



**GIANT**



Giant Refining Company  
Route 3, Box 7  
Gallup, NM 87301

August 1, 2007

Ms. Hope Monzeglio  
Environmental Specialist  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, Bldg 1  
Santa Fe, NM 87505

**RE: Request for Contained-In Determination**

Dear Hope:

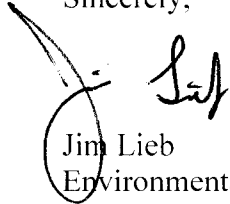
Giant (Western) Refining - Ciniza Refinery recently cleaned (in July 2007) the banks of aeration lagoons 1 and 2 and evaporation pond 1 and portions of pond 2. The soil has been contained in our waste soil staging area in a bermed area. The soil amounts to approximately 100 cubic yards. By way of this letter Western is requesting that NMED perform a contained-in determination for these soils based on the sampling results.

Giant followed your directive concerning sampling of the soil. We collected two composite samples and two discrete samples; the discrete samples were taken from soil showing the greatest visible contamination. The composite samples were analyzed for SVOCs full suite, TCLP metals – RCRA 8, reactivity, ignitibility, corrosivity, flash point and TPH. The discrete samples were analyzed for VOCs. The attached results are mostly non-detect for the SVOCs full suite and all non-detect for metals.

I prepared a comparison table for each sampled. The table compares the sample results with the NMED's Soil Screening Levels. The table shows that the overall sampling results are less than the screening levels for residential soil and industrial soil.

If you need more information in assessing the soils or need to discuss this matter with me, you may contact me at (505) 722-0227.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Lieb", is written over a circular stamp or seal.

Jim Lieb  
Environmental Engineer

Cc: Ed Riege  
Cheryl Johnson  
Steve Morris  
OCD - Carl Chavez

Attachment: Summary table  
HEAL Results



COVER LETTER

Friday, July 20, 2007

Jim Lieb  
Giant Refining Co  
Rt. 3 Box 7  
Gallup, NM 87301  
TEL: (505) 722-3833  
FAX (505) 722-0210

RE: Lagoons and Pond 1 Cleanup 7/12/2007

Order No.: 0707170

Dear Jim Lieb:

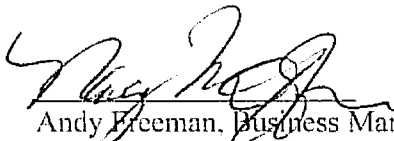
Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 7/13/2007 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

  
Andy Freeman, Business Manager  
Nancy McDuffie, Laboratory Manager

NM Lab # NM9425  
AZ license # AZ0682  
ORELAP Lab # NM100001



**Hall Environmental Analysis Laboratory, Inc.**

Date: 20-Jul-07

CLIENT: Giant Refining Co  
Project: Lagoons and Pond 1 Cleanup 7/12/2007  
Lab Order: 0707170

**CASE NARRATIVE**

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Analytical Comments for METHOD 8015DRO\_S, SAMPLE 0707170-01A: DNOP not recovered due to dilution Analytical Comments for METHOD 8015DRO\_S, SAMPLE 0707170-02A: DNOP not recovered due to dilution

**Hall Environmental Analysis Laboratory, Inc.**

Date: 20-Jul-07

**CLIENT:** Giant Refining Co  
**Lab Order:** 0707170  
**Project:** Lagoons and Pond 1 Cleanup 7/12/2007  
**Lab ID:** 0707170-01

**Client Sample ID:** Composite West  
**Collection Date:** 7/12/2007 1:30:00 PM  
**Date Received:** 7/13/2007  
**Matrix:** SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b>						Analyst: SCC
Diesel Range Organics (DRO)	61000	2000		mg/Kg	200	7/18/2007 1:25:35 AM
Motor Oil Range Organics (MRO)	13000	10000		mg/Kg	200	7/18/2007 1:25:35 AM
Surr: DNOP	0	61.7-135	S	%REC	200	7/18/2007 1:25:35 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	590	500		mg/Kg	100	7/16/2007 10:40:21 PM
Surr: BFB	143	84-138	S	%REC	100	7/16/2007 10:40:21 PM
<b>EPA METHOD 9056A: ANIONS</b>						Analyst: KS
Chloride	660	6.0		mg/Kg	20	7/18/2007 12:54:36 AM
<b>MERCURY, TCLP</b>						Analyst: IC
Mercury	ND	0.020		mg/L	1	7/18/2007 4:48:33 PM
<b>EPA METHOD 6010B: TCLP METALS</b>						Analyst: NMO
Arsenic	ND	5.0		mg/L	1	7/18/2007 12:06:40 PM
Barium	ND	100		mg/L	1	7/18/2007 12:06:40 PM
Cadmium	ND	1.0		mg/L	1	7/18/2007 12:06:40 PM
Chromium	ND	5.0		mg/L	1	7/18/2007 12:06:40 PM
Lead	ND	5.0		mg/L	1	7/18/2007 12:06:40 PM
Selenium	ND	1.0		mg/L	1	7/18/2007 12:06:40 PM
Silver	ND	5.0		mg/L	1	7/18/2007 12:06:40 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
Acenaphthene	ND	20		mg/Kg	10	7/16/2007
Acenaphthylene	ND	20		mg/Kg	10	7/16/2007
Aniline	ND	20		mg/Kg	10	7/16/2007
Anthracene	ND	20		mg/Kg	10	7/16/2007
Azobenzene	ND	20		mg/Kg	10	7/16/2007
Benz(a)anthracene	ND	25		mg/Kg	10	7/16/2007
Benzo(a)pyrene	ND	20		mg/Kg	10	7/16/2007
Benzo(b)fluoranthene	ND	20		mg/Kg	10	7/16/2007
Benzo(g,h,i)perylene	ND	30		mg/Kg	10	7/16/2007
Benzo(k)fluoranthene	ND	50		mg/Kg	10	7/16/2007
Benzoic acid	ND	50		mg/Kg	10	7/16/2007
Benzyl alcohol	ND	100		mg/Kg	10	7/16/2007
Bis(2-chloroethoxy)methane	ND	50		mg/Kg	10	7/16/2007
Bis(2-chloroethyl)ether	ND	25		mg/Kg	10	7/16/2007
Bis(2-chloroisopropyl)ether	ND	50		mg/Kg	10	7/16/2007
Bis(2-ethylhexyl)phthalate	ND	20		mg/Kg	10	7/16/2007

**Qualifiers:**  
 \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-01

Client Sample ID: Composite West  
 Collection Date: 7/12/2007 1:30:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Bromophenyl phenyl ether	ND	25		mg/Kg	10	7/16/2007
Butyl benzyl phthalate	ND	20		mg/Kg	10	7/16/2007
Carbazole	ND	20		mg/Kg	10	7/16/2007
4-Chloro-3-methylphenol	ND	20		mg/Kg	10	7/16/2007
4-Chloroaniline	ND	20		mg/Kg	10	7/16/2007
2-Chloronaphthalene	ND	20		mg/Kg	10	7/16/2007
2-Chlorophenol	ND	20		mg/Kg	10	7/16/2007
4-Chlorophenyl phenyl ether	ND	20		mg/Kg	10	7/16/2007
Chrysene	31	20		mg/Kg	10	7/16/2007
Di-n-butyl phthalate	ND	50		mg/Kg	10	7/16/2007
Di-n-octyl phthalate	ND	50		mg/Kg	10	7/16/2007
Dibenz(a,h)anthracene	ND	25		mg/Kg	10	7/16/2007
Dibenzofuran	ND	50		mg/Kg	10	7/16/2007
1,2-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
1,3-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
1,4-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
3,3'-Dichlorobenzidine	ND	20		mg/Kg	10	7/16/2007
Diethyl phthalate	ND	20		mg/Kg	10	7/16/2007
Dimethyl phthalate	ND	20		mg/Kg	10	7/16/2007
2,4-Dichlorophenol	ND	20		mg/Kg	10	7/16/2007
2,4-Dimethylphenol	ND	20		mg/Kg	10	7/16/2007
4,6-Dinitro-2-methylphenol	ND	50		mg/Kg	10	7/16/2007
2,4-Dinitrophenol	ND	50		mg/Kg	10	7/16/2007
2,4-Dinitrotoluene	ND	20		mg/Kg	10	7/16/2007
2,6-Dinitrotoluene	ND	20		mg/Kg	10	7/16/2007
Fluoranthene	ND	20		mg/Kg	10	7/16/2007
Fluorene	23	20		mg/Kg	10	7/16/2007
Hexachlorobenzene	ND	20		mg/Kg	10	7/16/2007
Hexachlorobutadiene	ND	20		mg/Kg	10	7/16/2007
Hexachlorocyclopentadiene	ND	25		mg/Kg	10	7/16/2007
Hexachloroethane	ND	50		mg/Kg	10	7/16/2007
Indeno(1,2,3-cd)pyrene	ND	20		mg/Kg	10	7/16/2007
Isophorone	ND	20		mg/Kg	10	7/16/2007
2-Methylnaphthalene	47	20		mg/Kg	10	7/16/2007
2-Methylphenol	ND	20		mg/Kg	10	7/16/2007
3+4-Methylphenol	ND	20		mg/Kg	10	7/16/2007
N-Nitrosodi-n-propylamine	ND	20		mg/Kg	10	7/16/2007
N-Nitrosodiphenylamine	ND	20		mg/Kg	10	7/16/2007
Naphthalene	ND	20		mg/Kg	10	7/16/2007
2-Nitroaniline	ND	50		mg/Kg	10	7/16/2007
3-Nitroaniline	ND	50		mg/Kg	10	7/16/2007

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

**Hall Environmental Analysis Laboratory, Inc.**

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-01

Client Sample ID: Composite West  
 Collection Date: 7/12/2007 1:30:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Nitroaniline	ND	25		mg/Kg	10	7/16/2007
Nitrobenzene	ND	20		mg/Kg	10	7/16/2007
2-Nitrophenol	ND	20		mg/Kg	10	7/16/2007
4-Nitrophenol	ND	20		mg/Kg	10	7/16/2007
Pentachlorophenol	ND	50		mg/Kg	10	7/16/2007
Phenanthrene	85	20		mg/Kg	10	7/16/2007
Phenol	ND	20		mg/Kg	10	7/16/2007
Pyrene	32	20		mg/Kg	10	7/16/2007
Pyridine	ND	50		mg/Kg	10	7/16/2007
1,2,4-Trichlorobenzene	ND	20		mg/Kg	10	7/16/2007
2,4,5-Trichlorophenol	ND	20		mg/Kg	10	7/16/2007
2,4,6-Trichlorophenol	ND	20		mg/Kg	10	7/16/2007
Surr: 2,4,6-Tribromophenol	82.1	35.5-141		%REC	10	7/16/2007
Surr: 2-Fluorobiphenyl	0	30.4-128	S	%REC	10	7/16/2007
Surr: 2-Fluorophenol	51.1	28.1-129		%REC	10	7/16/2007
Surr: 4-Terphenyl-d14	411	34.6-151	S	%REC	10	7/16/2007
Surr: Nitrobenzene-d5	0	26.5-122	S	%REC	10	7/16/2007
Surr: Phenol-d5	123	37.6-118	S	%REC	10	7/16/2007

- Qualifiers:
- \* Value exceeds Maximum Contaminant Level
  - E Value above quantitation range
  - J Analyte detected below quantitation limits
  - ND Not Detected at the Reporting Limit
  - S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RI Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-02

Client Sample ID: Composite East  
 Collection Date: 7/12/2007 1:00:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015B: DIESEL RANGE ORGANICS</b> Analyst: SCC						
Diesel Range Organics (DRO)	74000	2000		mg/Kg	200	7/18/2007 2:01:03 AM
Motor Oil Range Organics (MRO)	14000	10000		mg/Kg	200	7/18/2007 2:01:03 AM
Surr: DNOP	0	61.7-135	S	%REC	200	7/18/2007 2:01:03 AM
<b>EPA METHOD 8015B: GASOLINE RANGE</b> Analyst: NSB						
Gasoline Range Organics (GRO)	540	500		mg/Kg	100	7/16/2007 11:40:14 PM
Surr: BFB	135	84-138		%REC	100	7/16/2007 11:40:14 PM
<b>EPA METHOD 9056A: ANIONS</b> Analyst: KS						
Chloride	1100	6.0		mg/Kg	20	7/18/2007 1:12:00 AM
<b>MERCURY, TCLP</b> Analyst: IC						
Mercury	ND	0.020		mg/L	1	7/18/2007 4:50:08 PM
<b>EPA METHOD 6010B: TCLP METALS</b> Analyst: NMO						
Arsenic	ND	5.0		mg/L	1	7/18/2007 12:10:48 PM
Barium	ND	100		mg/L	1	7/18/2007 12:10:48 PM
Cadmium	ND	1.0		mg/L	1	7/18/2007 12:10:48 PM
Chromium	ND	5.0		mg/L	1	7/18/2007 12:10:48 PM
Lead	ND	5.0		mg/L	1	7/18/2007 12:10:48 PM
Selenium	ND	1.0		mg/L	1	7/18/2007 12:10:48 PM
Silver	ND	5.0		mg/L	1	7/18/2007 12:10:48 PM
<b>EPA METHOD 8270C: SEMIVOLATILES</b> Analyst: BL						
Acenaphthene	ND	20		mg/Kg	10	7/16/2007
Acenaphthylene	ND	20		mg/Kg	10	7/16/2007
Aniline	ND	20		mg/Kg	10	7/16/2007
Anthracene	ND	20		mg/Kg	10	7/16/2007
Azobenzene	ND	20		mg/Kg	10	7/16/2007
Benz(a)anthracene	ND	25		mg/Kg	10	7/16/2007
Benzo(a)pyrene	ND	20		mg/Kg	10	7/16/2007
Benzo(b)fluoranthene	ND	20		mg/Kg	10	7/16/2007
Benzo(g,h,i)perylene	ND	30		mg/Kg	10	7/16/2007
Benzo(k)fluoranthene	ND	50		mg/Kg	10	7/16/2007
Benzoic acid	ND	50		mg/Kg	10	7/16/2007
Benzyl alcohol	ND	100		mg/Kg	10	7/16/2007
Bis(2-chloroethoxy)methane	ND	50		mg/Kg	10	7/16/2007
Bis(2-chloroethyl)ether	ND	25		mg/Kg	10	7/16/2007
Bis(2-chloroisopropyl)ether	ND	50		mg/Kg	10	7/16/2007
Bis(2-ethylhexyl)phthalate	ND	20		mg/Kg	10	7/16/2007

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit



**Hall Environmental Analysis Laboratory, Inc.**

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-02

Client Sample ID: Composite East  
 Collection Date: 7/12/2007 1:00:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Bromophenyl phenyl ether	ND	25		mg/Kg	10	7/16/2007
Butyl benzyl phthalate	ND	20		mg/Kg	10	7/16/2007
Carbazole	ND	20		mg/Kg	10	7/16/2007
4-Chloro-3-methylphenol	ND	20		mg/Kg	10	7/16/2007
4-Chloroaniline	ND	20		mg/Kg	10	7/16/2007
2-Chloronaphthalene	ND	20		mg/Kg	10	7/16/2007
2-Chlorophenol	ND	20		mg/Kg	10	7/16/2007
4-Chlorophenyl phenyl ether	ND	20		mg/Kg	10	7/16/2007
Chrysene	37	20		mg/Kg	10	7/16/2007
Di-n-butyl phthalate	ND	50		mg/Kg	10	7/16/2007
Di-n-octyl phthalate	ND	50		mg/Kg	10	7/16/2007
Dibenz(a,h)anthracene	ND	25		mg/Kg	10	7/16/2007
Dibenzofuran	ND	50		mg/Kg	10	7/16/2007
1,2-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
1,3-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
1,4-Dichlorobenzene	ND	20		mg/Kg	10	7/16/2007
3,3'-Dichlorobenzidine	ND	20		mg/Kg	10	7/16/2007
Diethyl phthalate	ND	20		mg/Kg	10	7/16/2007
Dimethyl phthalate	ND	20		mg/Kg	10	7/16/2007
2,4-Dichlorophenol	ND	20		mg/Kg	10	7/16/2007
2,4-Dimethylphenol	ND	20		mg/Kg	10	7/16/2007
4,6-Dinitro-2-methylphenol	ND	50		mg/Kg	10	7/16/2007
2,4-Dinitrophenol	ND	50		mg/Kg	10	7/16/2007
2,4-Dinitrotoluene	ND	20		mg/Kg	10	7/16/2007
2,6-Dinitrotoluene	ND	20		mg/Kg	10	7/16/2007
Fluoranthene	ND	20		mg/Kg	10	7/16/2007
Fluorene	35	20		mg/Kg	10	7/16/2007
Hexachlorobenzene	ND	20		mg/Kg	10	7/16/2007
Hexachlorobutadiene	ND	20		mg/Kg	10	7/16/2007
Hexachlorocyclopentadiene	ND	25		mg/Kg	10	7/16/2007
Hexachloroethane	ND	50		mg/Kg	10	7/16/2007
Indeno(1,2,3-cd)pyrene	ND	20		mg/Kg	10	7/16/2007
Isophorone	ND	20		mg/Kg	10	7/16/2007
2-Methylnaphthalene	91	20		mg/Kg	10	7/16/2007
2-Methylphenol	ND	20		mg/Kg	10	7/16/2007
3+4-Methylphenol	ND	20		mg/Kg	10	7/16/2007
N-Nitrosodi-n-propylamine	ND	20		mg/Kg	10	7/16/2007
N-Nitrosodiphenylamine	ND	20		mg/Kg	10	7/16/2007
Naphthalene	ND	20		mg/Kg	10	7/16/2007
2-Nitroaniline	ND	50		mg/Kg	10	7/16/2007
3-Nitroaniline	ND	50		mg/Kg	10	7/16/2007

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 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
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**Hall Environmental Analysis Laboratory, Inc.**

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-02

Client Sample ID: Composite East  
 Collection Date: 7/12/2007 1:00:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8270C: SEMIVOLATILES</b>						Analyst: BL
4-Nitroaniline	ND	25		mg/Kg	10	7/16/2007
Nitrobenzene	ND	20		mg/Kg	10	7/16/2007
2-Nitrophenol	ND	20		mg/Kg	10	7/16/2007
4-Nitrophenol	ND	20		mg/Kg	10	7/16/2007
Pentachlorophenol	ND	50		mg/Kg	10	7/16/2007
Phenanthrene	130	20		mg/Kg	10	7/16/2007
Phenol	ND	20		mg/Kg	10	7/16/2007
Pyrene	44	20		mg/Kg	10	7/16/2007
Pyridine	ND	50		mg/Kg	10	7/16/2007
1,2,4-Trichlorobenzene	ND	20		mg/Kg	10	7/16/2007
2,4,5-Trichlorophenol	ND	20		mg/Kg	10	7/16/2007
2,4,6-Trichlorophenol	ND	20		mg/Kg	10	7/16/2007
Surr: 2,4,6-Tribromophenol	0	35.5-141	S	%REC	10	7/16/2007
Surr: 2-Fluorobiphenyl	0	30.4-128	S	%REC	10	7/16/2007
Surr: 2-Fluorophenol	47.0	28.1-129		%REC	10	7/16/2007
Surr: 4-Terphenyl-d14	409	34.6-151	S	%REC	10	7/16/2007
Surr: Nitrobenzene-d5	0	26.5-122	S	%REC	10	7/16/2007
Surr: Phenol-d5	126	37.6-118	S	%REC	10	7/16/2007

Qualifiers: \* Value exceeds Maximum Contaminant Level  
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Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-03

Client Sample ID: Discrete West  
 Collection Date: 7/12/2007 12:40:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: SMP
Benzene	3.3	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Toluene	21	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Ethylbenzene	5.7	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2,4-Trimethylbenzene	21	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,3,5-Trimethylbenzene	6.5	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dichloroethane (EDC)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dibromoethane (EDB)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Naphthalene	21	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1-Methylnaphthalene	67	4.0		mg/Kg	20	7/18/2007 9:27:08 AM
2-Methylnaphthalene	92	4.0		mg/Kg	20	7/18/2007 9:27:08 AM
Acetone	ND	15		mg/Kg	20	7/18/2007 9:27:08 AM
Bromobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Bromochloromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Bromodichloromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Bromoform	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Bromomethane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
2-Butanone	ND	10		mg/Kg	20	7/18/2007 9:27:08 AM
Carbon disulfide	ND	10		mg/Kg	20	7/18/2007 9:27:08 AM
Carbon tetrachloride	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Chlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Chloroethane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Chloroform	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Chloromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
2-Chlorotoluene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
4-Chlorotoluene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
cis-1,2-DCE	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
cis-1,3-Dichloropropene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dibromo-3-chloropropane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Dibromochloromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Dibromomethane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,3-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,4-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Dichlorodifluoromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1-Dichloroethane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1-Dichloroethene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2-Dichloropropane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,3-Dichloropropane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
2,2-Dichloropropane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1-Dichloropropene	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-03

Client Sample ID: Discrete West  
 Collection Date: 7/12/2007 12:40:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: SMP
Hexachlorobutadiene	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
2-Hexanone	ND	10		mg/Kg	20	7/18/2007 9:27:08 AM
Isopropylbenzene	1.2	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
4-Isopropyltoluene	1.1	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
4-Methyl-2-pentanone	ND	10		mg/Kg	20	7/18/2007 9:27:08 AM
Methylene chloride	ND	3.0		mg/Kg	20	7/18/2007 9:27:08 AM
n-Butylbenzene	4.7	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
n-Propylbenzene	3.2	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
sec-Butylbenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Styrene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
tert-Butylbenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1,1,2-Tetrachloroethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1,2,2-Tetrachloroethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Tetrachloroethene (PCE)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
trans-1,2-DCE	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
trans-1,3-Dichloropropene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2,3-Trichlorobenzene	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2,4-Trichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1,1-Trichloroethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,1,2-Trichloroethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Trichloroethene (TCE)	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Trichlorofluoromethane	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
1,2,3-Trichloropropane	ND	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Vinyl chloride	ND	1.0		mg/Kg	20	7/18/2007 9:27:08 AM
Xylenes, Total	38	2.0		mg/Kg	20	7/18/2007 9:27:08 AM
Surr: 1,2-Dichloroethane-d4	96.5	68.7-122		%REC	20	7/18/2007 9:27:08 AM
Surr: 4-Bromofluorobenzene	104	79.3-126		%REC	20	7/18/2007 9:27:08 AM
Surr: Dibromofluoromethane	102	64.4-119		%REC	20	7/18/2007 9:27:08 AM
Surr: Toluene-d8	98.2	86.5-121		%REC	20	7/18/2007 9:27:08 AM

Qualifiers:  
 \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-04

Client Sample ID: Discrete East  
 Collection Date: 7/12/2007 12:15:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: SMP
Benzene	1.2	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Toluene	7.7	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Ethylbenzene	2.0	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2,4-Trimethylbenzene	8.7	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,3,5-Trimethylbenzene	2.4	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dichloroethane (EDC)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dibromoethane (EDB)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Naphthalene	11	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1-Methylnaphthalene	50	4.0		mg/Kg	20	7/18/2007 10:02:42 AM
2-Methylnaphthalene	67	4.0		mg/Kg	20	7/18/2007 10:02:42 AM
Acetone	ND	15		mg/Kg	20	7/18/2007 10:02:42 AM
Bromobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Bromochloromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Bromodichloromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Bromoform	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Bromomethane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
2-Butanone	ND	10		mg/Kg	20	7/18/2007 10:02:42 AM
Carbon disulfide	ND	10		mg/Kg	20	7/18/2007 10:02:42 AM
Carbon tetrachloride	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Chlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Chloroethane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Chloroform	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Chloromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
2-Chlorotoluene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
4-Chlorotoluene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
cis-1,2-DCE	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
cis-1,3-Dichloropropene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dibromo-3-chloropropane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Dibromochloromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Dibromomethane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,3-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,4-Dichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Dichlorodifluoromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1-Dichloroethane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1-Dichloroethene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2-Dichloropropane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,3-Dichloropropane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
2,2-Dichloropropane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1-Dichloropropene	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM

Qualifiers: \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

# Hall Environmental Analysis Laboratory, Inc.

Date: 20-Jul-07

CLIENT: Giant Refining Co  
 Lab Order: 0707170  
 Project: Lagoons and Pond 1 Cleanup 7/12/2007  
 Lab ID: 0707170-04

Client Sample ID: Discrete East  
 Collection Date: 7/12/2007 12:15:00 PM  
 Date Received: 7/13/2007  
 Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: SMP
Hexachlorobutadiene	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
2-Hexanone	ND	10		mg/Kg	20	7/18/2007 10:02:42 AM
Isopropylbenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
4-Isopropyltoluene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
4-Methyl-2-pentanone	ND	10		mg/Kg	20	7/18/2007 10:02:42 AM
Methylene chloride	ND	3.0		mg/Kg	20	7/18/2007 10:02:42 AM
n-Butylbenzene	2.2	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
n-Propylbenzene	1.1	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
sec-Butylbenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Styrene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
tert-Butylbenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1,1,2-Tetrachloroethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1,2,2-Tetrachloroethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Tetrachloroethene (PCE)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
trans-1,2-DCE	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
trans-1,3-Dichloropropene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2,3-Trichlorobenzene	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2,4-Trichlorobenzene	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1,1-Trichloroethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,1,2-Trichloroethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Trichloroethene (TCE)	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Trichlorofluoromethane	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
1,2,3-Trichloropropane	ND	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Vinyl chloride	ND	1.0		mg/Kg	20	7/18/2007 10:02:42 AM
Xylenes, Total	15	2.0		mg/Kg	20	7/18/2007 10:02:42 AM
Surr: 1,2-Dichloroethane-d4	98.8	68.7-122		%REC	20	7/18/2007 10:02:42 AM
Surr: 4-Bromofluorobenzene	102	79.3-126		%REC	20	7/18/2007 10:02:42 AM
Surr: Dibromofluoromethane	94.1	64.4-119		%REC	20	7/18/2007 10:02:42 AM
Surr: Toluene-d8	100	86.5-121		%REC	20	7/18/2007 10:02:42 AM

Qualifiers:  
 \* Value exceeds Maximum Contaminant Level  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 ND Not Detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 MCL Maximum Contaminant Level  
 RL Reporting Limit

**LABORATORY ANALYTICAL REPORT**

Client: Hall Environmental  
 Project: 0707170  
 Lab ID: C07070619-001  
 Client Sample ID Composite West

Report Date: 07/20/07  
 Collection Date: 07/12/07 13:30  
 Date Received: 07/14/07  
 Matrix: Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.26	s.u.		0.01		SW9045C	07/16/07 10:52 / mkl
Flash Point (Ignitability)	>140	°F		60	140	SW1010	07/17/07 15:19 / cjs
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	07/17/07 07:00 / jl
Cyanide, Reactive	ND	mg/kg		0.050	250	SW846 Ch 7	07/18/07 09:34 / eli-b

Report RI - Analyte reporting limit.  
 Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit.

## LABORATORY ANALYTICAL REPORT

**Client:** Hall Environmental  
**Project:** 0707170  
**Lab ID:** C07070619-002  
**Client Sample ID:** Composite East

**Report Date:** 07/20/07  
**Collection Date:** 07/13/07 13:00  
**Date Received:** 07/14/07  
**Matrix:** Soil

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>PHYSICAL PROPERTIES</b>							
Corrosivity - pH	7.21	s.u.		0.01		SW9045C	07/16/07 10:52 / mkl
Flash Point (Ignitability)	>140	"F		60	140	SW1010	07/18/07 08:36 / cjs
<b>REACTIVITY</b>							
Sulfide, Reactive	ND	mg/kg		20.0	500	SW846 Ch 7	07/17/07 07:25 / jl
Cyanide, Reactive	ND	mg/kg		0.050	250	SW846 Ch 7	07/18/07 09:36 / eli-b

**Report** RL - Analyte reporting limit.  
**Definitions:** QCL - Quality control limit.

MCL - Maximum contaminant level.  
 ND - Not detected at the reporting limit