatile Organics by GC/MS

## Method SW8260--TCLP Leachate

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9806138
Client Name: ICF Kaiser Engineers, Inc.
ClientProject ID: 66716-505-03

PRELIMINARY RESULTS

Reported on: Tuesday, July 07, 1998

Field ID: PPFPC01
Lab ID: 9806138-22

Sample Matrix: Liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Jun-98
Date Extracted: 25-Jun-98
Date Analyzed:
Prep Batch: V06138T

Sample Aliquot: 5
Final Volume: 5
Dilution: 5
LEACH DATE: 6/27/98

| CASNO | Target Analyte | Result | Units | Reporting Limit | Result Qualifier | Result Footnote |
|---|---|---|---|---|---|---|
| 100-41-4 | ETHYLBENZENE | 1.8 | ug/L | 130 | J | |
| 136777-61- | M+P-XYLENE | 3 | ug/L | 130 | J | |
| 95-47-6 | O-XYLENE | 2.3 | ug/L | 130 | J | |
| 100-42-5 | STYRENE | 5.8 | ug/L | 130 | J | |
| 75-01-4 | VINYL CHLORIDE | 130 | ug/L | 130 | U | |
| 75-35-4 | 1,1-DICHLOROETHENE | 130 | ug/L | 130 | U | |
| 78-93-3 | 2-BUTANONE | 130 | ug/L | 130 | U | |
| 67-66-3 | CHLOROFORM | 130 | ug/L | 130 | U | |
| 56-23-5 | CARBON TETRACHLORIDE | 130 | ug/L | 130 | U | |
| 107-06-2 | 1,2-DICHLOROETHANE | 130 | ug/L | 130 | U | |
| 71-43-2 | BENZENE | 130 | ug/L | 130 | U | |
| 79-01-6 | TRICHLOROETHENE | 130 | ug/L | 130 | U | |
| 127-18-4 | TETRACHLOROETHENE | 130 | ug/L | 130 | U | |
| 108-90-7 | CHLOROBENZENE | 130 | ug/L | 130 | U | |

## Surrogate Recovery

| CASNO | Surrogate Analyte | Result | Units | Spike Amount | Percent Recovery | Control Limits |
|---|---|---|---|---|---|---|
| 460-00-4 | 4-BROMOFLUOROBENZENE | 49.4 | ug/l | 50 | 99 | 86 - 115 |
| 1868-53-7 | DIBROMOFLUOROMETHANE | 51.4 | ug/l | 50 | 103 | 86 - 118 |
| 2037-26-5 | TOLUENE-D8 | 49.7 | ug/l | 50 | 99 | 88 - 110 |

U = Less than the Reporting Limit

# Organochlorine Pesticides

## Method SW8081--TCLP Leachate

Lab Name: Paragon Analytics, Inc.
Work Order Number: 9806138
Client Name: ICF Kaiser Engineers, Inc.
ClientProject ID: 66716-505-03
Reported on: Thursday, July 02, 1998

Field ID: PPFPCO1
Lab ID: 9806138-23

Sample Matrix: liquid
% Moisture: N/A
Cleanup Method: NONE
Report Basis: AS RECEIVED

Date Collected: 14-Jun-98
Date Extracted: 25-Jun-98
Date Analyzed: 01-Jul-98
Prep Batch: EX980625-6

Sample Aliquot: 100
Final Volume: 10
Dilution: 1
LEACH DATE: 6/21/98

| CASNO | Target Analyte | Result | Units | Reporting Limit | Result Qualifier | Result Footnote |
|---|---|---|---|---|---|---|
| 58-89-9 | GAMMA-BHC (LINDANE) | 0.0005 | mg/l | 0.0005 | U | |
| 76-44-8 | HEPTACHLOR | 0.0005 | mg/l | 0.0005 | U | |
| 72-20-8 | ENDRIN | 0.001 | mg/l | 0.001 | U | |
| 72-43-5 | METHOXYCHLOR | 0.005 | mg/l | 0.005 | U | |
| 8001-35-2 | TOXAPHENE | 0.05 | mg/l | 0.05 | U | |
| 57-74-9 | CHLORDANE | 0.01 | mg/l | 0.01 | U | |

## Surrogate Recovery

| CASNO | Surrogate Analyte | Result | Units | Spike Amount | Percent Recovery | Control Limits |
|---|---|---|---|---|---|---|
| 2051-24-3 | DECACHLOROBIPHENYL | 0.0047 | mg/l | 0.005 | 95 | 46 - 143 |
| 877-09-8 | TETRACHLORO-M-XYLENE | 0.0054 | mg/l | 0.005 | 109 | 44 - 131 |

U = Less than the Reporting Limit

PRELIMINARY RESULTS

Herbicides

## Method --TCLP Leachate

**Lab Name:** Paragon Analytics, Inc.
**Work Order Number:** 9806138
**Client Name:** ICF Kaiser Engineers, Inc.
**ClientProject ID:** 66716-505-03
**Reported on:** Thursday, July 09, 1998

| | |
|---|---|
| ClientID: | PPFPCO1 |
| Lab ID: | 9806138-23 |

**Sample Matrix:** liquid
**% Moisture:** N/A
**Cleanup Method:** NONE
**Report Basis:** AS RECEIVED
**Date Collected:** 14-Jun-98
**Date Extracted:** 25-Jun-98
**Date Analyzed:** 04-Jul-98
**Prep Batch:** EX980625-3
**Sample Aliquot:** 100
**Final Volume:** 10
**Dilution:** 1
**LEACH DATE:** 6/21/98

| CASNO | Target Analyte | Result | Units | Reporting Limit | Result Qualifier | Result Footnote |
|---|---|---|---|---|---|---|
| 94-75-7 | 2,4-D | 0.005 | mg/l | 0.005 | U | |
| 87-86-5 | PENTACHLOROPHENOL | 0.001 | mg/l | 0.001 | U | |
| 93-72-1 | SILVEX | 0.0005 | mg/l | 0.0005 | U | |

## Surrogate Recovery

| CASNO | Surrogate Analyte | Result | Units | Spike Amount | Percent Recovery | Control Limits |
|---|---|---|---|---|---|---|
| 19719-28-9 | 2,4-DICHLOROPHENYLACETIC ACID | 0.0174 | mg/l | 0.02 | 87 | 47 - 154 |

U = Less than the Reporting Limit

PRELIMINARY RESULTS

U.S. EPA - CLP

1
INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

FPFPC01

Lab Name: PARAGON_ANALYTICS_____ Contract: _____

Lab Code: NA____ Case No.: _____ SAS No.: _____ SDG No.: SMWT__

Matrix (soil/water): WATER Lab Sample ID: 9806138-23

Level (low/med): LOW__ Date Received: 06/17/98

% Solids: __0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L_

| CAS No. | Analyte | Concentration | C | Q | M |
|---|---|---|---|---|---|
| 7440-38-2 | Arsenic | 17.0 | U | | P |
| 7440-39-3 | Barium | 888 | B | | P |
| 7440-43-9 | Cadmium | 3.0 | U | | P |
| 7440-47-3 | Chromium | 28.2 | B | | P |
| 7439-92-1 | Lead | 13.0 | U | | P |
| 7439-97-6 | Mercury | 0.20 | U | | AV |
| 7782-49-2 | Selenium | 31.0 | U | | P |
| 7440-22-4 | Silver | 12.0 | U | | P |

Color Before: LT_BROWN_ Clarity Before: CLEAR_ Texture: N/A___

Color After: COLORLESS Clarity After: CLEAR_ Artifacts: _____

Comments:

FORM I - IN