

From: American Laboratories and  
Research Services, Inc.  
P.O. Box 15609  
Hattiesburg, MS 39402-5609  
601-264-9320

Date: October 9, 1990

To: Mr. William H. Cooper  
PPG Industries  
Chemicals Division  
P.O. Box 1000  
Lake Charles, LA 70602

The following analytical results have been obtained for the  
indicated sample which was submitted to this laboratory:

Sample I.D. AA04888

Sample location: PPGHC

Cooling Tower Sludge (B) 44-1397

Collected by: PREJEAN

Collection date: 09/07/90 Time: 13:15

Laboratory submittal date: 09/13/90 Time: 19:00

Received by: RLH

Validated by: RLH

Parameter: TCLP Extraction

Method reference: SW846-1311

Result: done

Date started: 09/20/90

Time started: 11:45

Date finished: 09/21/90

Analyst: MJF

Parameter: TCLP Metals

Method reference: SW846 3rd Ed

Result: see appended report

Date started: 09/27/90

Time started: 09:00

Date finished: 10/08/90

Analyst: JSC

Parameter: TCLP Volatile Organics

Method reference: EPA 624

Result: see appended report

Date started: 09/30/90

Time started: 20:33

Date finished: 09/30/90

Analyst: BB

SL 046152

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Sample I.D. AA04866 (continued)

Parameter: TCLP Semi-Volatiles  
Method reference: EPA 625  
Result: see appended report  
Date started: 09/28/90  
Time started: 02:43

Date finished: 09/28/90  
Analyst: BB

Parameter: Selected Volatile Organics  
Method reference: SW846-8240  
Result: see appended report  
Date started: 10/02/90  
Time started: 21:56

Date finished: 10/02/90  
Analyst: BB

Parameter: Semi-Volatile Organics  
Method reference: SW846-8270  
Result: see appended report  
Date started: 10/02/90  
Time started: 23:23

Date finished: 10/02/90  
Analyst: BB

Parameter: pH  
Method reference: EPA 150.1  
Result: 7.9 SU  
Date started: 09/14/90  
Time started: 15:00

MDL or sensitivity: 0.00  
Date finished: 09/14/90  
Analyst: KEL

Data for TCLP Volatile Organics ug/L

| Component Name       | Concentration | Component MDL |
|----------------------|---------------|---------------|
| Benzene              | Not Det       | 10            |
| Carbon Tetrachloride | Not Det       | 10            |
| Chlorobenzene        | Not Det       | 10            |
| Chloroform           | Not Det       | 10            |
| 1,2-Dichloroethane   | Not Det       | 10            |
| 1,1-Dichloroethene   | Not Det       | 10            |
| Methyl Ethyl Ketone  | Not Det       | 10            |
| Tetrachloroethene    | 33            | 10            |
| Trichloroethene      | 11            | 10            |
| Vinyl Chloride       | Not Det       | 10            |
| Pyridine             | Not Det       | 500           |

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## Data for TCLP Semi-Volatiles ug/L

| Component Name        | Concentration | Component MDL |
|-----------------------|---------------|---------------|
| 1,4-Dichlorobenzene   | Not Det       | 10            |
| Hexachloroethane      | Not Det       | 10            |
| Nitrobenzene          | Not Det       | 10            |
| Hexachlorobutadiene   | Not Det       | 10            |
| 2,4-Dinitrotoluene    | Not Det       | 10            |
| Hexachlorobenzene     | Not Det       | 10            |
| Cresols, total        | Not Det       | 20            |
| 2,4,6-Trichlorophenol | Not Det       | 10            |
| 2,4,5-Trichlorophenol | Not Det       | 50            |
| Pentachlorophenol     | Not Det       | 50            |

## Data for TCLP Metals mg/L

| Component Name | Concentration | Component MDL |
|----------------|---------------|---------------|
| Arsenic, TCLP  | Not Det       | .005          |
| Barium, TCLP   | 2.9           | .1            |
| Cadmium, TCLP  | .03           | .01           |
| Chromium, TCLP | Not Det       | .03           |
| Lead, TCLP     | .04           | .04           |
| Mercury, TCLP  | Not Det       | .005          |
| Selenium, TCLP | .025          | .005          |
| Silver, TCLP   | Not Det       | .03           |

## Data for Selected Volatile Organics mg/Kg

| Component Name           | Concentration | Component MDL |
|--------------------------|---------------|---------------|
| Chloromethane            | Trace         | 10            |
| Bromomethane             | 42            | 10            |
| Vinyl Chloride           | 190           | 10            |
| Chloroethane             | Not Det       | 10            |
| Methylene Chloride       | Not Det       | 5             |
| 1,1-Dichloroethene       | Not Det       | 5             |
| 1,1-Dichloroethane       | Not Det       | 5             |
| trans-1,2-Dichloroethene | Not Det       | 5             |
| Chloroform               | Not Det       | 5             |
| 1,2-Dichloroethane       | 110           | 5             |

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## Data for Selected Volatile Organics (continued)

| Component Name            | Concentration | Component MDL |
|---------------------------|---------------|---------------|
| 1,1,1-Trichloroethane     | Not Det       | 5             |
| Carbon Tetrachloride      | Not Det       | 5             |
| Bromodichloromethane      | Not Det       | 5             |
| 1,2-Dichloropropane       | Not Det       | 5             |
| t-1,3-Dichloropropene     | Not Det       | 5             |
| Trichloroethene           | 110           | 5             |
| Dibromochloromethane      | Not Det       | 5             |
| 1,1,2-Trichloroethane     | 36            | 5             |
| Benzene                   | Not Det       | 5             |
| c-1,3-Dichloropropene     | Not Det       | 5             |
| Bromoform                 | Not Det       | 5             |
| Tetrachloroethene         | 1200          | 5             |
| 1,1,2,2-Tetrachloroethane | 12            | 5             |
| Toluene                   | 5             | 5             |
| Chlorobenzene             | Not Det       | 5             |
| Ethylbenzene              | Not Det       | 5             |
| Xylene, total             | Not Det       | 5             |
| c-1,2-Dichloroethene      | 350           | 5             |
| 1,1,1,2-Tetrachloroethane | Not Det       | 5             |

## Data for Semi-Volatile Organics ug/Kg

| Component Name               | Concentration | Component MDL |
|------------------------------|---------------|---------------|
| Phenol                       | Not Det       | 300           |
| bis(2-Chloroethyl) Ether     | Not Det       | 300           |
| 2-Chlorophenol               | Not Det       | 300           |
| 1,3-Dichlorobenzene          | Not Det       | 300           |
| 1,4-Dichlorobenzene          | Not Det       | 300           |
| 1,2-Dichlorobenzene          | Not Det       | 300           |
| bis(2-Chloroisopropyl) Ether | Not Det       | 300           |
| N-Nitroso-di-n-propylamine   | Not Det       | 300           |
| Hexachloroethane             | Not Det       | 300           |
| Nitrobenzene                 | Not Det       | 300           |
| Isophorone                   | Not Det       | 300           |
| 2-Nitrophenol                | Not Det       | 300           |
| 2,4-Dimethylphenol           | Not Det       | 300           |
| bis(2-Chloroethoxy) Methane  | Not Det       | 300           |
| 2,4-Dichlorophenol           | Not Det       | 300           |
| 1,2,4-Trichlorobenzene       | Not Det       | 300           |
| Napthalene                   | Not Det       | 300           |
| Hexachlorobutadiene          | Not Det       | 300           |
| 4-Chloro-3-methylphenol      | Not Det       | 300           |

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## Data for Semi-Volatile Organics (continued)

| Component Name              | Concentration | Component MDL |
|-----------------------------|---------------|---------------|
| Hexachlorocyclopentadiene   | Not Det       | 300           |
| 2,4,6-Trichlorophenol       | Not Det       | 300           |
| 2-Chloronaphthalene         | Not Det       | 300           |
| Dimethyl Phthalate          | Not Det       | 300           |
| Acenaphthylene              | Not Det       | 300           |
| Acenaphthene                | Not Det       | 300           |
| 2,4-Dinitrophenol           | Not Det       | 1500          |
| 4-Nitrophenol               | Not Det       | 1500          |
| 2,4-Dinitrotoluene          | Not Det       | 300           |
| 2,6-Dinitrotoluene          | Not Det       | 300           |
| Diethylphthalate            | Not Det       | 300           |
| 4-Chlorophenyl-phenylether  | Not Det       | 300           |
| Fluorene                    | Not Det       | 300           |
| 4,6-Dinitro-2-methylphenol  | Not Det       | 1500          |
| N-Nitrosodiphenylamine      | Not Det       | 300           |
| 4-Bromophenylphenyl ether   | Not Det       | 300           |
| Hexachlorobenzene           | 860           | 300           |
| Pentachlorophenol           | Not Det       | 1500          |
| Phenanthrene                | Trace         | 300           |
| Anthracene                  | Not Det       | 300           |
| Di-n-Butylphthalate         | Not Det       | 300           |
| Fluoranthene                | Trace         | 300           |
| Pyrene                      | Not Det       | 300           |
| Butylbenzylphthalate        | Not Det       | 300           |
| 3,3'-Dichlorobenzidine      | Not Det       | 600           |
| Benzo(a)anthracene          | Not Det       | 300           |
| bis(2-Ethylhexyl) Phthalate | Not Det       | 300           |
| Chrysene                    | Not Det       | 300           |
| Di-n-octyl Phthalate        | Not Det       | 300           |
| Benzo(b)fluoranthene        | Not Det       | 300           |
| Benzo(k)fluoranthene        | Not Det       | 300           |
| Benzo(a)pyrene              | Not Det       | 300           |
| Indeno(1,2,3-c,d)pyrene     | Not Det       | 300           |
| Dibenzo(a,h)anthracene      | Not Det       | 300           |
| Benzo(g,h,i)perylene        | Not Det       | 300           |
| Benzidine                   | Not Det       | 2400          |
| alpha-BHC                   | Not Det       | 300           |
| beta-BHC                    | Not Det       | 300           |
| delta-BHC                   | Not Det       | 300           |
| gamma-BHC                   | Not Det       | 300           |
| Heptachlor                  | Not Det       | 300           |
| Aldrin                      | Not Det       | 300           |
| Heptachlor Epoxide          | Not Det       | 300           |
| Endosulfan I                | Not Det       | 300           |
| Dieldrin                    | Not Det       | 300           |
| 4,4'-DDE                    | Not Det       | 300           |

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Sample I.D. AA048-3 (continued)

Data for Semi-Volatile Organics (continued)

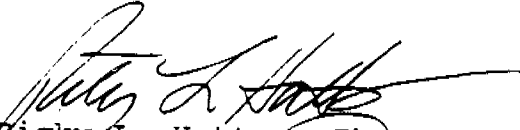
| Component Name         | Concentration | Component MDL |
|------------------------|---------------|---------------|
| Endrin                 | Not Det       | 300           |
| Endosulfan II          | Not Det       | 300           |
| 4,4'-DDD               | Not Det       | 300           |
| Endosulfan Sulfate     | Not Det       | 300           |
| 4,4'-DDT               | Not Det       | 300           |
| Methoxychlor           | Not Det       | 300           |
| Endrin Aldehyde        | Not Det       | 300           |
| alpha-Chlordane        | Not Det       | 300           |
| gamma-Chlordane        | Not Det       | 300           |
| Toxaphene              | Not Det       | 300           |
| Aroclor-1016           | Not Det       | 600           |
| Aroclor-1221           | Not Det       | 300           |
| Aroclor-1232           | Not Det       | 300           |
| Aroclor-1242           | Not Det       | 300           |
| Aroclor-1248           | Not Det       | 300           |
| Aroclor-1254           | Not Det       | 300           |
| Aroclor-1260           | Not Det       | 600           |
| 1,2-Diphenylhydrazine  | Not Det       | 600           |
| N-Nitrosodimethylamine | Not Det       | 300           |

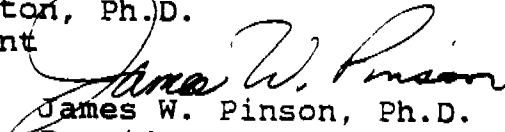
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Comments:

Reference Lab Report No. R1461.

If there are any questions regarding this data, please call.

  
Ricky L. Hatton, Ph.D.  
Vice President

Reviewed By:   
James W. Pinson, Ph.D.  
President

SL 046157