GW - 001

GENERAL CORRESPONDENCE

2007 - 1982
2 of 11

SHEET 1 of 1

PRECISION ENGINEERING, INC.

File #: 03-015

Bore Point: PLANT COORDINATES
N5660.33 E6410.00
Water Elev: NOT ENCOUNTERED

LOG OF TEST BORINGS

Site: Giant Refinery
Bloomfield, NM
Elevation:

Boring No.: 03015-B1

Date:1-17-03

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	SAMPLE	MATERIAL CHARACTERISTICS (MOISTURE,CONDITION,COLOR,GRAINSIZE,ETC.)	%M	L	PI	CLASS.
	0-2.0		**0**0		G	**GRAVEL**, VERY SANDY, SILTY, SLIGHTY CLAYEY,				
			00		G	MOIST, LIGHT BROWN-BROWN, MEDIUM DENSE-DENSE				
			00							
	2.0-4.0		**0**0			MORE SANDY @2', CLAYEY				
			00	2.5						
			00							
			00							
			00							
	4.0-7.0		**0**0			**GRAVEL**, VERY COBBLY, VERY DENSE, DAMP-DRY,				
			00	5.0		LIGHT GREY				
			00		S					
			00		S					
			00		S	NACIMIENTO FORMATION				
	7.0-10.0		--_--_		S	**MUDSTONE**, SILTSTONE, WEAK, DRY, DARK GREEN, DA				
			-- --	7.5	S					
			-- --		S					
			-- --							
			--_--_							
			-- --							
	10.0		-- --	10.0						
	TOTAL DEPTH									
				15.0						
				20.0						

Size & Type of Boring:4 1/4" ID HOLLOW STEMMED AUGER

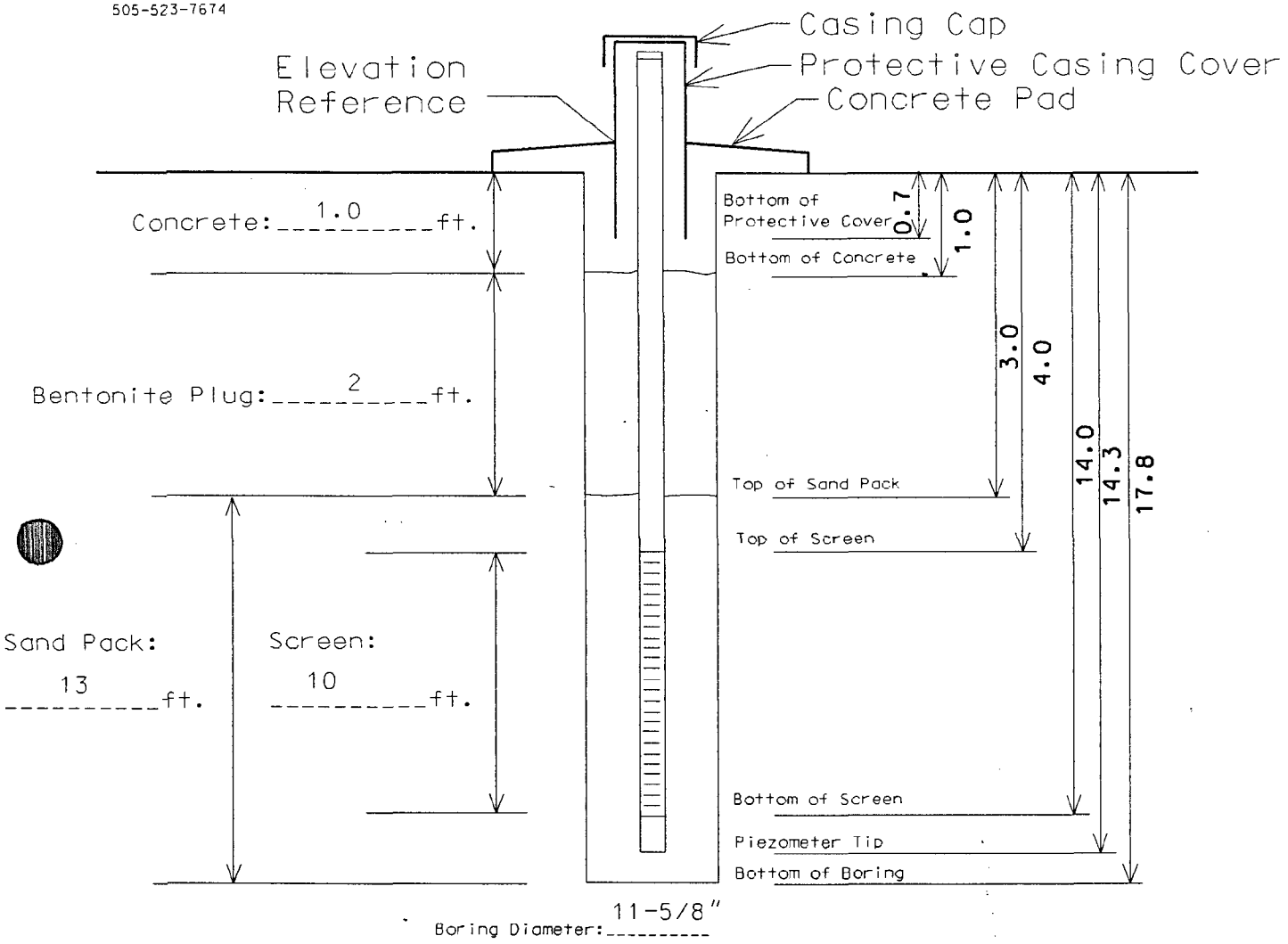
Logged By: WHK

PRECISION ENGINEERING, INC.

505-523-7674

Installation Diagram

Monitoring Well No. MW - 45



Boring Diameter: 11-5/8"

Sand Type: 10-20 Silica

Bollards, Type/Size: Steel, 3" min.

Bentonite: 3/8" Chip

Screen Type/Size: 4" PVC Sch. 40, 0.010" Slotted

Cement/Grout: ----------

Riser Type/Size: 4" PVC Sch. 40

Water: Potable

Locking Expandable Casing Plug? Yes

Site Northing: 5790.85

Other: N/A

Bottom Cap Used? Yes

Site Easting: 2837.78

Project #: 03-015

Project Name: **Bloomfield Wells**

Elevation: 5496.33

Sh 1 of 1

PRECISION ENGINEERING, INC.

File #:03-015

Bore Point:N5790.85'
E2837.78
Water Elev: 9.54'

LOG OF TEST BORINGS

Site:Giant Refinery
Bloomfield, NM
Elevation: 5496.33

Boring No.: MW 45

Date:1-15-03

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	SAMPLE	MATERIAL CHARACTERISTICS (MOISTURE,CONDITION,COLOR,GRAINSIZE,ETC.)	%M	L	PI	CLASS.
	0-1.0	Grab	00*00*		G	**GRAVEL**, TO 12", SANDY, DENSE, DAMP				
	1.0-5.0		00*00*		G					
			00*00*		G					
			00*00*		G					
			00*00*	2.5	G					
			00*00*		G					
			00*00*		G					
			00*00*		G					
			00*00*		G					
			00*00*	5.0	G					
	5.0-6.5	6-14-32	00*00*		S					
			00*00*		S					
	6.5-7.0	7-60	00*00*		S					
			00*00*		S	NACIMIENTO FORMATION				
	7.0-8.5	37-27-31	--*--*	7.5	S	**MUDSTONE**, SANDY, DENSE, WET, DARK GREEN				
			--*--*		S					
			--*--*		S					
	9.0-10.0	14-65	--*--*		S	SAME, HYDROCARBON ODOR (GASOLINE)				
			--*--*		S					
			--*--*	10.0	S					
	10.0-11.0	16-60-60(4)	--*--*		S					
			--*--*		S					
			--*--*							
			--*--*							
			--*--*							
			--*--*							
			--*--*							
	14.0-14.7	54-50(1")	--*--*		S	SOME LAMINATION, LIGHTER IN COLOR				
			--*--*	15.0	S					
			--*--*							
			--*--*							
			--*--*							
			--*--*							
	17.0-17.8	36-50(3")	--*--*		S	**SANDSTONE**, WEAK, SILTY, MUDDY, WHITE/LIGHT				
	17.8		--*--*		S	BROWN, VERY DENSE, WET-MOIST				
	TOTAL DEPTH									
				20.0						

Size & Type of Boring:4 1/4" ID HOLLOW STEMMED AUGER

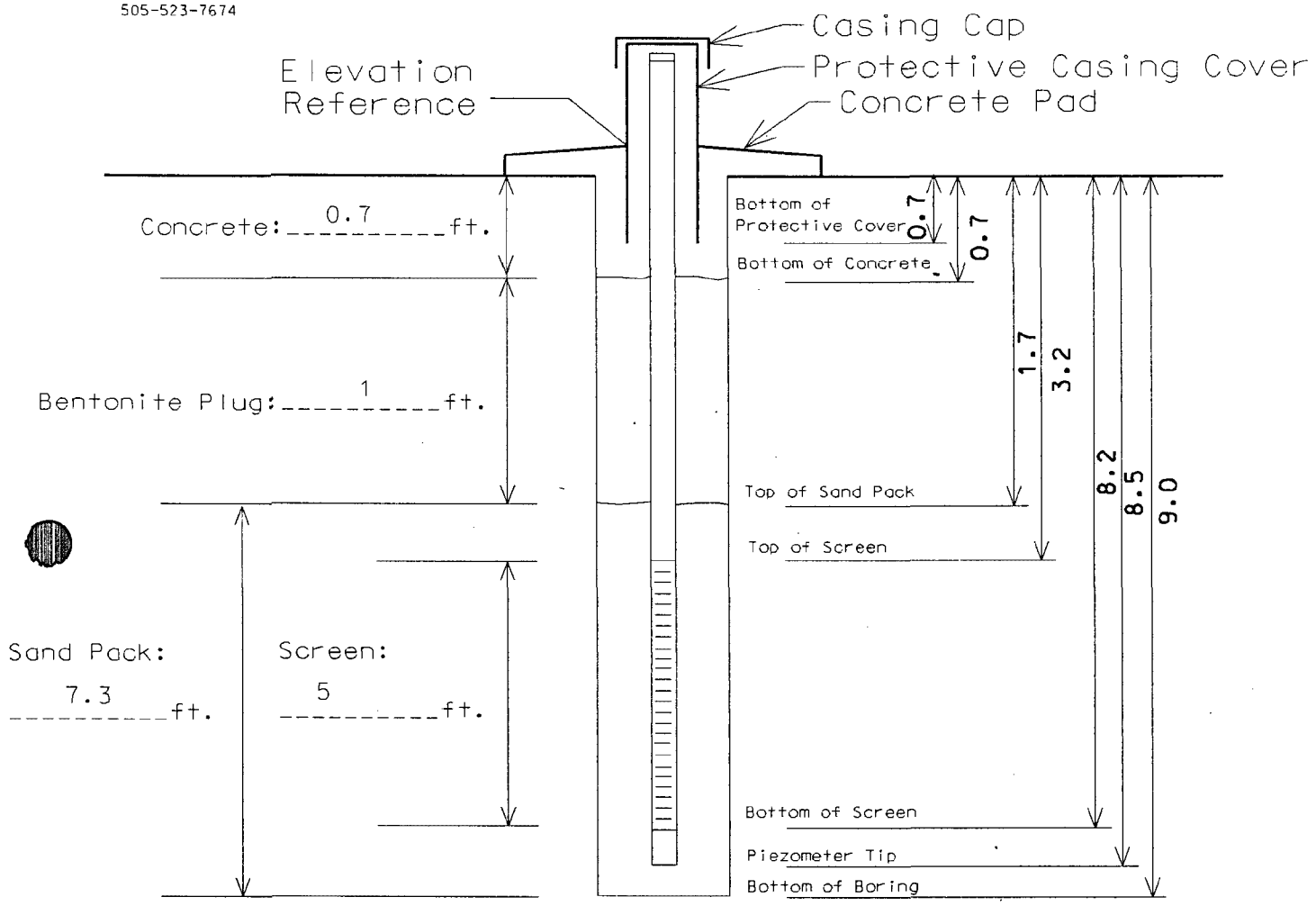
Logged By: WHK

PRECISION ENGINEERING, INC.

505-523-7674

Installation Diagram

Monitoring Well No. MW - 46



Boring Diameter: 11-5/8"

Sand Type: 10-20 Silica

Bollards, Type/Size: Steel, 3" min.

Bentonite: 3/8" Chip

Screen Type/Size: 4" PVC Sch. 40, 0.010" Slotted

Cement/Grout: ---

Riser Type/Size: 4" PVC Sch. 40

Water: Potable

Locking Expandable Casing Plug? Yes

Site Northing: 5560.48

Other: N/A

Bottom Cap Used? Yes

Site Easting: 2576.06

Project #: 03-015

Project Name: Bloomfield Wells

Elevation: 5496.43

Sheet: 1 of 1

PRECISION ENGINEERING, INC.

File #:03-015

Bore Point:N5560.48'
E2576.06

LOG OF TEST BORINGS

Site:Giant Refinery
Bloomfield, NM

Water Elev:

Elevation: 5496.43

Boring No.: MW 46

Date:1-16-03

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	SAMPLE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, GRAINSIZE, ETC.)	%M	L	PI	CLASS.
	0-1.0	Grab	**0**0		G	**SAND**, VERY GRAVELLY, COBBLY, LIGHT BROWN,				
			00		G	LOOSE				
			00							
			00							
			00	2.5						
			00							
			00							
			00							
			00							
			00	5.0						
	5.0-6.5	3-4-4	**0**0		S	SAME				
			00		S					
			00		S	NACIMIENTO FORMATION				
	6.5-8.0	13-18-18	--_--_		S	**MUDSTONE**, SILTY, HARD, DRY, LIGHT GREEN				
			-- --	7.5	S					
			-- --		S					
			-- --							
	9.0		-- --							
	TOTAL DEPTH									
				10.0						
				15.0						
				20.0						

Size & Type of Boring:4 1/4" ID HOLLOW STEMMED AUGER

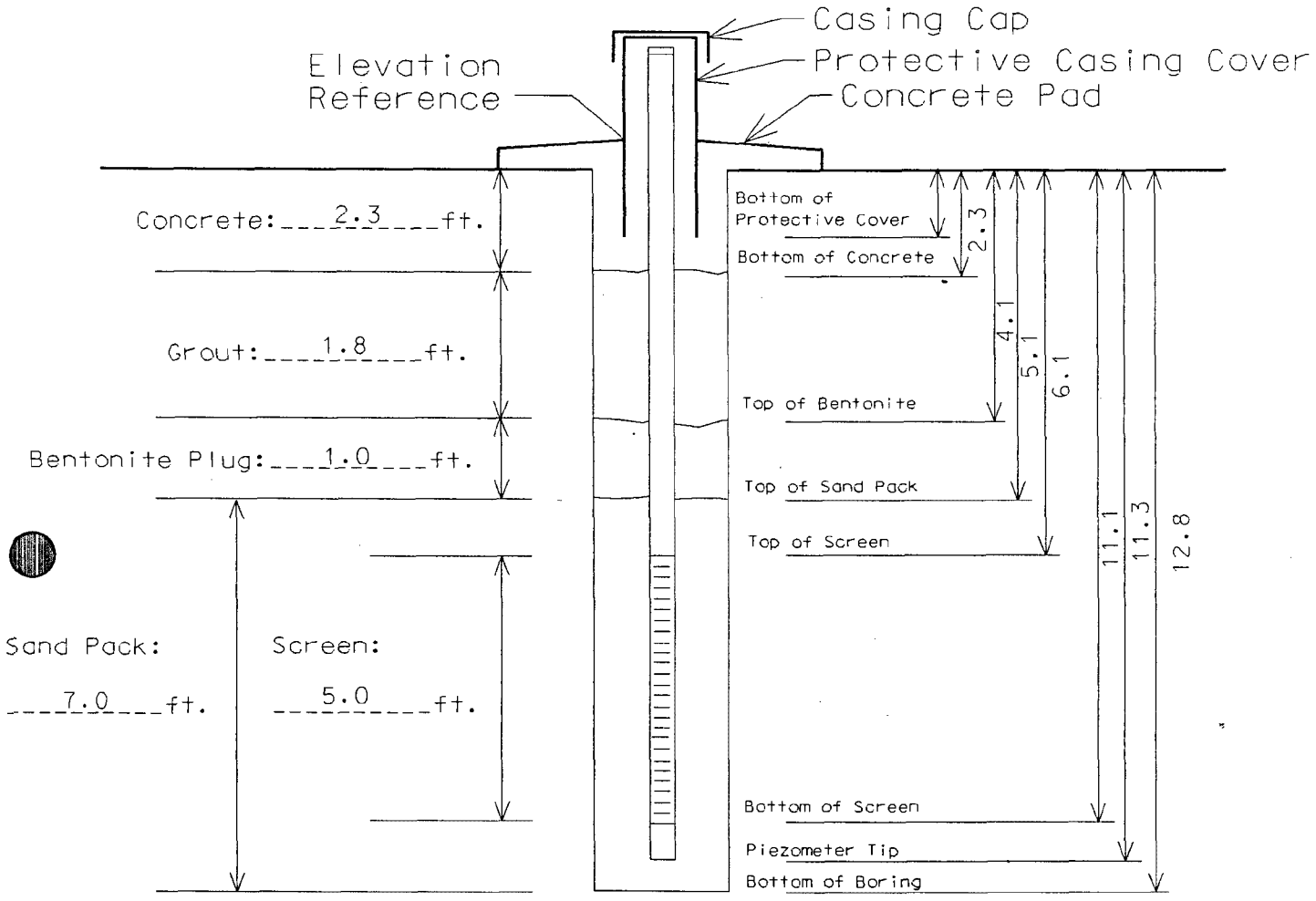
Logged By: WHK

PRECISION ENGINEERING, INC.

505-523-7674

Installation Diagram

Monitoring Well No. Seep 5 (MW 47)



Boring Diameter: 8 5/8"

Sand Type: 10-20 Silica

Bollards, Type/Size: Steel, 3"

Bentonite: 3/8" Chips

Screen Type/Size: 2" PVC Sch. 40, 0.010" Slotted

Cement/Grout: 6% Bentonite

Riser Type/Size: 2" PVC Sch. 40

Water: Potable

Locking Expandable Casing Plug? Yes

Site Northing: 5413.57

Other: N/A

Bottom Cap Used? Yes

Site Easting: 2220.90

Giant Refining Co.

Project #: 03-015

Project Name: Bloomfield Wells

Elevation: TBD

Sheet: 1 of 1

PRECISION ENGINEERING, INC.

File #: 03-015

Bore Point: PLANT COORDINATES
N5413.7 E2220.90
Water Elev: 7.49'

LOG OF TEST BORINGS

Site: Bloomfield Refinery
Elevation: TO BE DETERMINED

Boring No.: Seep 5 (MW #47)

Date: 3-6-03

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	SAMPLE	MATERIAL CHARACTERISTICS (MOISTURE,CONDITION,COLOR,GRAINSIZE,ETC.)	%M	LL	PI	CLASS.
	0.0-5.0	GRAB	oO**Oo		G	**GRAVEL**, MEDIUM SANDY, LIGHT BROWN, SOME				
			oO**Oo		G	COBBLES TO BOULDER SIZE, DENSE				
			oO**Oo		G					
			oO**Oo		G					
			oO**Oo	2.5	G					
			oO**Oo		G					
			oO**Oo		G					
			oO**Oo		G					
			oO**Oo		G					
			oO**Oo	5.0	G					
	5.0-6.5	8-18-18	oO**Oo		S	**GRAVEL**, MEDIUM SANDY, LIGHT BROWN, SOME				
			oO**Oo		S	COBBLES TO BOULDER SIZE, DENSE				
			oO**Oo		S					
			oO**Oo							
			oO**Oo	7.5						
			oO**Oo							
			oO**Oo							
			oO**Oo							
	9.0-9.7	9-100(1)	oO**Oo							
			oO**Oo	10						
	10.2-11.3		------		S	**NACIMIENTO FORMATION**				
			------		S	**MUDSTONE**, SILTSTONE, FISSLE, BLACK, HARD, WET				
			------		S					
	11.3-12.8	13-37-60	------							

	12.8									
	TOTAL DEPTH									
				15						
				20						

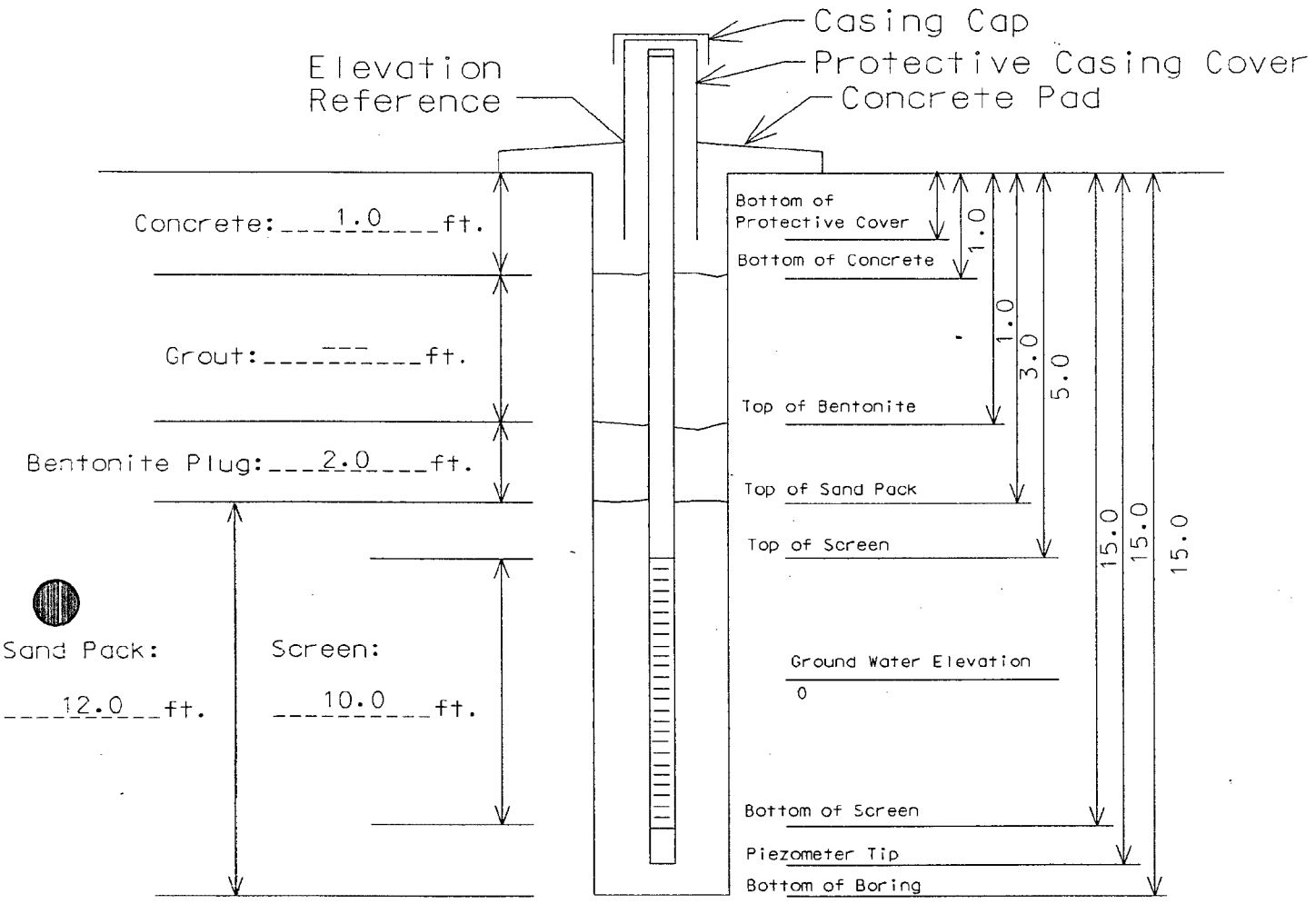
Size & Type of Boring: 4-1/4" ID Hollow Stemmed Auger

Logged By: WHK

PRECISION ENGINEERING, INC.
505-523-7674

Installation Diagram

Monitoring Well No. MW-48



Boring Diameter: 12 5/8"

Sand Type: 8-12 Silica

Bollards. Type/Size: Steel, 3"

Bentonite: 3/8" Chips

Screen Type/Size: 4" PVC Sch. 40, 0.020" Slotted

Cement/Grout: ---

Riser Type/Size: 4" PVC Sch. 40

Water: Potable

Locking Expandable Casing Plug? Yes

Site Northing: 6204.63

Other: N/A

Bottom Cap Used? Yes

Site Easting: 2700.70

Giant Refining Co.

Project #: 03-122

Project Name: Bloomfield Wells

Elevation: not surveyed

Sheet: 1 of 1
Bore Point: See plan
ter Elevation: 7.70
Boring No.: MW-48

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-523-7674

File #: 03-122
Site: Bloomfield
Giant Refining
Elevation:
Date: 10/28/2004

Log of Test Borings

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR,ETC.)	%M	LL	PI	CLASS.
	0-1		*-**-*-*		**Silt**, sand, very fine to fine, brown, damp, a few				
			*-*O-*-*		cobbles				
	1-15.0		*-*o-*-*		**Sand**, silty, very fine to fine, brown, damp,				
			*-*o-*-*		gravelly				
	2.0		*-*o-*-*	2.5	Black with hydrocarbon odor				
			*-*o-*-*						
			*-*o-*-*						
			*-*o-*-*						
			********		medium to coarse sand				
			********	5.0					
			********						
			********						
			********						
			********						
			********	7.5					
			********		water bearing				
			********						
			********						
			********						
			o*	10.0	some gravel				
			o*						
			o*						
			o*						
			o*						
			o*						
			o*						
			o*						
			o*						
			o*	15.0					
					T.D. 15.0				
					Bottom of well 15'				
					Placed 4" PVC, 10' factory slotted .020" screen				
					Sanded with 8-12 Silica Sand to 3' bgs				
					Bentonite Plug to 1' bgs				
				20.0					

SIZE & TYPE OF BORING: 4 1/4" ID HOLLOW STEMMED AUGER — LOGGED BY: KM

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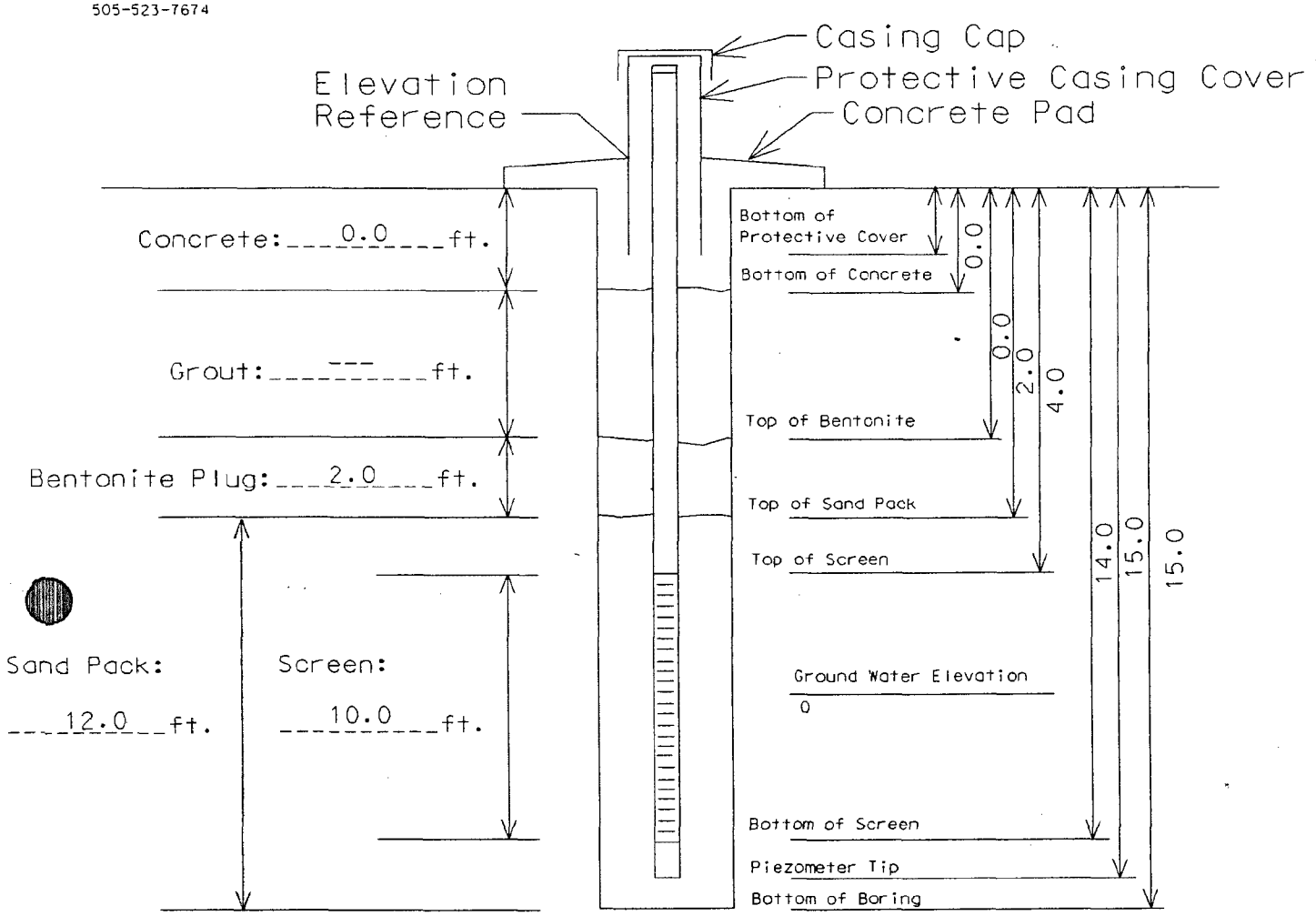
PRECISION ENGINEERING, INC.

505-523-7674

Installation Diagram

Monitoring Well No. MW-49



Boring Diameter: 12 5/8"

Sand Type: 8-12 Silica

Bollards, Type/Size: Steel, 3"

Bentonite: 3/8" Chips

Screen Type/Size: 4" PVC Sch. 40, 0.020" Slotted

Cement/Grout: ---

Riser Type/Size: 4" PVC Sch. 40

Water: Potable

Locking Expandable Casing Plug? Yes

Site Northing: 6196.16

Other: N/A

Bottom Cap Used? Yes

Site Easting: 2653.14

Giant Refining Co.

Project #: 03-122

Project Name: Bloomfield Wells

Elevation: Not Surveyed

Sheet: 1 of 1
Bore Point: See plan
Water Elevation: 9.00
Boring No.: MW49

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-523-7674

File #: 03-122
Site: Bloomfield
Giant Refining
Elevation:
Date: 10/28/2004

Log of Test Borings

LAB #	DEPTH	BLOW COUNT	PLOT	SCALE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR,ETC.)	%M	LL	PI	CLASS.
	0-3		*O*-*-O *O*-*-O *O*-*-O *O*-*-O *O*-*-O *O*-*-O	2.5	**Cobbles**, sand, very fine to fine, gravel, brown, damp, cobbles				
	3-15.0		*-*o-*-* *-*o-*-* ******** ******** ******** ******** ******** **O**O* **O**O* **O**O* ******** ******** ******** ******** ******** ******** ******** ******** ******** ******** ******** ******** ******** ******** ********	5.0 7.5 10.0 15.0	**Sand**, silty, very fine to fine, brown, moist, fine to medium sand Black with hydrocarbon odor, wet some cobbles water bearing medium to coarse sand, grey				
				20.0	T.D. 15.0 Bottom of well 14' Placed 4" PVC, 10' factory slotted .020" screen Sanded with 8-12 Silica Sand to 2' bgs Bentonite Plug to gs				

SIZE & TYPE OF BORING: 4 1/4" ID HOLLOW STEMMED AUGER LOGGED BY: KM

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GIANT
REFINING COMPANY

Certified Mail # 7099 3220 0010 2242 4061

December 29, 2003

Dave Cobrain
NMED Hazardous Waste Bureau
2905 Rodeo Park Drive East
Bldg. 1
Santa Fe, NM 87505

Re: Evaluation of Giant Bloomfield's SWMUs 1 through 12

Dear Dave:

Enclosed is the evaluation and assessment report of the Bloomfield refinery solid waste management units (SWMUs) 1 through 12, as requested in your letter of January 6, 2003, item #18. This report includes historical site use, investigation results, analytical results and correspondance between the agencies and Giant in regards to each SWMU.

Four of the SWMUs are active, six are closed and two are difficult to identify and should be dropped.

The four active SWMUs are:

SWMU No. 1: SOWP and NOWP now designated as the double lined aeration lagoons.
SWMU No. 5: the heat exchanger bundle cleaning area.
SWMU No. 10: the fire training area.
SWMU No. 12: the API separator.

The six closed SWMUs are:

SWMU No. 2: the former drum storage area.
SWMU No. 4: the transportation terminal sump.
SWMU No. 7: the evaporation ponds.
SWMU No. 8: the landfill.
SWMU No. 9: the landfill pond.
SWMU No. 11: the spray irrigation area.

Uncertainty exists in correspondance, records and regulatory documents as to the exixtence of SWMUs No. 3 and 6, underground piping. There is very little underground piping and Bloomfield has no knowledge that these pipelines have leaked.

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

GIANT
REFINING COMPANY

Giant requests that SWMUs No. 2,3,4,6,7,8,9 and 11 be removed as corrective action units.

If I can be of further assistance please contact me at (505) 632-4171

Sincerely,

James R. Schmaltz

C: C. King w/o enclosure
E. Riege w enclosure

3R0258

MALCOLM PIRNIE

MALCOLM PIRNIE, INC.
INDEPENDENT ENVIRONMENTAL ENGINEERS, SCIENTISTS & CONSULTANTS

RECEIVED

JUL 28 2005

Oil Conservation Division
Environmental Bureau

June 30, 2005

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Drive
Santa Fe, NM 87505

Dear Mr. Price:

As discussed in our June 29, 2005 telephone call, Malcolm Pirnie is sending you the enclosed documents on behalf of Giant Refining:

- July 2001 report of Monitoring Well Installation, Ground Water Sampling and Bioventing Pilot Test for the Bloomfield Crude Station.
- March 2005 Annual Report for Bloomfield Crude Station.

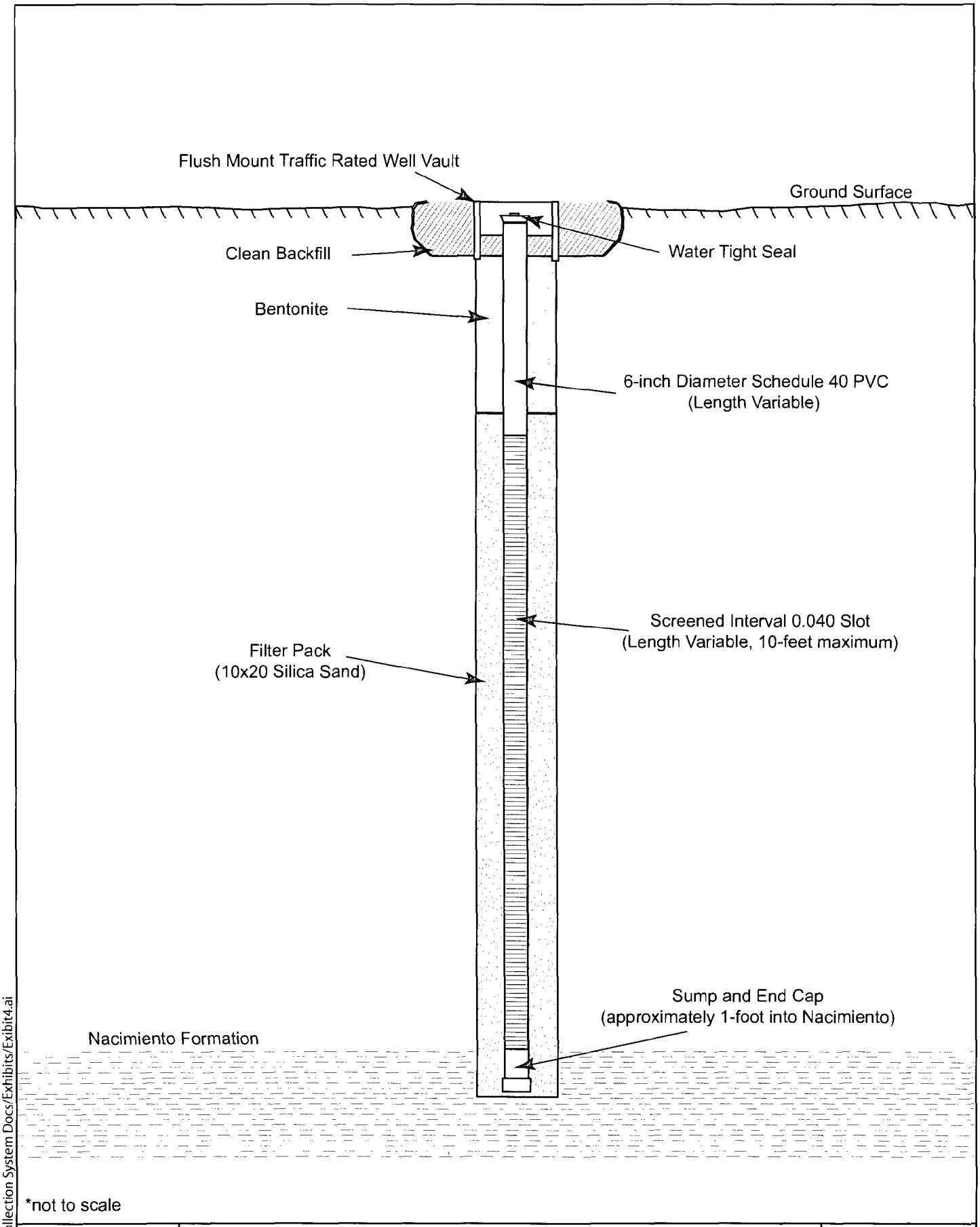
Sincerely,

MALCOLM PIRNIE INC.

Dennis L. Tucker, P.E., DEE
Senior Associate

c: Randy Schmaltz, Giant Refining
Ed Riege, Giant Refining

4646 E. VAN BUREN STREET SUITE 400 PHOENIX, AZ 85008-6945 602-241-1770 fax 602-231-0131 http://www.pirnie.com



*not to scale

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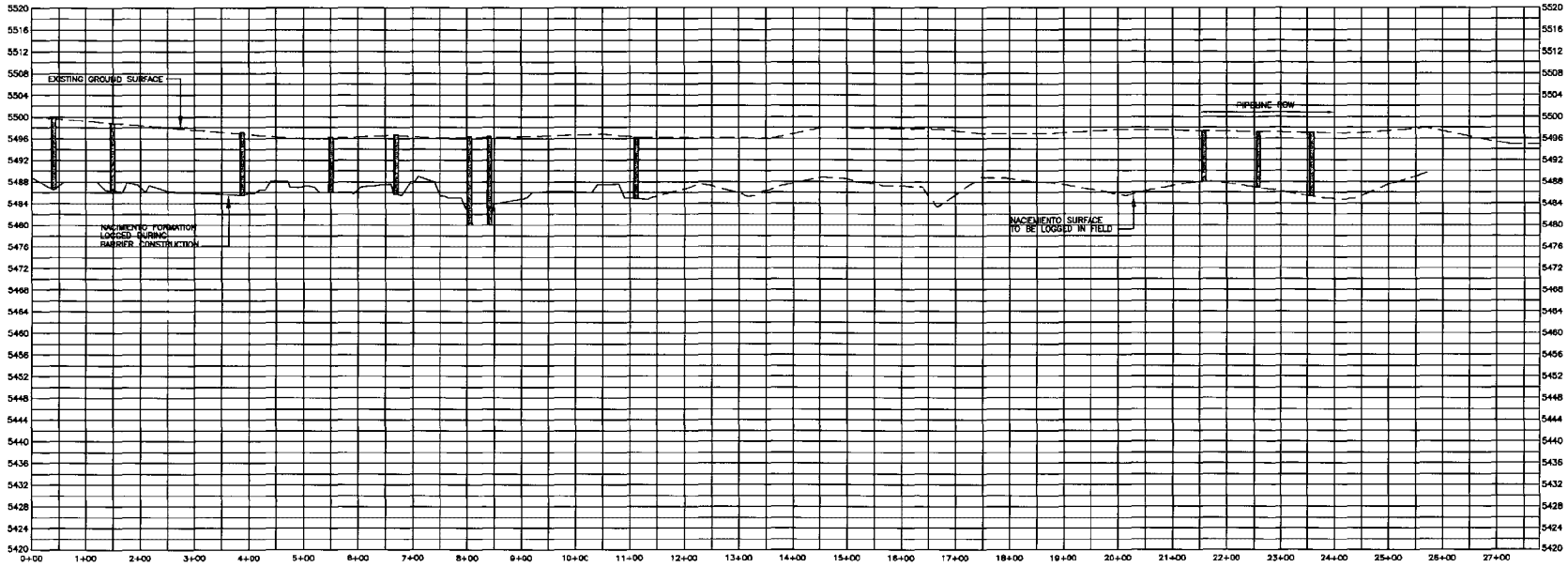
MALCOLM PIRNIE

Schematic Collection Well Design
Giant Refinery Bloomsfield, New Mexico

Malcolm Pirnie, Inc.

Figure 1

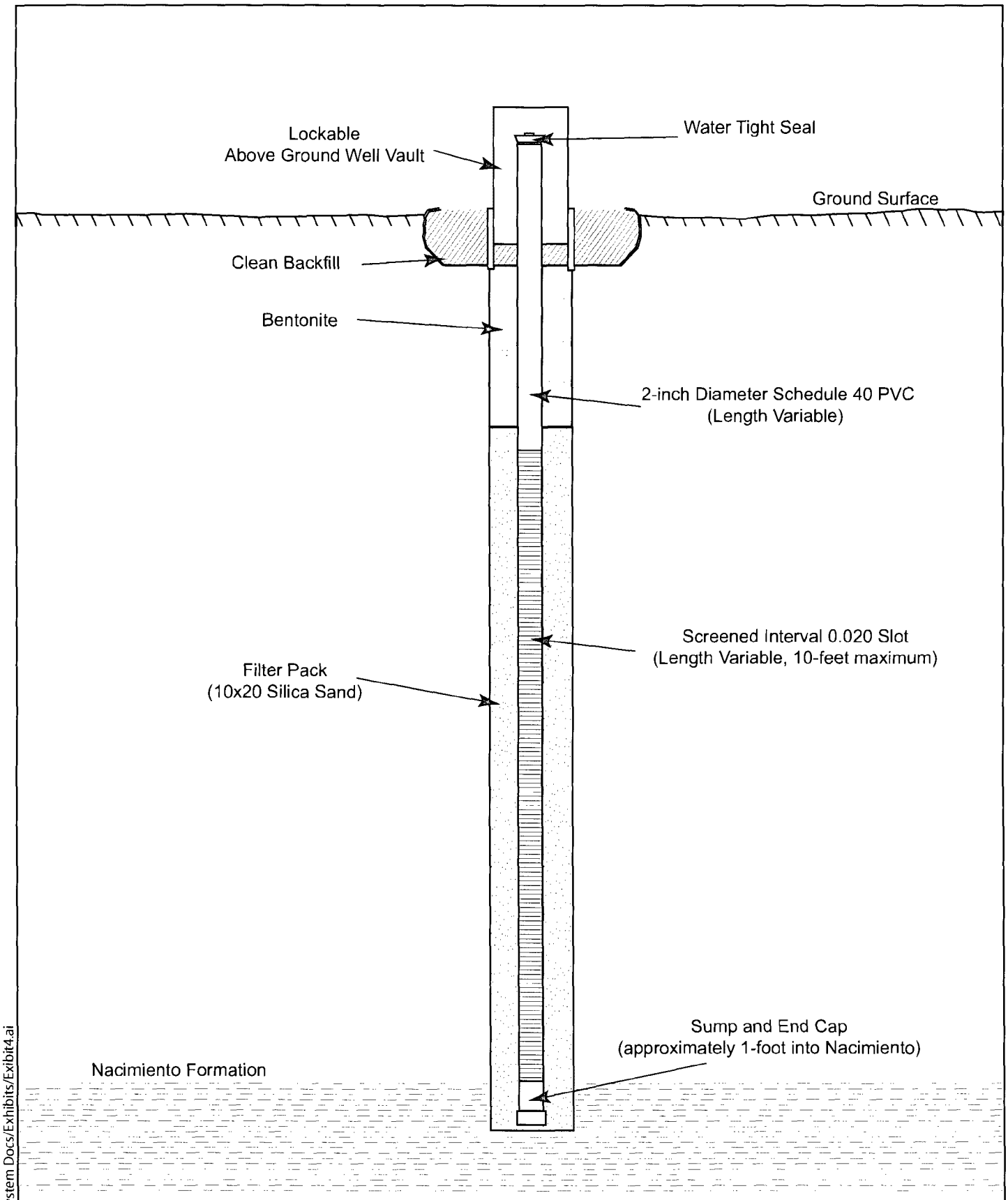


NACIMIENTO SURFACE PROFILE

100 0 200

SCALE: 1" = 200'

MALCOLM PIRNIE	GIANT REFINERY BLOOMFIELD, NEW MEXICO COLLECTION SYSTEM PLAN	NORTH BOUNDARY BARRIER CROSS SECTION PHASE I COLLECTION WELLS SCALE: 1"=200'	MALCOLM PIRNIE, INC. MARCH 2005 FIGURE 3



*not to scale

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MALCOLM PIRNIE

Schematic Observation Well Design
Giant Refinery Bloomsfield, New Mexico

Malcolm Pirnie, Inc.

Figure 4

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Bill To
NMED-HWB 2905 Rodeo Park Drive East, Bldg. 1 Santa Fe, NM 87505-6303 Client #: 810-128

Date	Invoice #
03/02/2005	89700

COPY

P.O. No.	Terms	Project #	Project Name
850454519	Net 30	(None)	Giant Bloomfield

Quantity	Description	Rate	Amount
1	Line 29 Method 8015 Gas/8021 BTEX/MtBE	54.00	54.00T
1	Line 31 Method 8015 Direct Inject (GC/FID)	54.00	54.00T
	subtotal		108.00
	Line 160 Rush 2 (1 week)	50.00%	54.00T

RECEIVED
MAR 2005
NMED Hazardous
Waste Bureau

Remit to: Pinnacle Laboratories, Inc.
2709-D Pan American Freeway NE
Albuquerque, NM 87107

Accession #: 502149
Authorized By: Dave Cobrain/Hope Monzeglio

Sales Tax (6.75%)	$10.94
Total	$172.94

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number **502149**
March 02, 2005

NMED-HWB
2905 RODEO PARK DR. EAST BLDG. 1
SANTA FE, NM 87505

Project Name GIANT BLOOMFIELD
Project Number (NONE)

Attention: DAVE COBRAIN/HOPE MONZEGLIO

On 02/23/2005 Pinnacle Laboratories Inc., (ADHS License No. AZ0643), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

H. Mitchell Rubenstein, Ph.D.
General Manager, Pinnacle Laboratories, Inc.

MR: jt

Enclosure

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: NMED-HWB	PINNACLE ID	: 502149
PROJECT #	: (NONE)	DATE RECEIVED	: 02/23/2005
PROJECT NAME	: GIANT BLOOMFIELD	REPORT DATE	: 03/02/2005

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
502149 - 01	TANK 33 OUTFALL	AQUEOUS	02/23/2005

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021B
CLIENT : NMED-HWB
PROJECT # : (NONE)
PROJECT NAME : GIANT BLOOMFIELD

PINNACLE I.D. : 502149
ANALYST : DSR / BP

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	TANK 33 OUTFALL	AQUEOUS	02/23/2005	NA	02/24/2005	5

PARAMETER	DET. LIMIT	UNITS	TANK 33 OUTFALL
BENZENE	**0.5**	**UG/L**	**25**
TOLUENE	0.5	UG/L	< 2.5
ETHYLBENZENE	**0.5**	**UG/L**	**18**
TOTAL XYLENES	**1.0**	**UG/L**	**21**
METHYL-t-BUTYL ETHER	**2.5**	**UG/L**	**52**

SURROGATE:
BROMOFLUOROBENZENE (%) 97
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015B GRO
CLIENT : NMED-HWB
PROJECT # : (NONE)
PROJECT NAME : GIANT BLOOMFIELD

PINNACLE I.D. : 502149
ANALYST : DSR / BP

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	TANK 33 OUTFALL	AQUEOUS	02/23/2005	NA	02/24/2005	1

PARAMETER	DET. LIMIT	UNITS	TANK 33 OUTFALL
FUEL HYDROCARBONS	**100**	**UG/L**	**3700**
HYDROCARBON RANGE			**C6-C10**
HYDROCARBONS QUANTITATED USING			**GASOLINE**

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021B	PINNACLE I.D.	: 502149
BLANK I.D.	: 022405	DATE EXTRACTED	: N/A
CLIENT	: NMED-HWB	DATE ANALYZED	: 02/24/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	ANALYST	: DSR / BP

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<1.0
METHYL-t-BUTYL ETHER	UG/L	<2.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		99
SURROGATE LIMITS (80 - 120)		

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8015B GRO	PINNACLE I.D.	: 502149
BLANK I.D.	: 022405B	DATE EXTRACTED	: N/A
CLIENT	: NMED-HWB	DATE ANALYZED	: 02/24/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	ANALYST	: DSR / BP

PARAMETER	UNITS	
FUEL HYDROCARBONS	UG/L	<100
HYDROCARBON RANGE		C6-C10
HYDROCARBONS QUANTITATED USING		GASOLINE

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE ,
Albuquerque, New Mexico 87107
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Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8015B GRO	PINNACLE I.D.	: 502149
BATCH #	: 022405B	DATE EXTRACTED	: N/A
CLIENT	: NMED-HWB	DATE ANALYZED	: 02/24/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<100	1000	890	89	912	91	2	(70 - 130)	20
HYDROCARBON RANGE		C6-C10							
HYDROCARBONS QUANTITATED USING	GASOLINE								

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8015B GRO	PINNACLE I.D.	: 502149
MSMSD #	: 502149-01	DATE EXTRACTED	: N/A
CLIENT	: NMED-HWB	DATE ANALYZED	: 02/24/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	3700	1000	4580	88	4270	57 - M4	7	(70 - 130)	20
HYDROCARBON RANGE		C6-C10							
HYDROCARBONS QUANTITATED USING	GASOLINE								

CHEMIST NOTES:
M4 = % REC is outside of PLI criteria.

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8021B	PINNACLE I.D.	: 502149
BATCH #	: 022405	DATE EXTRACTED	: N/A
CLIENT	: NMED-HWB	DATE ANALYZED	: 02/24/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	20.2	101	20.1	101	0	(80 - 120)	20
TOLUENE	<0.5	20.0	20.3	102	20.2	101	0	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.2	101	20.0	100	1	(80 - 120)	20
TOTAL XYLENES	<1.0	60.0	60.8	101	60.0	100	1	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	19.4	97	19.2	96	1	(70 - 133)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

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GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8021B	PINNACLE I.D.	: 502149
MSMSD #	: 502150-01	DATE EXTRACTED	: N/A
CLIENT	: NMED-HWB	DATE ANALYZED	: 02/24/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	21.3	107	20.5	103	4	(80 - 120)	20
TOLUENE	25	20.0	45.5	103	44.8	99	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.1	106	20.6	103	2	(80 - 120)	20
TOTAL XYLENES	<1.0	60.0	63.8	106	62.9	105	1	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	20.4	102	19.5	98	5	(70 - 133)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED (DIRECT INJECT)
CLIENT : NMED-HWB
PROJECT # : (NONE)
PROJECT NAME : GIANT BLOOMFIELD

PINNACLE I.D. : 502149
ANALYST : DSR

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	TANK 33 OUTFALL	AQUEOUS	02/23/2005	02/25/2005	02/25/2005	1

PARAMETER	DET. LIMIT	UNITS	TANK 33 OUTFALL
FUEL HYDROCARBONS, C6-C10	2.0	MG/L	**3.5**
FUEL HYDROCARBONS, C10-C22	1.0	MG/L	< 1.0
FUEL HYDROCARBONS, C22-C36	1.0	MG/L	< 1.0
CALCULATED SUM:			**3.5**
SURROGATE:			
O-TERPHENYL (%)			94
SURROGATE LIMITS	(70-130)		

CHEMIST NOTES:
N/A

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GAS CHROMATOGRAPHY RESULTS
EXTRACTION BLANK

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 502149
BLANK I.D.	: 022505	DATE EXTRACTED	: 02/25/2005
CLIENT	: NMED-HWB	DATE ANALYZED	: 02/25/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	ANALYST	: DSR

PARAMETER	UNITS	
FUEL HYDROCARBONS, C6-C10	MG/L	< 2.0
FUEL HYDROCARBONS, C10-C22	MG/L	< 1.0
FUEL HYDROCARBONS, C22-C36	MG/L	< 1.0

SURROGATE:		
O-TERPHENYL (%)		102
SURROGATE LIMITS	(70-130)	

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
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Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8015 MODIFIED (DIRECT INJECT)	PINNACLE I.D.	: 502149
LCS/LCSD #	: 022505	DATE EXRACTED	: 02/25/2005
CLIENT	: NMED-HWB	DATE ANALYZED	: 02/25/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	UNITS	: MG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
FUEL HYDROCARBONS	<1.0	33.0	32.6	99	31.2	95	4	(70-130)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

402149

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 2/23/05 PAGE: ___ OF: ___

PROJECT MANAGER: Dave Cobrain / Hope Monzeglio

COMPANY: NMED Hazardous Waste Bureau
ADDRESS: 2905 Rodeo Drive East Bld. 1
Santa Fe NM 87505
PHONE: 505-428-2545
FAX: 505 428 2567
BILL TO: Same As above
COMPANY:
ADDRESS:

Sample	Container		Matrix / Pres.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject DRO		(M8015) Gas/Purge & Trap GRO/DRO	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☐MTBE ☐TMB ☐PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐/DBCP ☐		8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics ☐PBMS	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method1311)	Metals:		
Tank 33 outfall	40 mL voa	2	W	01					X																							1
	2/23/05	1315	HCl	↓																												
Tank 33 outfall	40 mL voa	[illegible]	W/HCl	↓			X	[illegible]																								1
Tank 33 outfall	40 voa	1	W/HgCl	↓	X		[illegible]	[illegible]																								2
	2/23/05	1315																														

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJ. NO.:
PROJ. NAME: Giant Bloomfield
P.O. NO.:
SHIPPED VIA:

(RUSH) ☐24hr* ☐48hr* ☐72hr* ☒1 WEEK (NORMAL) ☒ NO AE 2/24
*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐NM ☐SDWA ☐AZ ☐OTHER

METHANOL PRESERVATION ☐ METALS ☐TOTAL ☐DISSOLVED

COMMENTS:
3 voas preserved w/ HCl
1 voa preserved w/ HgCl2
4
Y
Y
8.3°C Direct from Field

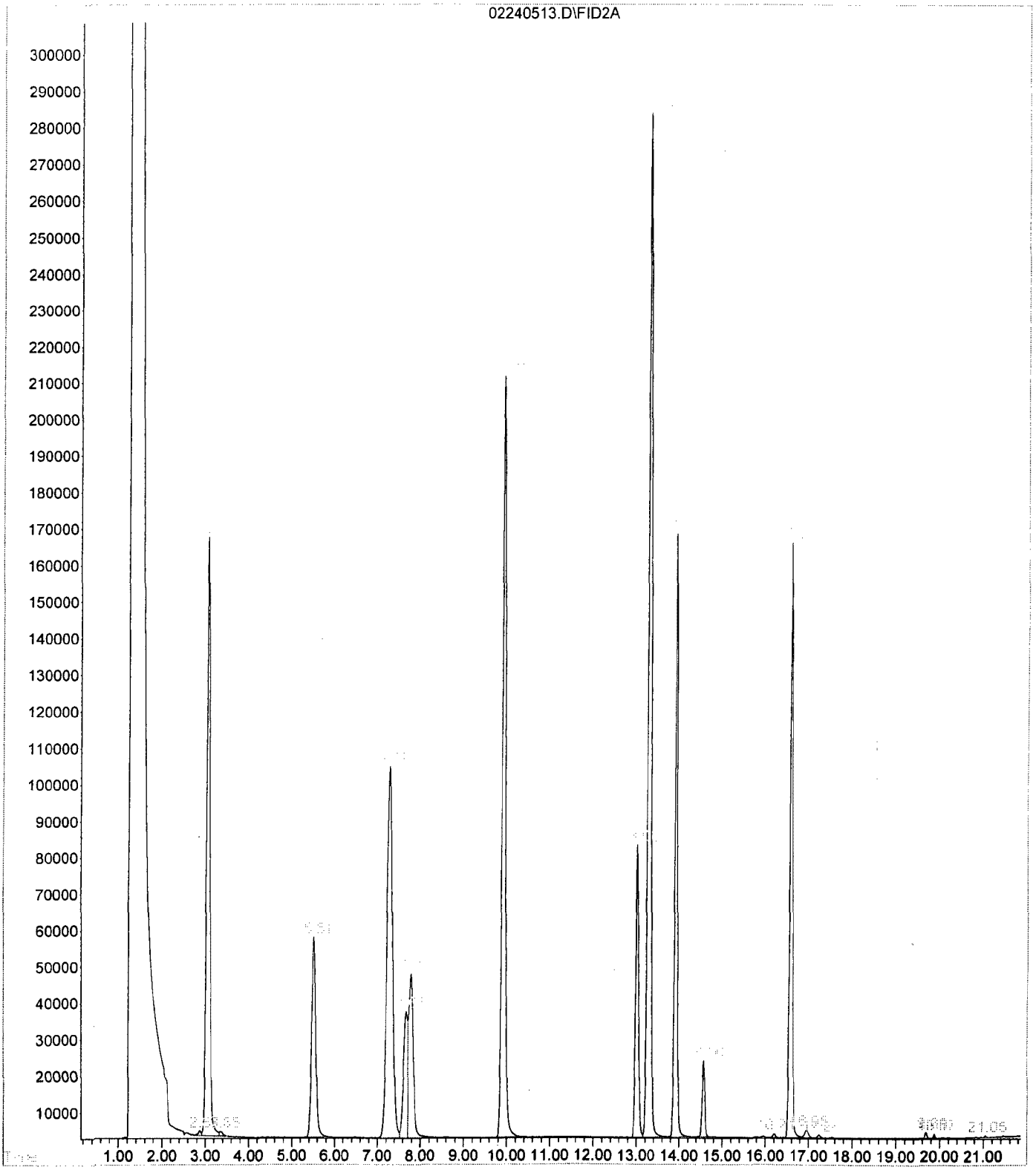
Hope Monzeglio called 2/24/05 to change to 1 week RUSH!
AE 2/24/05

Signature: Hope Monzeglio	Time: 6:05	Signature:	Time:
Printed Name: Hope Monzeglio	Date: 2/23/05	Printed Name:	Date:
Company: NMED		Company:	
See Reverse side (Force Majeure)			

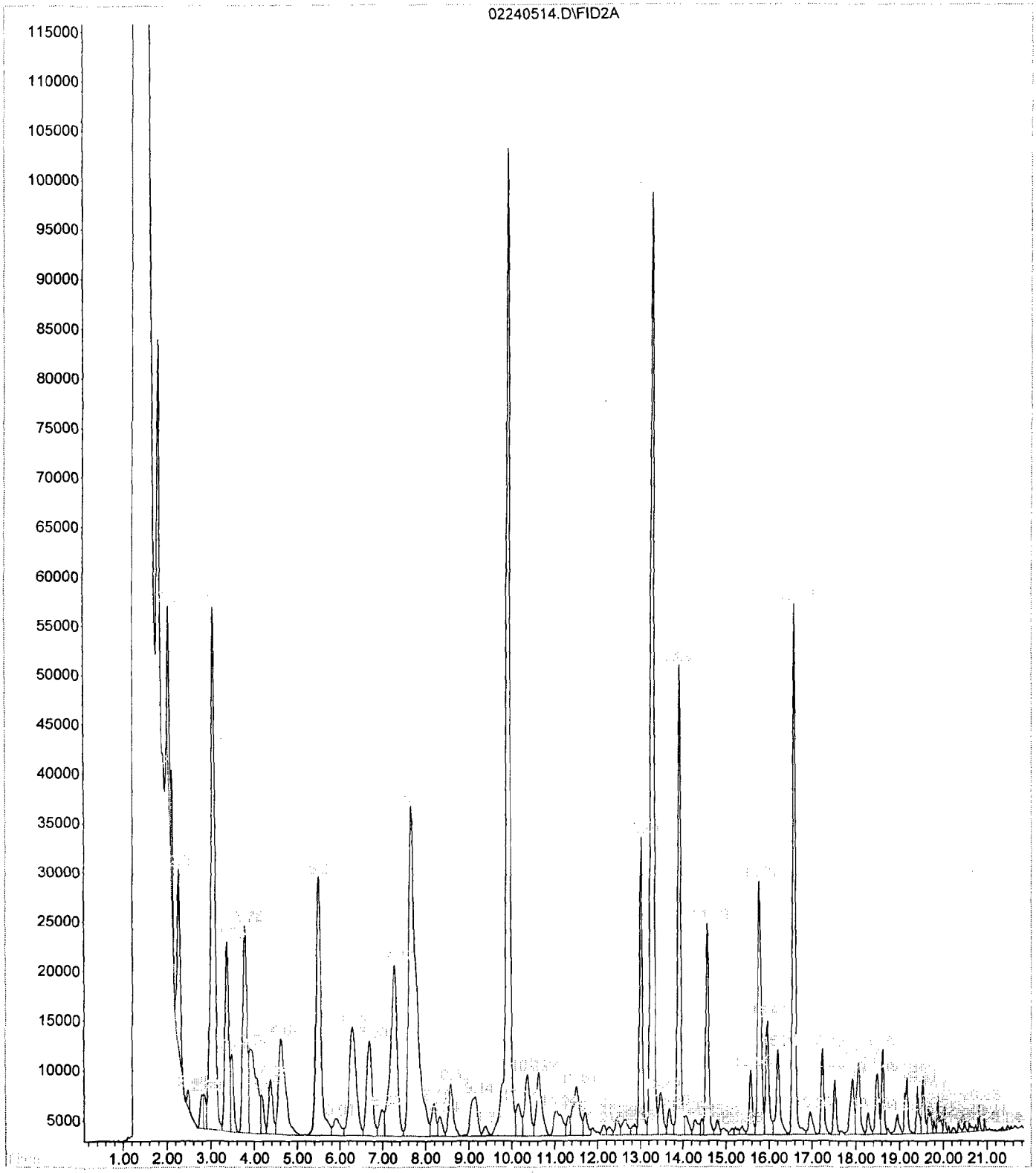
Signature: Francine Trujillo	Time: 1805
Printed Name: Francine Trujillo	Date: 2/23/05
Company:	

DISTRIBUTION: White - PLI, Canary - Originator

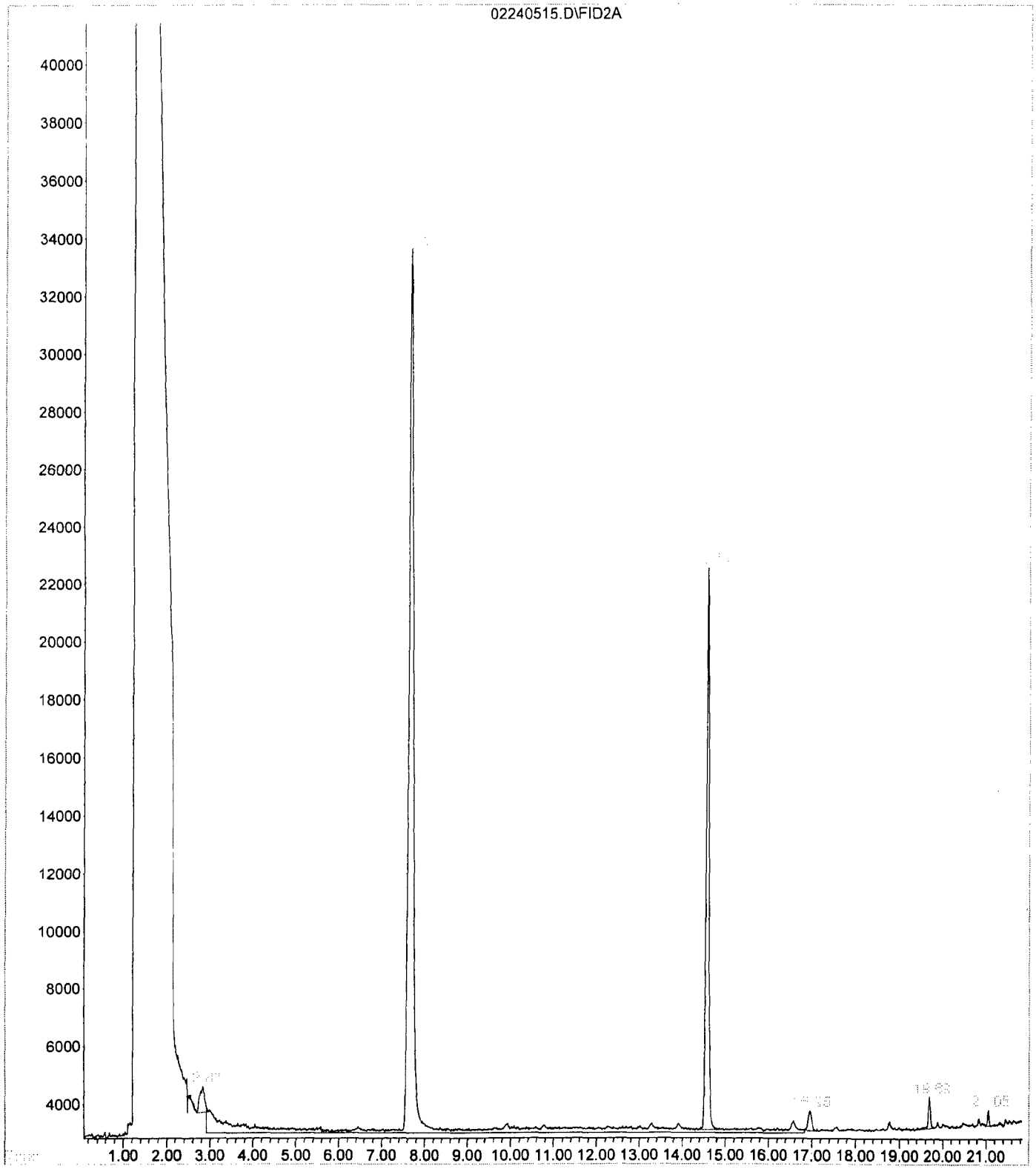
File : C:\HPCHEM\1\DATA\022405\02240513.D
Operator : DSR/BP
Acquired : 24 Feb 2005 19:50 using AcqMethod BG121904.M
Instrument : GC-2
Sample Name: GRO RT STD
Misc Info : 10uL MS4-25-07
Vial Number: 13



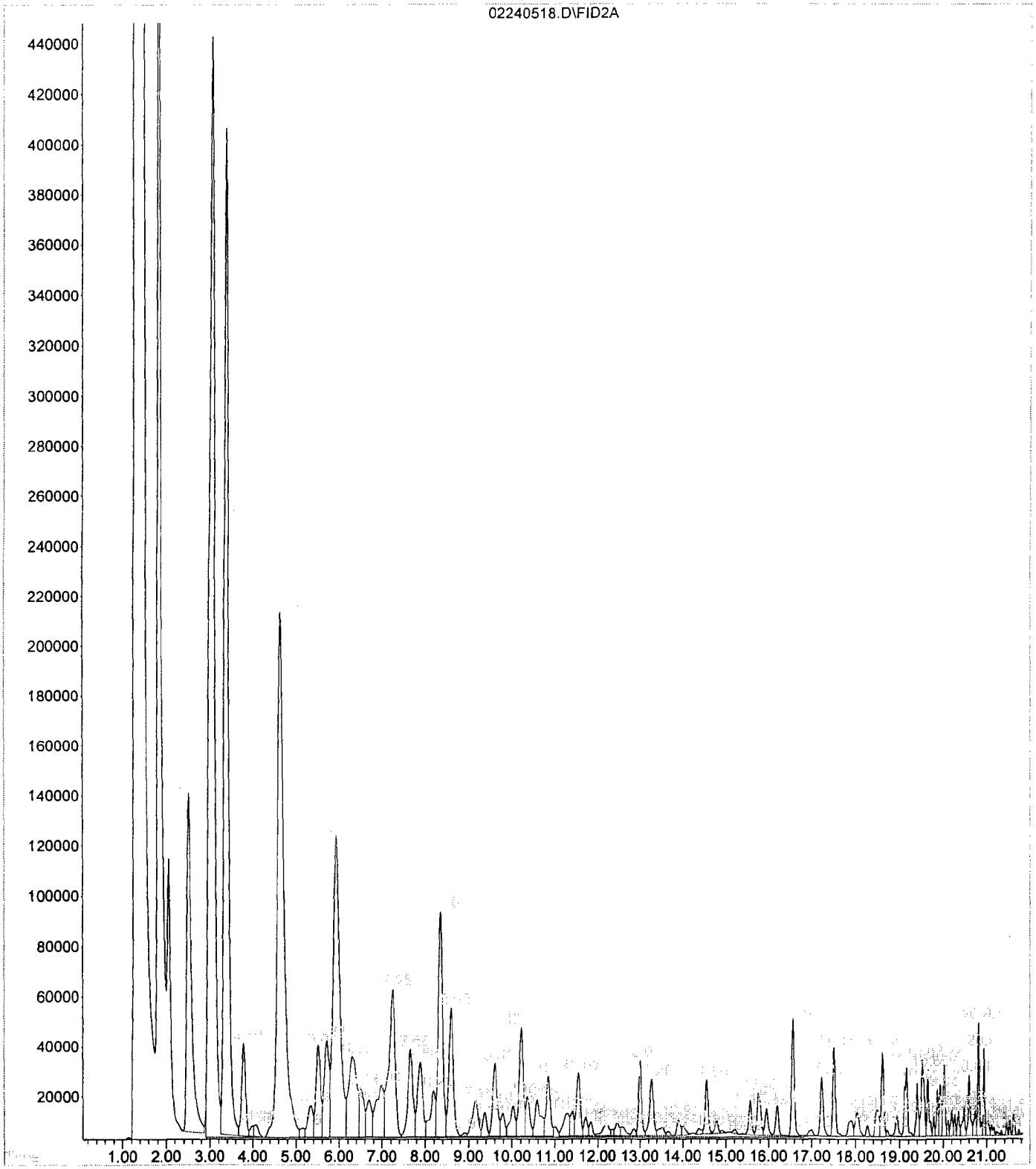
File : C:\HPCHEM\1\DATA\022405\02240514.D
Operator : DSR/BP
Acquired : 24 Feb 2005 20:21 using AcqMethod BG121904.M
Instrument : GC-2
Sample Name: GRO CCV 1000ppb
Misc Info : 10uL MS4-25-10
Vial Number: 14



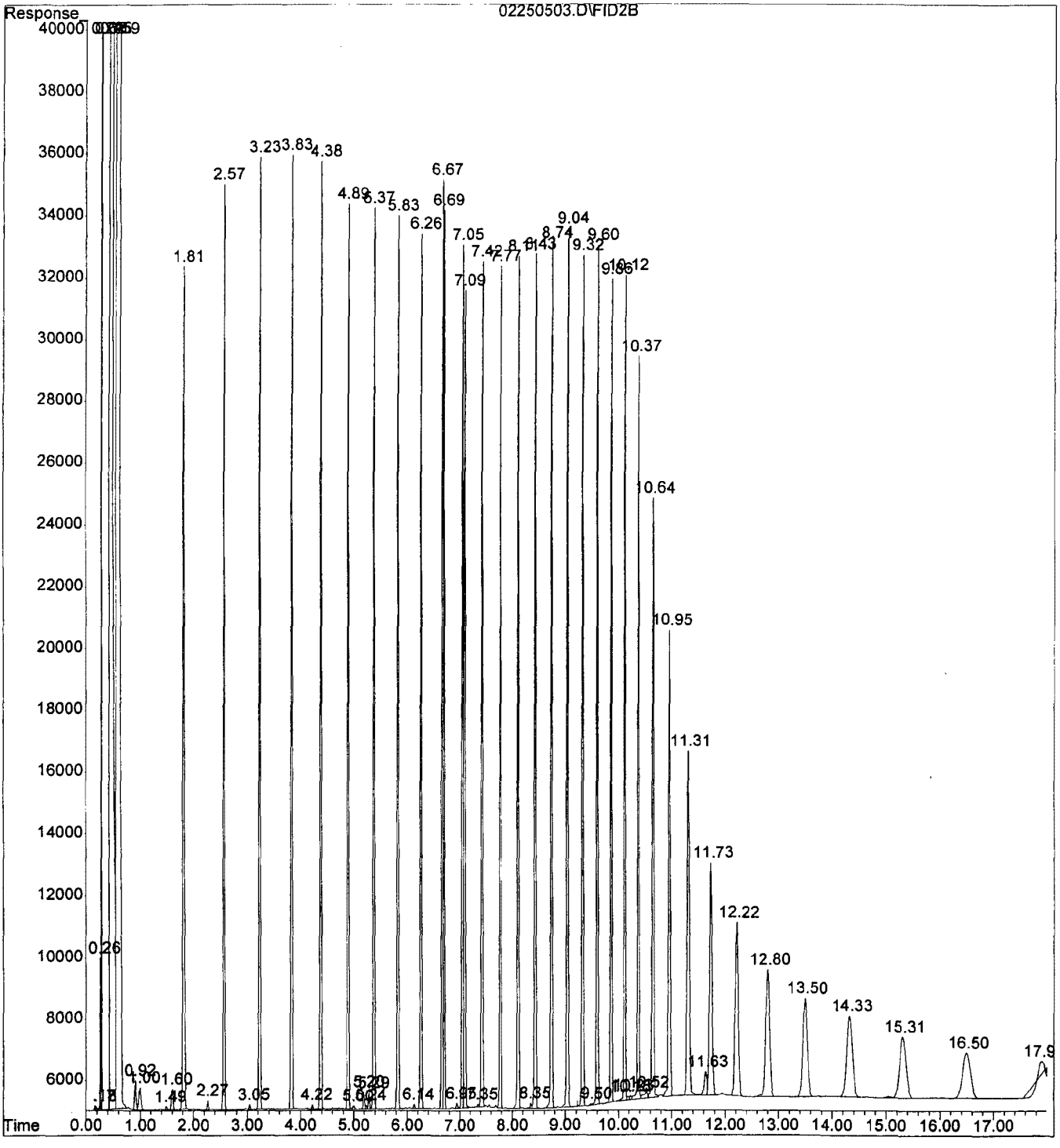
File : C:\HPCHEM\1\DATA\022405\02240515.D
Operator : DSR/BP
Acquired : 24 Feb 2005 20:52 using AcqMethod BG121904.M
Instrument : GC-2
Sample Name: REAGENT BLANK
Misc Info : 10uL MS4-25-12 / 10uL MS4-25-14 GRO
Vial Number: 15



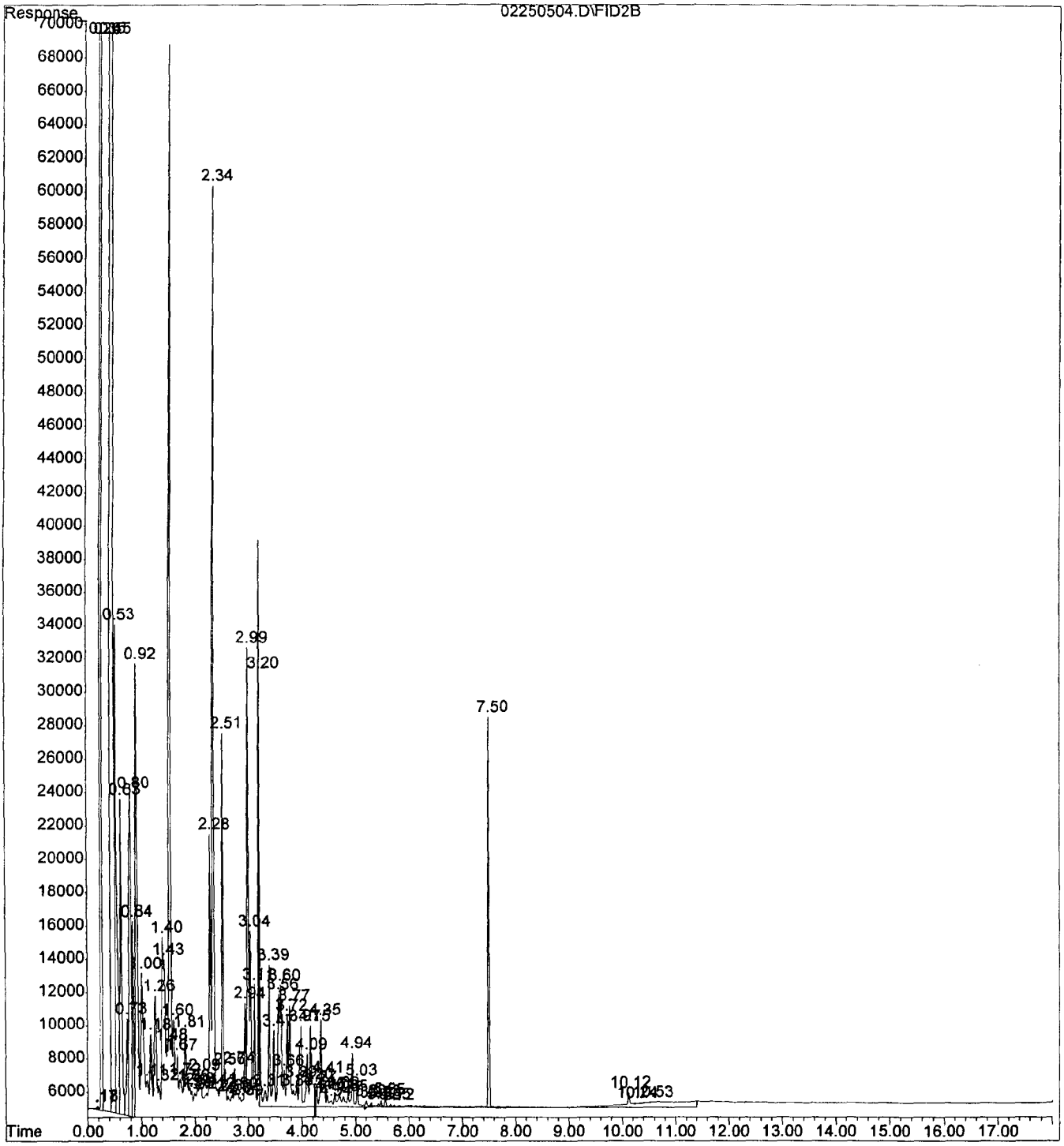
File : C:\HPCHEM\1\DATA\022405\02240518.D
Operator : DSR/BP
Acquired : 24 Feb 2005 22:26 using AcqMethod BG121904.M
Instrument : GC-2
Sample Name: 502149-01 1X
Misc Info : 5mL GRO
Vial Number: 2



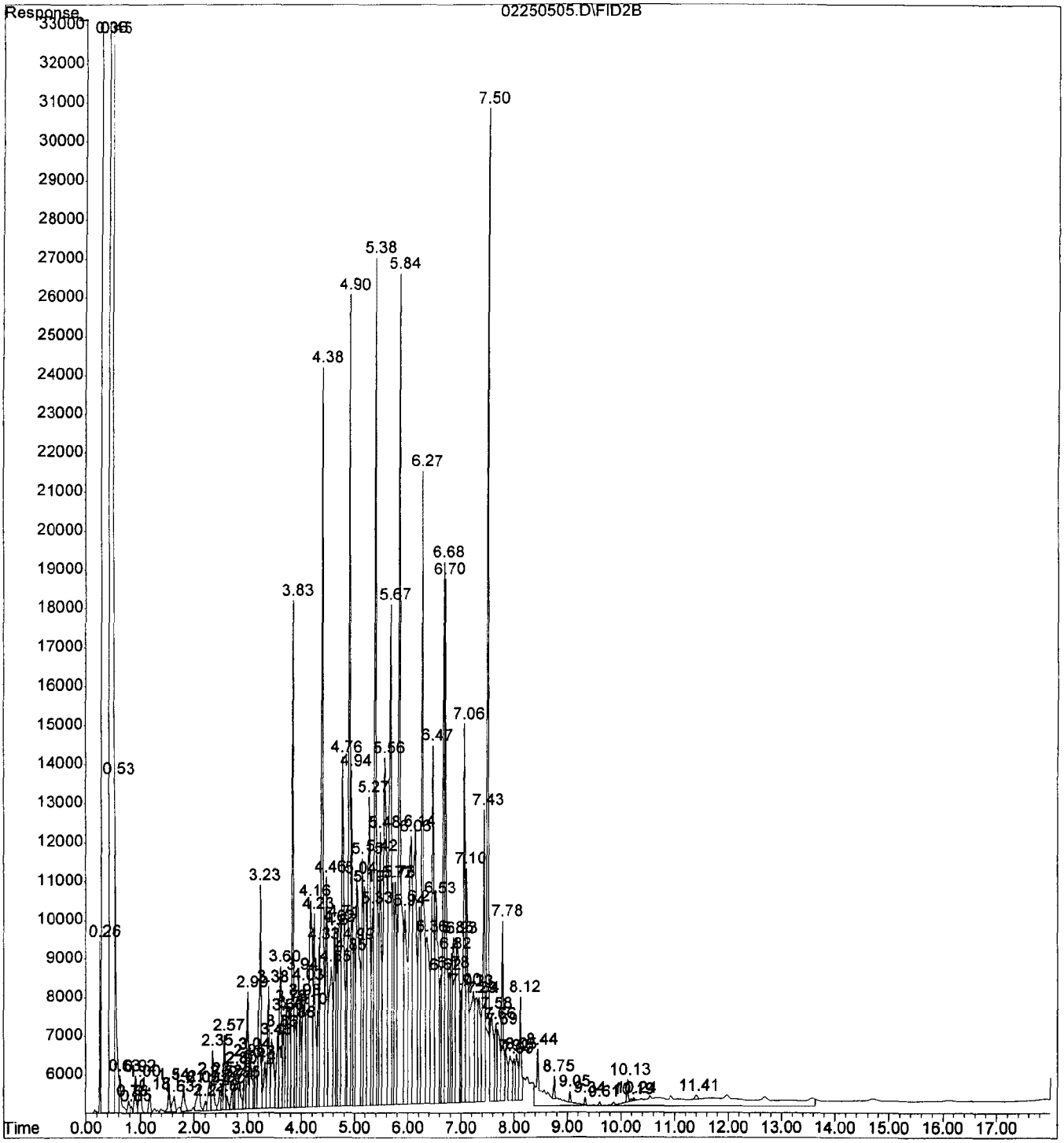
File : C:\HPCHEM\2\DATA\022505F\02250503.D
Operator : DSR
Acquired : 25 Feb 2005 10:44 using AcqMethod TPH0131.M
Instrument : FID-1
Sample Name: RT
Misc Info : GC5-10-14
Vial Number: 2



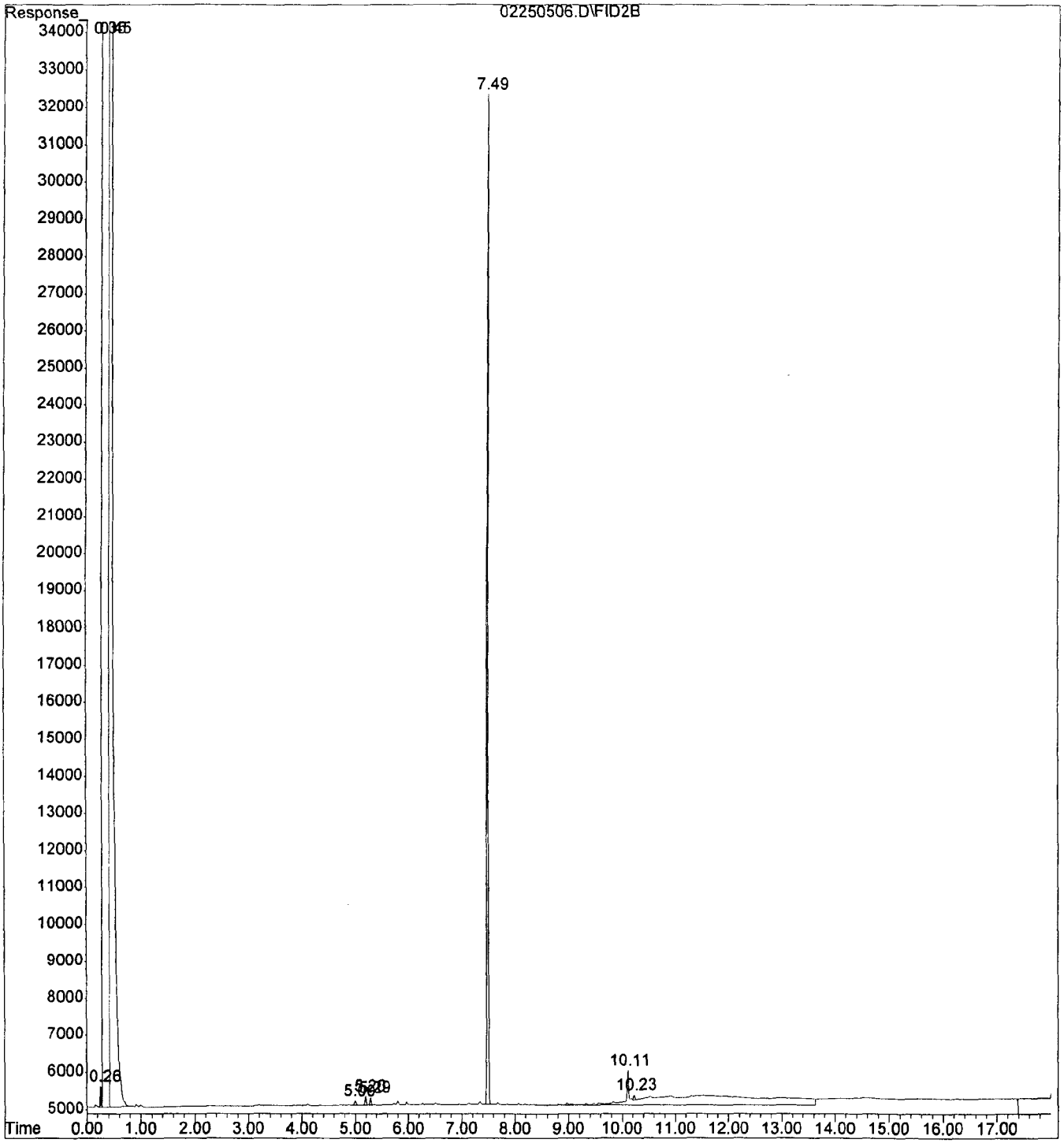
File : C:\HPCHEM\2\DATA\022505F\02250504.D
Operator : DSR
Acquired : 25 Feb 2005 11:11 using AcqMethod TPH0131.M
Instrument : FID-1
Sample Name: GRO CCV 200PPM
Misc Info : GC5-12-09
Vial Number: 3



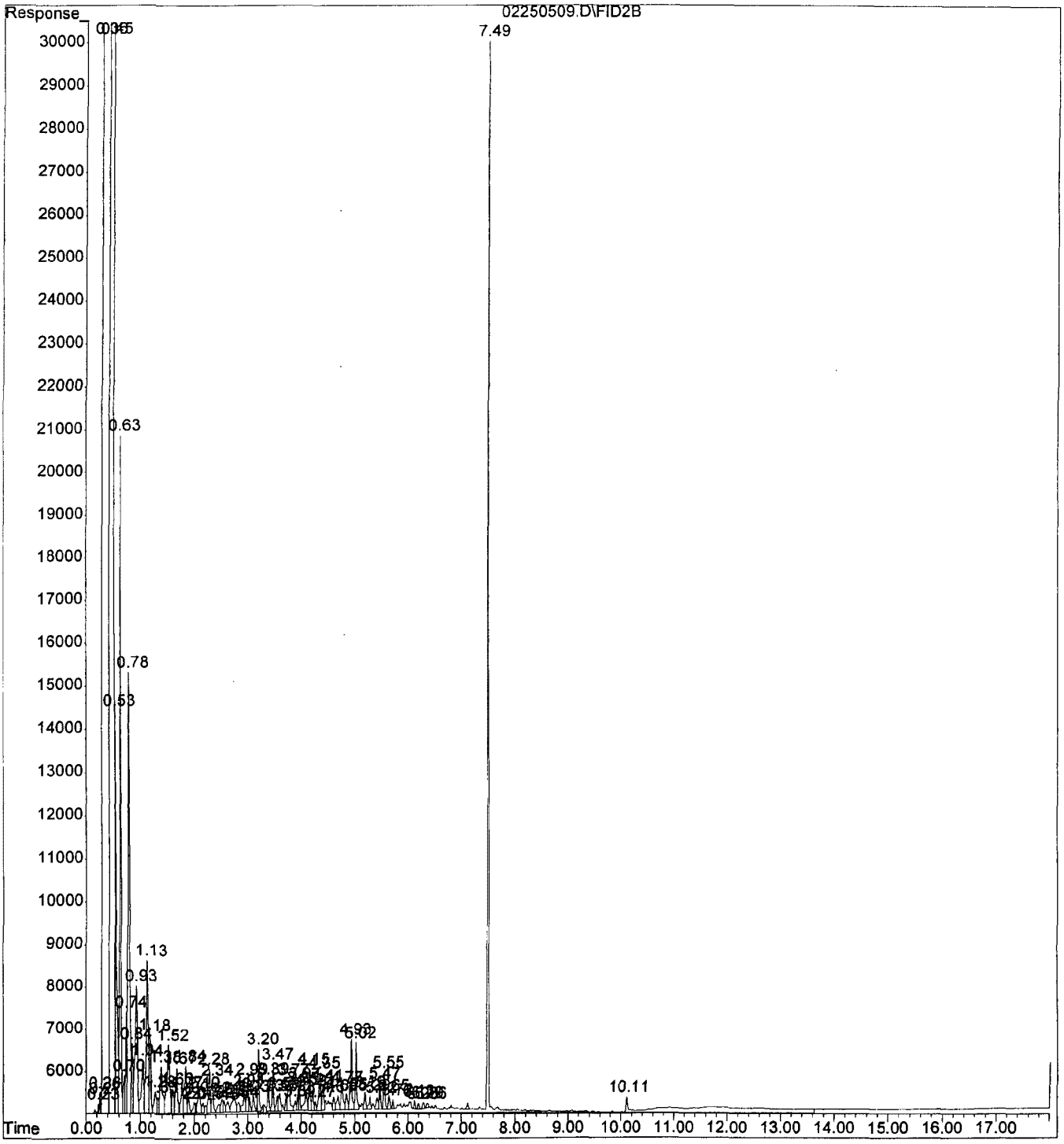
File : C:\HPCHEM\2\DATA\022505F\02250505.D
Operator : DSR
Acquired : 25 Feb 2005 11:38 using AcqMethod TPH0131.M
Instrument : FID-1
Sample Name: DRO CCV 200PPM
Misc Info : GC5-12-13
Vial Number: 4



File : C:\HPCHEM\2\DATA\022505F\02250506.D
Operator : DSR
Acquired : 25 Feb 2005 12:05 using AcqMethod TPH0131.M
Instrument : FID-1
Sample Name: WRB 022505
Misc Info : 30ML/3ML 02/25
Vial Number: 5



File : C:\HPCHEM\2\DATA\022505F\02250509.D
Operator : DSR
Acquired : 25 Feb 2005 13:27 using AcqMethod TPH0131.M
Instrument : FID-1
Sample Name: 502149-01
Misc Info : 30ML/3ML 02/25
Vial Number: 8



PINNACLE LABORATORIES

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Pinnacle Lab ID number **502148**
February 25, 2005

NMOCD
1220 S. ST. FRANCIS DRIVE
SANTA FE, NM 87505

Project Name GIANT BLOOMFIELD
Project Number (NONE)

Attention: WAYNE PRICE

On 02/23/2005 Pinnacle Laboratories Inc., (ADHS License No. AZ0643), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

H. Mitchell Rubenstein, Ph.D.
General Manager, Pinnacle Laboratories, Inc.

MR: jt

Enclosure

PINNACLE LABORATORIES

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Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: NMOCD	PINNACLE ID	: 502148
PROJECT #	: (NONE)	DATE RECEIVED	: 02/23/2005
PROJECT NAME	: GIANT BLOOMFIELD	REPORT DATE	: 02/25/2005

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
502148 - 01	SAN JUAN RIVER, RIVER TERRACE	AQUEOUS	02/23/2005
502148 - 02	SAN JUAN RIVER PARK	AQUEOUS	02/23/2005

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021B
CLIENT : NMOCD
PROJECT # : (NONE)
PROJECT NAME : GIANT BLOOMFIELD

PINNACLE I.D. : 502148
ANALYST : DSR / BP

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	SAN JUAN RIVER, RIVER TERRACE	AQUEOUS	02/23/2005	NA	02/24/2005	1
02	SAN JUAN RIVER PARK	AQUEOUS	02/23/2005	NA	02/24/2005	1

PARAMETER	DET. LIMIT	UNITS	SAN JUAN RIVER, RIVER TERRACE	SAN JUAN RIVER PARK
BENZENE	0.5	UG/L	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5
TOTAL XYLENES	1.0	UG/L	< 1.0	< 1.0
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5	< 2.5
SURROGATE:				
BROMOFLUOROBENZENE (%)			97	97
SURROGATE LIMITS	(80 - 120)			

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021B	PINNACLE I.D.	: 502148
BLANK I. D.	: 022405	DATE EXTRACTED	: N/A
CLIENT	: NMOCD	DATE ANALYZED	: 02/24/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	ANALYST	: DSR / BP

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<1.0
METHYL-t-BUTYL ETHER	UG/L	<2.5
SURROGATE:		
BROMOFLUOROBENZENE (%)		99
SURROGATE LIMITS:	(80 - 120)	

CHEMIST NOTES:
N/A

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

TEST	: EPA 8021B	PINNACLE I.D.	: 502148
BATCH #	: 022405	DATE EXTRACTED	: N/A
CLIENT	: NMOCD	DATE ANALYZED	: 02/24/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	20.2	101	20.1	101	0	(80 - 120)	20
TOLUENE	<0.5	20.0	20.3	102	20.2	101	0	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.2	101	20.0	100	1	(80 - 120)	20
TOTAL XYLENES	<1.0	60.0	60.8	101	60.0	100	1	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	19.4	97	19.2	96	1	(70 - 133)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

TEST	: EPA 8021B	PINNACLE I.D.	: 502148
MSMSD #	: 502150-01	DATE EXTRACTED	: N/A
CLIENT	: NMOCD	DATE ANALYZED	: 02/24/2005
PROJECT #	: (NONE)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: GIANT BLOOMFIELD	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	21.3	107	20.5	103	4	(80 - 120)	20
TOLUENE	25	20.0	45.5	103	44.8	99	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.1	106	20.6	103	2	(80 - 120)	20
TOTAL XYLENES	<1.0	60.0	63.8	106	62.9	105	1	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	20.4	102	19.5	98	5	(70 - 133)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

5 ac 2/24/05
402148

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 2/23/05 PAGE: OF:

PROJECT MANAGER: Wayne Price
COMPANY: OCD
ADDRESS: 1220 S. St Francis Drive
Santa Fe, NM 87505
PHONE: 505 476-3487
FAX:
BILL TO: Same as above
COMPANY:
ADDRESS:

							Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) MTBE TMB PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB DBCP	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics PBMS	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:		Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method1311)	Metals:	
San Juan River, River Terrace	1	40 VOA	2	W		01					X																					
	2	2/23/05	1330	$HgCl_2$		↓																										
San Juan River Park	3	40 VOA	2	W		02					X																					
	4	2/23/05	1400	$HgCl_2$		↓																										

2
2

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJ. NO.:
PROJ. NAME: Grant Bloomfield
P.O. NO.:
SHIPPED VIA:

(RUSH) 24hr* 48hr* 72hr* 1 WEEK (NORMAL) X
*NOT AVAILABLE ON ALL ANALYSES
CERTIFICATION REQUIRED NM SDWA AZ OTHER
METHANOL PRESERVATION METALS TOTAL DISSOLVED

COMMENTS:
4
4
4
6.4°C

Signature: Time: 6:05 PM 2/23/05
Printed Name: WAYNE PRICE Date:
Company: OCD
See Reverse side (Price Majeure)

Signature: Time:
Printed Name: Date:
Company:

Signature: Francine Tanico Time: 1805
Printed Name: Francine Tanico Date: 2/23/05
Company:

Signature: Time:
Printed Name: Date:
Company:

PLEASE FILL THIS FORM IN COMPLETELY.

DISTRIBUTION: White - PLL Canary - Originator

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

RECEIVED

FEB 2005

Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505

Date	Invoice #
02/25/2005	89677

Bill To

N.M. Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505
Client #: 810-134

P.O. No.	Terms	Project #	Project Name
	Net 30	(None)	Giant Bloomfield

Quantity	Description	Rate	Amount
2	Item 004 Method 8021 (BTEX) Aqueous	40.00	80.00

Remit to: Pinnacle Laboratories, Inc.
2709-D Pan American Freeway NE
Albuquerque, NM 87107

Accession #: 502148
Authorized By: Wayne Price

Sales Tax (6.75%)	$0.00
Total	$80.00

402148

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 2/23/05 PAGE: ___ OF ___

PROJECT MANAGER: Wayne Price

COMPANY: OCD

ADDRESS: 1220 S. St Francis Drive
Santa Fe, NM 87505

PHONE: 505 476-3487

FAX:

BILL TO: Same as above

COMPANY:

ADDRESS:

Sample	Containers		Matrix / Preservative	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct Inject	(M8015) Gas/Purge & Trap	8021 (BTEX)/8015 (Gasoline) MTBE	8021 (BTEX) ☒MTBE ☐TMB ☐PCE	8021 (TCL)	8021 (EDX)	8021 (HALO)	8021 (CUST)	504.1 EDB ☐/DBCP ☐	8260 (TCL) Volatile Organics	8260 (Full) Volatile Organics ☐PBMS	8260 (CUST) Volatile Organics	8260 (Landfill) Volatile Organics	Pesticides/PCB (608/8081/8082)	Herbicides (615/8151)	Base/Neutral/Acid Compounds GC/MS (625/8270)	Polynuclear Aromatics (610/8310/8270-SIMS)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method1311)	Metals:	
San Juan River, River → Terrace	40 VOA, 2/23/05	2, 1330	W, $HgCl_2$	01 ↓			[illegible]	X																				2
San Juan River → Park	40 VOA, 2/23/05	2, 1400	W, $HgCl_2$	02 ↓			[illegible]	X																				2

WEEKEND ANALYSES MAY RESULT IN AN ADDITIONAL SURCHARGE - PLEASE INQUIRE.

PROJ. NO.:

PROJ. NAME: Giant Bloomfield

P.O. NO.:

SHIPPED VIA:

(RUSH) ☐24hr* ☐48hr* ☐72hr* ☐1 WEEK (NORMAL) ☒
*NOT AVAILABLE ON ALL ANALYSES

CERTIFICATION REQUIRED ☐NM ☐SDWA ☐AZ ☐OTHER

METHANOL PRESERVATION ☐ METALS ☐TOTAL ☐DISSOLVED

COMMENTS:
4
Y
Y
Y
6.4°c

Signature: [signature] Time: 6:05 PM 2/23/05
Printed Name: WAYNE PRICE Date:
Company: OCD
See Reverse side (Force Majeure)

Signature: Time:
Printed Name: Date:
Company:

Signature: [signature] Time: 1805
Printed Name: Francine Tonino Date: 2/23/05
Company:

DISTRIBUTION: White - PLI, Canary - Originator

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone (505) 428-2500
Fax (505) 428-2567
www.nmenv.state.nm.us

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

March 25, 2005

Randy Schmaltz
Environmental Supervisor
Giant Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Ed Riege
Environmental Superintendent
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

Subject: **APPROVAL WITH CONDITIONS**
NORTH BOUNDARY BARRIER COLLECTION SYSTEM DESIGN AND MONITORING PLAN
RCRA PERMIT NO. NMDD 089416416 HWB-GRCB-04-005

Dear Messrs. Schmaltz and Riege:

The New Mexico Environment Department (NMED) has completed the review of the *North Boundary Barrier Collection System Design and Monitoring Plan* (NBBCSD) dated March 7, 2005, submitted on behalf of Giant Refining Company Bloomfield Refinery (GRCB). NMED hereby approves the NBBCSD with the conditions listed below:

1. All collection and observation well screens must intersect the water table. Depending on the known water table fluctuation, the well screen must extend approximately two feet above the water table or more to account for any fluctuation in the water Table.

2. Page 3, #2 Collection Well Spacing states "an estimated hydraulic conductivity of 100 to 150 ft/day, it is estimated that a maximum effective well spacing is approximately 300 feet." GRCB must provide justification how this spacing was estimated or determined and provide any calculations applied.

Should you have any questions, please contact Hope Monzeglio of my staff at 505-428-2545.

Sincerely,

James P. Bearzi
Chief
Hazardous Waste Bureau

JPB:hcm

cc: H. Monzeglio, NMED HWB
J. Kieling, NMED HWB
D. Cobrain, NMED HWB
W. Price, OCD
D. Foust, OCD Aztec Office
B. Wilkinson, EPA

Reading File and GRCB 2005 File

GIANT
REFINING COMPANY

March 7, 2005

Ms. Hope Monzeglio
State of New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Re: Giant Bloomfield Refinery
North Boundary Barrier Collection System Design and Monitoring Plan
RCRA Permit No. NMD 089416416
HWB-GRCB-04-005

Dear Ms. Monzeglio:

Giant Refining Company Bloomfield (GRCB) is submitting for your review and approval the design of a collection and monitoring system to be installed along the north boundary barrier at the Giant Refinery in Bloomfield, New Mexico. GRCB received NMED's conditional approval (dated December 21, 2004) of the November 17, 2004 *Corrective Action Plan* (CAP) submitted by GRCB. The CAP describes the voluntary corrective measures to be implemented by GRCB at the Bloomfield refinery. Included in the CAP are a layout of the barrier wall and a conceptual description of a fluid collection system. The purpose of this letter is to submit the design of a collection and monitoring system and an estimated schedule for installation of the selected system.

Giant entered into a contract with Remedial Construction Services, L.P. (RECON) to construct the north boundary barrier. RECON mobilized to the Bloomfield refinery the week of January 17, 2005. The barrier construction began January 31, 2005 at the west end of the alignment and is proceeding easterly. As of February 25, 2005, approximately 1,100 feet of the barrier had been constructed. Construction is anticipated to be completed in early April 2005.

Design Concept for Collection and Monitoring System

Based on the hydraulic properties and limited saturation of the shallow soils (i.e., Jackson Lake Terrace (JLT) deposits), the amount of fluids accumulation behind the barrier wall

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505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

(along its total length) is estimated to be below 10 gallons per minute, or less than 14,000 gallons per day. In the perched-water flow regime that exists on the top of the Nacimiento Formation, the fluids will tend to accumulate in the depressions or troughs of the Nacimiento Formation, resulting in groundwater movement from the higher elevations of the formation to the lower depressions. As such, fluids collection points will be located in the significant formation depressions (as logged in the field during barrier construction). Fluids accumulation along portions of the barrier between those depressions is expected to be limited. However, observation wells will be installed at appropriate intervals between collection points to assess fluids behavior along the barrier.

Two types of systems were considered to collect and remove fluids that accumulate behind the barrier: 1) collection trenches, and 2) conventional vertical wells.

Collection trenches are typically used in soil conditions where an area of increased permeability is required to allow fluids to accumulate for subsequent removal. Since the JLT deposit (which overlies the Nacimiento Formation) has a high permeability, an engineered collection trench would not offer a benefit over the natural granular soil adjacent to the barrier. Further, there is limited construction space available between the barrier wall and the Hammond Ditch concrete liner (i.e., only 5 to 6 feet). Therefore, GRBC proposes to install vertical collection wells to collect and remove fluids. Initially, wells will be located at significant troughs (as identified in the field during barrier construction) in the Nacimiento Formation. Additional collection wells may be added along the barrier (if necessary) as operational experience is gained.

Each collection well will have a corresponding observation well located on the river side of the barrier. The observation wells will be monitored periodically to assess that the barrier is preventing fluids from migrating toward the river bluff. Additional pairs of observation wells will be installed along the barrier (i.e., between collection points) as necessary to limit the maximum spacing of observation locations to approximately 300 feet.

The installation of the collection and observation wells will be completed in two phases:

- Phase I will involve the installation of collection wells along the western half of the barrier (i.e., the portion constructed to date) and at the pipeline ROW crossing. A total of 11 collection wells will be installed during Phase I. GRBC plans to initiate Phase I during the week of March 28, 2005.
- Phase II will be implemented within 30 days after the barrier wall construction is completed. This will include installing collection wells along the remainder of the barrier wall alignment. The location of these collection wells will be determined based on logging of the top of the Nacimiento Formation during the remainder of the barrier construction. Phase II will also include the installation of the observation wells on the river side of the barrier and any additional observation well pairs in between collection points.

Collection System Design

1. Collection Well Design

The collection wells will be installed using the hollow stem auger drilling method. The wells will consist of a six-inch diameter PVC well casing and machine-slotted screen. The diameter of the borehole will be approximately 13-inches. Based on review of sieve analyses performed on the JLT deposits, the well screen slot size will be 0.040 inch. The depth of each well will be dependent on the depth to the top of the Nacimiento Formation at each location. The bottom of each well will extend approximately one to two-feet into the Nacimiento Formation. The screened interval will extend from the Nacimiento Formation at the bottom, up to the top of the barrier wall, or to a maximum 10-foot screen length, which ever is less.

A permeable filter pack will be placed around the well screen. Based on sieve analyses as described above, the filter pack material will consist of Colorado # 10 X 20 silica sand. The filter pack size was selected to minimize the movement of formational fine-grained soils through the screen openings, but to also provide a moderate permeability for fluid movement into the well.

The well surface completion will include a flush-mounted, traffic-rated box. A generalized well construction diagram is shown on Figure 1.

2. Collection Well Spacing

Based on the hydraulic properties of the JLT deposits, which includes an estimated hydraulic conductivity of 100 to150 ft/day, it is estimated that a maximum effective well spacing is approximately 300 feet. Each six-inch well could potentially produce 20 to 50 gallons per minute, if required, although the JLT will likely produce less. The actual spacing of the wells will be governed by the locations of the troughs in the Nacimiento Formation.

3. Collection Well Locations

The proposed locations of the Phase I wells are shown on Figure 2. The locations correspond to the troughs in the Nacimiento Formation as shown on the barrier profile (Figure 3). The profile shows the elevation of the top of the Nacimiento Formation (in the western portion of the alignment), as determined during construction of the barrier wall. As shown on Figure 2, the proposed collection well locations for Phase I are located only along the western portion of the barrier alignment and at the pipeline ROW crossing. The proposed locations for Phase II collection wells will be submitted to NMED and OCD for approval at the end of barrier construction.

4. Fluid Removal Methods

Fluids will be removed from the collection wells using a vacuum truck when necessary based on fluid level monitoring results. Collected fluids will be delivered to the existing French Drain collection tank. If required based on operational experience, permanent collection pumps may be installed in certain collection wells at a later date.

Monitoring Plan

A monitoring plan will be implemented to monitor fluid levels on both sides of the barrier. The plan includes the installation of observation wells on the river side of the barrier, and monitoring of fluid levels in the collection and observation wells.

1. Observation Well Design:

All observation wells will be installed during Phase II. The observation wells will consist of 2-inch diameter PVC well casing and machine-slotted screen. The wells depths and screened intervals will be similar to the collection wells described above. The wells will extend slightly into the Nacimiento Formation. The screened interval will extend from the Nacimiento Formation at the bottom, up to the top of the barrier wall, or to a maximum 10-foot screen length, which ever is less. A typical observation well construction diagram is shown on Figure 4.

2. Observation Well Locations:

Observation wells will be installed on the opposite side of the barrier from each collection well. The observation wells will be located approximately 10 feet away from the barrier wall so as not to encroach on the Hammond Ditch service road. Additional pairs of observation wells will be installed along the barrier (i.e., between collection points) as necessary to limit the maximum spacing of observation locations to approximately 300 feet. A pair of observation wells will also be installed at each end of the barrier.

3. Proposed Monitoring Schedule:

Fluid levels in the Phase I collection wells will be monitored twice weekly for the first 30 days following their installation. The Phase II collection and observation wells will also be monitored twice weekly for the first 30 days following their installation. In each case, if field observations indicate conditions are stabilizing during the initial 30-day period, GRBC proposes to change to a weekly monitoring interval thereafter. GRBC will propose a long-term monitoring schedule to NMED and OCD 60 days after installation of the Phase II wells.

4. Reporting

Initially, a summary of the fluid level monitoring activities described in Item 3 will be submitted to NMED and OCD on a monthly basis. Any modifications to the reporting schedule will be proposed the agencies as part of the long-term monitoring plan.

We are looking forward to receiving your approval of this collection system design and monitoring plan. If you have any questions in this matter, please contact me at 505-632-4171.

Sincerely,

GIANT REFINING COMPANY

James R. Schmaltz
Environmental Manager

cc: Denny Foust - OCD Aztec Office
Wayne Price - OCD
Bob Wilkinson – EPA
Ed Riege
Chad King

GIANT
REFINING COMPANY

March 7, 2005

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Giant Bloomfield Refinery
North Boundary Barrier Collection System Design and Monitoring Plan

Dear Mr. Price:

Giant Refining Company Bloomfield (GRCB) is submitting for your review and approval the design of a collection and monitoring system to be installed along the north boundary barrier at the Giant Refinery in Bloomfield, New Mexico. GRCB received OCD's conditional approval (dated December 17, 2004) of the November 17, 2004 *Corrective Action Plan* (CAP) submitted by GRCB. The CAP describes the voluntary corrective measures to be implemented by GRCB at the Bloomfield refinery. Included in the CAP are a layout of the barrier wall and a conceptual description of a fluid collection system. The purpose of this letter is to submit the design of a collection and monitoring system and an estimated schedule for installation of the selected system.

Giant entered into a contract with Remedial Construction Services, L.P. (RECON) to construct the north boundary barrier. RECON mobilized to the Bloomfield refinery the week of January 17, 2005. The barrier construction began January 31, 2005 at the west end of the alignment and is proceeding easterly. As of February 25, 2005, approximately 1,100 feet of the barrier had been constructed. Construction is anticipated to be completed in early April 2005.

Design Concept for Collection and Monitoring System

Based on the hydraulic properties and limited saturation of the shallow soils (i.e., Jackson Lake Terrace (JLT) deposits), the amount of fluids accumulation behind the barrier wall (along its total length) is estimated to be below 10 gallons per minute, or less than 14,000 gallons per day. In the perched-water flow regime that exists on the top of the Nacimiento

PHONE
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FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

Formation, the fluids will tend to accumulate in the depressions or troughs of the Nacimiento Formation, resulting in groundwater movement from the higher elevations of the formation to the lower depressions. As such, fluids collection points will be located in the significant formation depressions (as logged in the field during barrier construction). Fluids accumulation along portions of the barrier between those depressions is expected to be limited. However, observation wells will be installed at appropriate intervals between collection points to assess fluids behavior along the barrier.

Two types of systems were considered to collect and remove fluids that accumulate behind the barrier: 1) collection trenches, and 2) conventional vertical wells.

Collection trenches are typically used in soil conditions where an area of increased permeability is required to allow fluids to accumulate for subsequent removal. Since the JLT deposit (which overlies the Nacimiento Formation) has a high permeability, an engineered collection trench would not offer a benefit over the natural granular soil adjacent to the barrier. Further, there is limited construction space available between the barrier wall and the Hammond Ditch concrete liner (i.e., only 5 to 6 feet). Therefore, GRBC proposes to install vertical collection wells to collect and remove fluids. Initially, wells will be located at significant troughs (as identified in the field during barrier construction) in the Nacimiento Formation. Additional collection wells may be added along the barrier (if necessary) as operational experience is gained.

Each collection well will have a corresponding observation well located on the river side of the barrier. The observation wells will be monitored periodically to assess that the barrier is preventing fluids from migrating toward the river bluff. Additional pairs of observation wells will be installed along the barrier (i.e., between collection points) as necessary to limit the maximum spacing of observation locations to approximately 300 feet.

The installation of the collection and observation wells will be completed in two phases:

- Phase I will involve the installation of collection wells along the western half of the barrier (i.e., the portion constructed to date) and at the pipeline ROW crossing. A total of 11 collection wells will be installed during Phase I. GRBC plans to initiate Phase I during the week of March 28, 2005.
- Phase II will be implemented within 30 days after the barrier wall construction is completed. This will include installing collection wells along the remainder of the barrier wall alignment. The location of these collection wells will be determined based on logging of the top of the Nacimiento Formation during the remainder of the barrier construction. Phase II will also include the installation of the observation wells on the river side of the barrier and any additional observation well pairs in between collection points.

Collection System Design

1. Collection Well Design

The collection wells will be installed using the hollow stem auger drilling method. The wells will consist of a six-inch diamcter PVC well casing and machine-slotted screen. The diameter of the borehole will be approximately 13-inches. Based on review of sieve analyses performed on the JLT deposits, the well screen slot size will be 0.040 inch. The depth of each well will be dependent on the depth to the top of the Nacimiento Formation at each location. The bottom of each well will extend approximately one to two-feet into the Nacimiento Formation. The screened interval will extend from the Nacimiento Formation at the bottom, up to the top of the barrier wall, or to a maximum 10-foot screen length, which ever is less.

A permeable filter pack will be placed around the well screen. Based on sieve analyses as described above, the filter pack material will consist of Colorado # 10 X 20 silica sand. The filter pack size was selected to minimize the movement of formational fine-grained soils through the screen openings, but to also provide a moderate permeability for fluid movement into the well.

The well surface completion will include a flush-mounted, traffic-rated box. A generalized well construction diagram is shown on Figure 1.

2. Collection Well Spacing

Based on the hydraulic properties of the JLT deposits, which includes an estimated hydraulic conductivity of 100 to150 ft/day, it is estimated that a maximum effective well spacing is approximately 300 feet. Each six-inch well could potentially produce 20 to 50 gallons per minute, if required, although the JLT will likely produce less. The actual spacing of the wells will be governed by the locations of the troughs in the Nacimiento Formation.

3. Collection Well Locations

The proposed locations of the Phase I wells are shown on Figure 2. The locations correspond to the troughs in the Nacimiento Formation as shown on the barrier profile (Figure 3). The profile shows the elevation of the top of the Nacimiento Formation (in the western portion of the alignment), as determined during construction of the barrier wall. As shown on Figure 2, the proposed collection well locations for Phase I are located only along the western portion of the barrier alignment and at the pipeline ROW crossing. The proposed locations for Phase II collection wells will be submitted to NMED and OCD for approval at the end of barrier construction.

4. Fluid Removal Methods

Fluids will be removed from the collection wells using a vacuum truck when necessary based on fluid level monitoring results. Collected fluids will be delivered to the existing French Drain collection tank. If required based on operational experience, permanent collection pumps may be installed in certain collection wells at a later date.

Monitoring Plan

A monitoring plan will be implemented to monitor fluid levels on both sides of the barrier. The plan includes the installation of observation wells on the river side of the barrier, and monitoring of fluid levels in the collection and observation wells.

1. Observation Well Design:

All observation wells will be installed during Phase II. The observation wells will consist of 2-inch diameter PVC well casing and machine-slotted screen. The wells depths and screened intervals will be similar to the collection wells described above. The wells will extend slightly into the Nacimiento Formation. The screened interval will extend from the Nacimiento Formation at the bottom, up to the top of the barrier wall, or to a maximum 10-foot screen length, which ever is less. A typical observation well construction diagram is shown on Figure 4.

2. Observation Well Locations:

Observation wells will be installed on the opposite side of the barrier from each collection well. The observation wells will be located approximately 10 feet away from the barrier wall so as not to encroach on the Hammond Ditch service road. Additional pairs of observation wells will be installed along the barrier (i.e., between collection points) as necessary to limit the maximum spacing of observation locations to approximately 300 feet. A pair of observation wells will also be installed at each end of the barrier.

3. Proposed Monitoring Schedule:

Fluid levels in the Phase I collection wells will be monitored twice weekly for the first 30 days following their installation. The Phase II collection and observation wells will also be monitored twice weekly for the first 30 days following their installation. In each case, if field observations indicate conditions are stabilizing during the initial 30-day period, GRBC proposes to change to a weekly monitoring interval thereafter. GRBC will propose a long-term monitoring schedule to NMED and OCD 60 days after installation of the Phase II wells.

4. Reporting

Initially, a summary of the fluid level monitoring activities described in Item 3 will be submitted to NMED and OCD on a monthly basis. Any modifications to the reporting schedule will be proposed the agencies as part of the long-term monitoring plan.

We are looking forward to receiving your approval of this collection system design and monitoring plan. If you have any questions in this matter, please contact me at 505-632-4171.

Sincerely,

GIANT REFINING COMPANY

James R. Schmaltz
Environmental Manager

cc: Denny Foust - OCD Aztec Office
Hope Monzeglio – NMED Hazardous Waste Bureau
Bob Wilkinson – EPA
Ed Riege
Chad King

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone (505) 428-2500
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www.nmenv.state.nm.us

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 17, 2005

Mr. Randy Schmaltz
Environmental Supervisor
Giant Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Mr. Ed Riege
Environmental Superintendent
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

SUBJECT: APPROVAL WITH CONDITIONS
VOLUNTARY CORRECTIVE MEASURES
TEMPORAY WELL INSTALLATION TP-9 THROUGH TP-13
BLOOMFIELD REFINING COMPANY
RCRA PERMIT NO. NMD 089416416
HWB-GRCB-04-006

Dear Mr. Schmaltz and Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of Giant Industries' response to the *Giant Bloomfield Refinery – NMED Conditional Approval of River Terrace Area Voluntary Corrective Measures Plan* dated January 31, 2005, submitted on behalf of Giant Refining Company, Bloomfield Refinery (GRCB). NMED hereby approves the locations of temporary well points TP-9 through TP-13 with the following conditions listed below:

1. The temporary well points shall be installed with a hollow-stem auger. The borings shall be advanced to approximately nine (9) feet below ground surface (bgs). The well points shall be constructed using 2-inch schedule 40 PVC and 5-foot long machine-slotted screen (#10 slot) set from approximately 4-feet bgs to 9-feet bgs to intersect the groundwater table. At least one foot of screen must be exposed above the water table. A 2-inch blank

casing shall be set above the screen to complete an above-grade "stick-up" similar to the existing temporary well points.

2. Upon completion of temporary well points TP-9 through TP-13, the temporary wells shall be purged and groundwater samples shall be collected. The groundwater samples shall be analyzed for diesel range organics (DRO) and gasoline range organics (GRO) using EPA Modified Method 8015B, BTEX using EPA Method 8021B, and general chemistry parameters in accordance with Oil Conservation Division (OCD) requirements.

3. Prior to the collection of groundwater samples, Giant shall obtain headspace vapor readings from all temporary wells TP-1 through TP-13 using a photo ionization detector (PID) or a combustible gas indicator (CGI). Vapor samples shall be collected from approximately one foot above the water table by inserting a tube into the well and inserting the PID or CGI probe into the other end of the tubing. To determine the tubing length, a depth to water measurement must be obtained from the wells and the tubing shall be inserted to a depth of one foot above the measured depth to water. The tubing size shall accommodate the size of the probe limiting the entry of ambient air. Giant should use caution when collecting the vapor reading to ensure water is not pulled into the tubing.

4. Upon completion of the investigation, GRCB must submit an investigation summary and typical temporary well point construction drawing.

If any of these activities are not performed, an explanation for the change in scope must be provided to NMED.

If you have any questions regarding this conditional approval please call me at (505) 428-2545.

Sincerely,

Hope Monzeglio

Hope Monzeglio
Project Leader
Hazardous Waste Bureau

HCM:hcm
cc: J. Kieling, NMED HWB
D. Cobrain, NMED HWB
W. Price, OCD
D. Foust, OCD Aztec Office
B. Wilkinson, EPA

Reading File and GRCB 2005 File

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone (505) 428-2500
Fax (505) 428-2567
www.nmenv.state.nm.us

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 3, 2005

Mr. Randy Schmaltz
Environmental Supervisor
Giant Refining Company
P. O. Box 159
Bloomfield, NM 87413

Ed Riege
Environmental Superintendent
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

SUBJECT: CONDITIONAL APPROVAL
RESPONSE TO REQUEST FOR SUPPLEMENTAL INFORMATION (RSI) GROUND WATER REMEDIATION AND MONITORING ANNUAL REPORT (APRIL 2004)
GIANT REFINING COMPANY, BLOOMFIELD REFINERY
NMD089416416
HWB-GRCB-04-001

Dear Mr. Schmaltz and Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of Giant's response to the *Request for Supplemental Information Ground Water Remediation and Monitoring Annual Report April 2004*, dated January 19, 2005. All the requested supplemental information required by NMED has been provided. NMED understands that Giant will implement the requirements identified in the RSI for future groundwater reports.

NMED hereby approves the Ground Water Remediation and Monitoring Annual Report April 2004 with the following conditions. The following conditions correspond to Giant's responses in their January 19, 2005 letter.

1. If a monthly effluent sample from the outfall discharge to the raw water ponds exceeds the Water Quality Control Commission (WQCC) Standards or EPA Maximum Contaminant Levels (MCL's), Giant must resample the effluent within two days of discovery of the exceedance. If the second effluent sample exceeds the WQCC Standards or MCLs, Giant must then treat the outfall discharge to the raw water ponds to reduce contaminant concentrations to levels less than WQCC Standards and MCLs. As stated in the RFI response, samples will be analyzed for BTEX using EPA Method 8021B.

7. NMED understands that while obtaining plant-wide groundwater level measurements during semi-annual and annual sampling events, Giant will also measure separate phase hydrocarbon thickness, where present.

8. NMED approves the use of EPA method 6010C instead of EPA Method 7191 and 7421 for chromium and lead testing, respectively.

Please call this office at 505-428-2545 if you have questions regarding this letter.

Sincerely,

Hope Monzeglio

Hope Monzeglio
Project Leader
Permits Management Program

cc: J. Kieling, NMED HWB
D. Cobrain, NMED HWB
W. Price, OCD
D. Foust, OCD Aztec Office
B. Wilkinson, USEPA

file: Reading File and GRCB 2005 File

GIANT
REFINING COMPANY

CERTIFIED MAIL # 7099 3220 0010 2242 4849

January 17, 2005

Ms. Hope Monzeglio
State of New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Re: Giant Bloomfield Refinery – NMED Conditional Approval of North Boundary Barrier Voluntary Corrective Measures Plan
RCRA Permit No. NMD 089416416
HWB-GRCB-04-005

Dear Ms. Monzeglio:

Giant Refining Company Bloomfield (GRCB) received the December 21, 2004 letter from the New Mexico Environmental Department (NMED) stating NMED's conditional approval of the November 17, 2004 *Corrective Action Plan* (CAP) submitted by GRCB. The CAP describes the voluntary corrective measures to be implemented by GRCB at the Bloomfield refinery. The purpose of this letter is to provide NMED with the anticipated starting date of the barrier construction and to respond to several of the conditions stated in NMED's letter.

Giant has entered into a contract with Remedial Construction Services, L.P. (RECON) to construct the north boundary barrier. RECON, based in Houston, Texas, is a contractor that specializes in the construction of barrier walls for environmental applications. RECON is tentatively scheduled to mobilize to the Bloomfield refinery the week of January 17, 2005, with barrier excavation activities expected to begin the following week. Construction is anticipated to be completed by the end of March 2005. Giant's environmental consultant (Malcolm Pirnie) will provide a senior geotechnical engineer and a full-time resident engineer to oversee and document the barrier construction activities. The barrier type will be a soil-bentonite slurry wall with permeability less than or equal to 1×10^{-7} cm/sec and a minimum thickness of 30 inches.

Response to NMED Conditions of Approval

The following responses correspond to the conditions in NMED's December 17, 2004 approval letter.

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

1. Condition accepted by Giant.

2. Giant will plan to key the barrier wall 5 feet into the Nacimiento Formation. Any exception shall be approved by NMED and OCD.

   Hydraulic conductivity testing of samples taken from the Nacimiento Formation along the barrier alignment indicates the formation is essentially impervious to water migration in its upper one-foot interval (soil boring SB2-1004, permeability of 6×10^{-7} cm/sec at a depth of 12.0 to 12.5 feet below ground surface (bgs); soil boring SB5-1004, permeability of 1.2×10^{-9} cm/sec at 9.5 to 10.5 bgs). Refer to the November 11, 2004 investigation report by Precision Engineering (Appendix A of CAP) for the testing results. An annotated test results summary table is included with this letter (Attachment A).

   Groundwater levels measured in piezometers installed along the proposed barrier alignment show there is generally one foot of water or less on the top of the Nacimiento Formation. This is an inappreciable amount of hydrostatic head.

   The quantity of flow migrating from the facility to the river bluff in the Jackson Lake Terrace gravels (across the entire proposed slurry wall alignment - over 2,600 feet in length) has been estimated (using the Darcy equation) to be less than 20 gallons per minute. This estimate assumes a saturated thickness of 2 feet on top of the Nacimiento Formation (greater than measured), a uniform gradient, and a moderate Jackson Lake Terrace permeability. This relatively low quantity of flow is consistent with the observed "isolated seeps" at the river bluff. As such, the amount of water anticipated to accumulate against the barrier is low.

   Based on these conditions, Giant anticipates that seepage beneath the barrier will be insignificant. In lieu of conducting a flow net analysis, Giant will install monitoring wells behind the barrier wall at appropriate intervals (to be approved by NMED and OCD). The monitoring well design and spacing will be included as part of the monitoring plan (see Response #10).

3. The barrier type will be a soil-bentonite slurry wall with permeability less than or equal to 1×10^{-7} cm/sec and a minimum thickness of 30 inches. The construction specifications require the soil-bentonite backfill mix design to be approved by Malcolm Pirnie. The mix design will be submitted to NMED and OCD. The specifications also require industry-standard quality control testing by the contractor during construction and verification permeability testing by an independent third-party laboratory.

4. As-built drawings and photo documentation are included in the construction procedures and will be provided to NMED as requested.

5. Daily logs will be kept by the full-time on-site resident engineer.

6. Weekly progress reports and photos will be provided as requested.

7. Giant anticipates installing the fluid collection points in the second quarter of 2005 after construction of the barrier is complete. The contour of the Nacimiento Formation along the barrier alignment will be surveyed during construction to aid in locating collection points. A fluid collection system design will be submitted to NMED for approval prior to installation of the collection points.

8. A senior geotechnical engineer and a full-time resident engineer from Malcolm Pirnie will oversee and document the barrier construction activities. Due to the character of the Jackson Lake Terrace soils, a slurry trench excavation method will be used. As such, collection of representative soil samples from the trench at prospective collection system locations is not technically possible. If these soil samples are necessary, Giant proposes they be obtained separately after barrier construction.

9. RECON will prepare a detailed construction activity schedule and Giant will provide a copy to NMED prior to start of construction. The schedule will be reviewed weekly during construction progress meetings and revisions will be made as necessary. Schedule changes will be communicated to NMED on a weekly basis.

10. Giant anticipates developing a monitoring plan concurrent with the collection system design. Conceptually, the plan will be based on monitoring hydraulic conditions on both sides of the barrier at locations where fluid accumulation is anticipated. The monitoring plan will be submitted to NMED for approval.

11. A typical log for the piezometers installed in the soil borings along the north property boundary is contained in Attachment B. The depth to water (bgs) in each of the locations is stated in the upper left header of the logs contained in Appendix A of the CAP. It should be noted that many of the subject piezometers will be destroyed during construction of the barrier wall.

12. The description "black with hydrocarbon odor" refers to hydrocarbon staining.

13. Slug test data for the shallow-zone soils (Jackson Lake Terrace deposit) is contained in Attachment C.

14. Grain size analyses were performed only on samples obtained from the October 2004 soil borings SB2-1004, SB5-1004, and SB8-1004 and from the depth intervals indicated on the annotated test results summary table (Attachment A). These three locations are spatially distributed across the area of the October 2004 investigation and the results provided sufficient information for barrier wall bentonite slurry and soil-bentonite backfill mix designs. Hydraulic conductivity

tests were performed only on Nacimiento Formation samples taken from soil borings SB2-1004 and SB4-1004.

15. Quality control measures consistent with industry-standard practices will be applied during barrier construction. We have provided Technical Specification Section 02234 for the barrier wall (Attachment D), which contains the construction quality control and testing procedures, primarily in Paragraphs 1.2 and 3.6. Please note this is a construction contract document, and is being provided to NMED for information purposes only.

16. Based on the small amount of fluids expected to collect against the barrier (see Response #2), GRCB anticipates a vacuum truck will be the only method of fluid removal from collection points. Operational experience, as it is gained, will determine if a deviation from this approach is required.

17. The referenced soil samples were taken from potential borrow sources to aid in mix design for the slurry wall. PEI Lab Nos. 46464 and 46465 were taken from a sand pile at the Foutz and Bursum gravel yard. PEI Lab Nos. 46461, 46462 and 46463 were taken from the earthen embankment adjacent to the Hammond Ditch on the north side.

18. GRCB will work with NMED to determine an appropriate long-term sampling and monitoring plan.

If you have any questions in this matter, please contact me at 505-632-4171.

Sincerely,

GIANT REFINING COMPANY

James R. Schmaltz
Environmental Manager

Cc: Wayne Price - OCD
Denny Foust - OCD Aztec Office
Bob Wilkinson – EPA
Ed Riege
Chad King

Letter to Ms. Hope Monzeglio
January 17, 2005

ATTACHMENT A

Annotated Test Results Summary from Precision Engineering, Inc.

Precision Engineering, Inc.
P.O. Box 422
Las Cruces, NM 88004
505-523-7674

Project Bloomfield-Hammond Ditch File No. 03-122 Date November 2, 2004

	Boring No.	PEI Lab No.	Depth ft.	Sieve Analysis %Passing 3"	2"	1½"	1"	3/4"	1/2"	3/8"	#4	#10	#20	#40	#60	#140	#200	Atterberg Limits LL	PI	Moisture %M	Unit Wt. PCF	Classification USCS	AASHTO
SB2-1004		46450	5.0-5.4							100	100	99	97	74	31	10	8.7		N/P	3.8		SP-SM	A-3
		46451	11.0-11.5				100	90	86	85	82	81	73	48	21	6	4.7		N/P	15.6		SP	A-1-b
SB3-1004		46452	9.0-10.0							100	100	71	57	45	37	28	23.8		N/P	5.6		SM	A-1-b
SB8-1004		46458	10.0-11.0				100	89	73	68	64	62	55	25	9	3	2.5		N/P	19.2		SP	A-1-b
SAND PILE @ GRVL PIT		46464	Surface								100	100	100	96	92	80	65.2		N/P	8.6		ML	A-4
		46465	Sruface							100	100	100	99	96	92	79	71.3		N/P	14.8		ML	A-4
	A.	46461	Surface	95	95	93	88	86	83	81	79	78	75	64	52	29	23.7		N/P	2.5		SM	A-2-4
	B.	46462	Surface	96	80	76	64	57	49	44	40	38	31	22	16	8	7.0		N/P	0.9		GP-GM	A-1-a
	C.	46463	Surface	94	86	76	64	54	43	38	32	29	23	14	9	6	5.3		N/P	1.1		GP-GM	A-1-a
SB2-1004		46456	12-12.5	Hydraulic Conductivity: 6.0×10^{-7} cm/sec																13.3	118.7		
SB4-1004		46454	9.5-10.5	Hydraulic Conductivity: 1.2×10^{-9} cm/sec																13.8	117.1		

A. HILLSIDE - 70 FEET NORTH OF MW-47 (APPROX. STA 5+20)
B. HILLSIDE - 60 FEET SOUTH OF MW-47 (APPROX. STA 3+90)
C. UNCLEAR - NORTHSIDE BY SYPHON - NEAR EAST END OF ALIGNMENT ?

C:\AAFWFILE\projects\2003\03-122 Bloom\[Grain Size Summary Hammond Ditch.xls]S1 Prepared By:

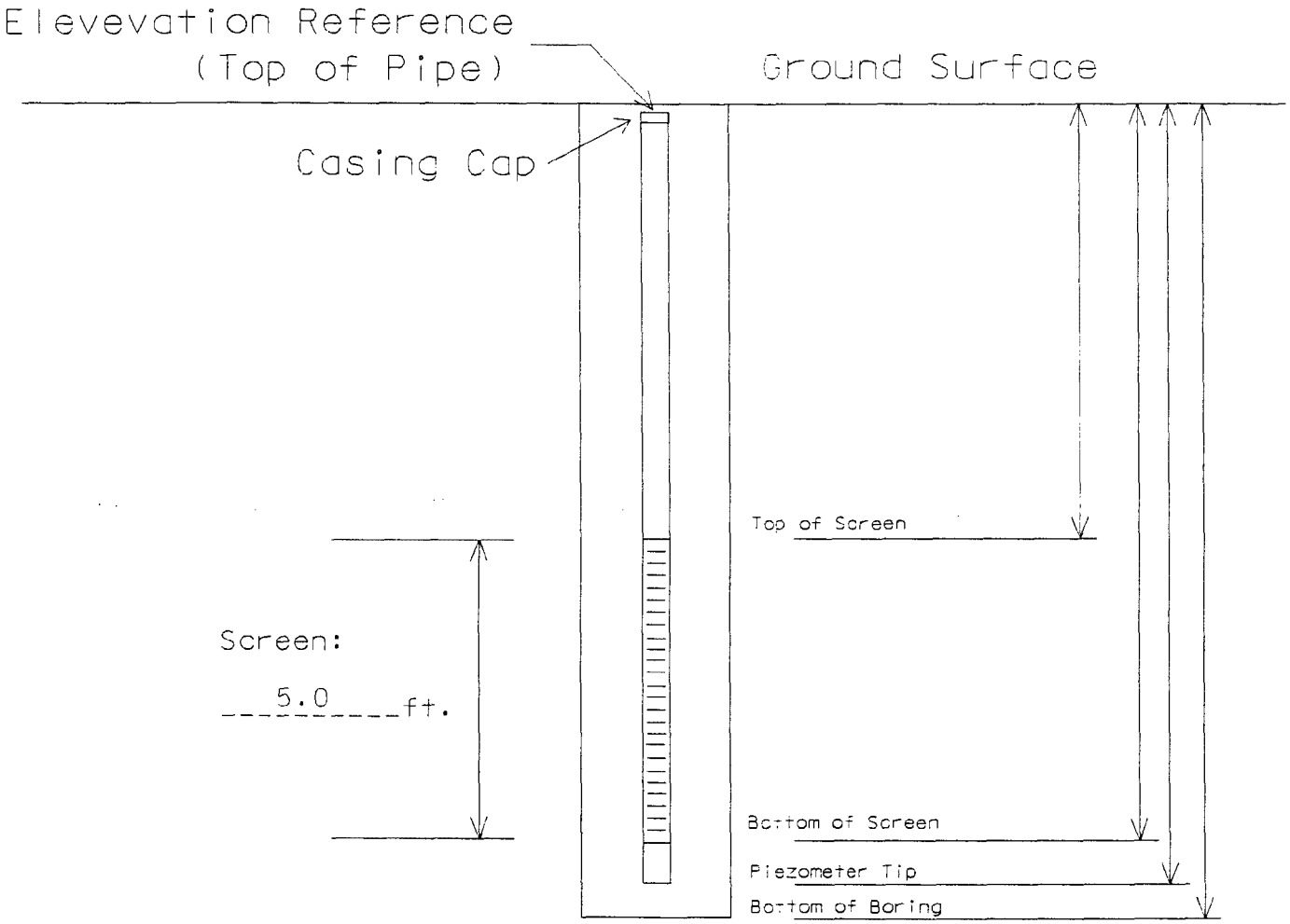
ATTACHMENT B

Typical Piezometer Log

PRECISION ENGINEERING, INC.
505-523-7674

Temporary Piezometer Installation - Typical

See Logs for Depth Details



Boring Diameter: 8 5/8"

Sand Type: Native Backfill

Bollards, Type/Size: None

Bentonite: None

Screen Type/Size: 2" PVC Sch. 40, 0.060" Hand Slotted @ 3" Intervals

Cement/Grout: None

Riser Type/Size: 2" PVC Sch. 40

Water: Potable

Locking Expandable Casing Plug? No (Slip Cap)

Site Northing:

Other: N/A

Bottom Cap Used? Yes

Site Easting:

Giant Refining Co.

Project #: 03-122

Project Name: Bloomfield Wells

Elevation:

ATTACHMENT C

MW-47 Slug Test Data

SLUG TEST RAW DATA FOR MW-47

	Depth Below Grade
Total Boring Depth:	14.28 ft
Static Water:	8.59 ft
Depth to PSH	7.54 ft
Depth to Nacimiento:	10.2 ft
Groundwater Depth Above Naci:	1.61 ft
PSH(1) Depth Above Groundwater:	1.05 ft
Total Fluids Above Naci:	2.66 ft

Time (seconds)	Depth to GW (ft)	Dh (ft)	h/h_o
0	11.22		
8	12.78	$1.56 = h_o$	1
15	12.12	0.9	0.58
45	11.64	0.42	0.27
60	11.52	0.3	0.19
90	11.42	0.2	0.13
120	11.34	0.12	0.08
150	11.29	0.07	0.04
180	11.27	0.05	0.03
210	11.27	0.05	0.03
240	11.26	0.04	0.03
270	11.26	0.04	0.03
300	11.26	0.04	0.03
330	11.26	0.04	0.03
360	11.26	0.04	0.03

(1) PSH = Phase-Separated Hydrocarbon

The time for the head to rise to 37% of initial change is 4.5 seconds (To).
The following parameters are obtained from the geometery of the piezometer:

r = 0.083 ft
R = 0.083 ft
L = 10 ft

Therefore:

$$K = \frac{r^2 \ln (L/R)}{2LT_o} \times 8.64 \times 10^4 \text{ sec/day}$$

K = 32 Ft/Day

ATTACHMENT D

Slurry Wall Construction Specification

SECTION 02234

SOIL/BENTONITE SLURRY WALL (Revised 11-28-04)

PART 1 - GENERAL

1.1 DESCRIPTION

A. Scope:
   1. CONTRACTOR shall furnish all materials, labor and equipment required for the complete installation of a continuous slurry wall including but not limited to the following Work:
      a. Furnish, maintain and remove equipment and supplies as necessary for the preparation, mixing and circulation of bentonite slurry.
      b. Remove and dispose of bentonite-contaminated soils unsuitable for incorporation into the final subgrade.
      c. Excavate slurry-filled trench to the limits defined by the Specifications and the Drawings. Remove and legally dispose of all materials encountered during excavation operations unsuitable for re-use at no additional cost to the OWNER.
      d. Furnish, maintain and remove all equipment and supplies as necessary for the mixing and placement of soil-bentonite backfill in the slurry-filled trenches: Soil Bentonite (SB) backfill to provide a permeability (k) less than or equal to 1×10^{-7} cm/sec, to a minimum thickness of 30 inches and the limits defined by the Plans.
      e. Provide all equipment and materials to test quality of water, bentonite, soils, bentonite slurry, and bentonite-soil backfill and perform all specified tests.
      f. Grout, seal or reconstruct all points of leakage, and provide a continuous slurry cutoff wall system.
      g. Clean, cover and protect the top of the slurry wall.
      h. Where applicable, repair damage to roads.
   2. CONTRACTOR shall develop mix designs for the bentonite slurry and soil-bentonite backfill and manage those mixes during the Work to meet all the performance requirements specified in this Section.

B. Related Work Specified Elsewhere:
   1. Section 02223, Trench Excavation.
   2. Section 01452, Testing Laboratory Services Furnished by Contractor.

1.2 QUALITY ASSURANCE

A. Installer's Qualifications and Experience:
   1. CONTRACTOR shall have a minimum of ten years experience successfully installing soil bentonite slurry trenches to equal or greater depths and areas as

shown on the Plans and as specified. Key labor and supervisory personnel shall be experienced in this type of work. A slurry trench specialist approved by the ENGINEER shall supervise the construction, slurry preparation and quality control.

2. If OWNER is not satisfied with field personnel qualifications, CONTRACTOR must provide different qualified people as indicated.

B. Minimum Criteria:

1. Minimum criteria for the installation of the slurry wall are shown on the Drawings and described herein. CONTRACTOR shall be responsible for construction methods which account for the actual field conditions.

C. Testing and Inspection:

1. Testing and inspection of the slurry, backfill, stabilizing agent and finished slurry wall shall be performed by the contractor. At a minimum, the following tests shall be conducted:

Description	Test Designation	Frequency
Bentonite Slurry		
Viscosity (Marsh Funnel)	API RP 13B-1	1. At time of mixing 2. Twice daily
Filtrate Loss	API RP 13B-1	1. At time of mixing 2. Twice daily
Density	API RP 13B-1	1. At time of mixing 2. Twice daily
Sand Content	API RP 13B-1	1. At time of mixing 2. Twice daily
pH	API RP 13B-1	1. At time of mixing 2. Twice daily
Soil Bentonite Backfill		
Slump Cone	ASTM C143/C143M	Twice daily
Fines Content	ASTM D1140	Daily
Density	ASTM D698 & Para. C.2	Daily

2. The density of the SB backfill shall be calculated using a 101.6 mm (4-inch) cylindrical mold as described in Paragraph 6 of ASTM D 698. SB backfill shall be placed in the mold and rodded 10 times. Additional SB backfill shall then be added to fill the mold. The weight and volume of the molded SB backfill shall then be used to determine the density.
3. CONTRACTOR shall provide all necessary services to perform the specified tests at no additional cost to OWNER.
4. CONTRACTOR shall provide all assistance necessary to obtain representative samples of the slurry and backfill for quality assurance checks by ENGINEER.

5. CONTRACTOR shall use the services of an independent qualified geotechnical laboratory for the performance of slurry and soil-bentonite backfill conformance testing during construction. The CONTRACTOR shall collect representative samples of soil-bentonite backfill to the satisfaction of the ENGINEER. Samples shall be delivered to an independent testing laboratory, selected by the CONTRACTOR and approved by the ENGINEER, within 48 hours of sample collection. The independent testing laboratory shall initiate testing within 24 hours of receipt of samples. At a minimum, the following conformance tests shall be conducted on soil bentonite backfill:

Description	Test Designation	Frequency
Moisture Content	ASTM D 2216	per 250 cubic yards
Density	ASTM D698 & Para. C.2	per 250 cubic yards
Grain-Size Distribution	ASTM D422	per 250 cubic yards
Hydraulic Conductivity	ASTM D5084 & Para. C.6	per 250 cubic yards

6. The confining pressure used to perform permeability testing should be representative of site conditions. To simulate site conditions, the confining pressure specified should be representative of one-half of the wall depth at the location of sample collection.
7. OWNER will perform independent Quality Assurance Tests. The Quality Assurance tests performed by OWNER will be the basis of acceptance of the Work.

D. Reference Standards
1. ASTM American Standard for Testing of Materials.
2. API Standard 13 A "Drilling Fluid Materials"
3. API Standard 13B-1 "Standard Procedures for Testing Drilling Fluids."

E. Test Reports

A report summarizing the procedures and results of the all testing performed by the CONTRACTOR and independent laboratory shall be submitted to the ENGINEER following completion of all testing. The report shall reference all procedures and include all test results in tabular form.

F. Surveys
1. Provide certified surveys by licensed land surveyor of the Slurry Wall as indicated in Section 01722, Field Engineering.

1.3 SUBMITTALS

A. Not less than 10 days prior to start of slurry wall construction, submit the following information for review:
   1. Drawings to include:
      a. Plan layout of slurry wall showing the proposed location, length, width and depth of wall. Also indicate work bench requirements, the planned sequence of installation, and protection and/or replacement of utilities and structures.
      b. Location of all Work areas including bentonite slurry mixing and storage area, and soil/bentonite mixing and storage area.
   2. Written reports, calculations or other data to include:
      a. Resumes of supervisory and key labor personnel including field and laboratory technicians with required experience in slurry wall construction and testing.
      b. Soil-bentonite backfill mix designs prepared and sealed by a Professional Engineer.
      c. Bentonite slurry mix proportions prepared and sealed by a Professional Engineer.
      d. Description of all processing equipment to be used, including space requirements for operations and storage of materials.
      e. Two examples of laboratory tests of production mixes including grain size analysis, slump cone test and hydraulic conductivity of soil-bentonite backfill mix.
      f. Qualifications of the geotechnical laboratory for quality assurance/quality control testing during construction.
      g. Qualifications of registered Professional Engineer who will prepare mix designs.

B. During slurry wall construction, submit the following to the ENGINEER:
   1. As-built field data:
      a. Slurry wall thickness as well as elevations at top and bottom of the trench at 20-foot or less intervals.
      b. Dates, time and depth of excavation and backfill placement.
      c. Description of soils encountered, obstructions, excavation problems and use of admixtures, if any.
      d. Any unusual conditions as noted.
      e. As-built field data shall be submitted daily to the OWNER.
   2. Results of construction quality assurance/quality control testing by the independent qualified geotechnical laboratory including tests on bentonite, water, bentonite slurry, bentonite-soil backfill, stabilizing agents, and all other specified tests.
      a. Test results shall be submitted within 1 day of test completion.

1.4 STORAGE AND HANDLING OF MATERIALS

A. Methods of handling and storage of materials and equipment are subject to the approval of the ENGINEER.
   1. Stockpiled materials and any mixing plant setup shall be allowed only in areas designated by OWNER.
   2. Excavated materials unsuitable for re-use and surplus materials, including bentonite slurry, shall be disposed of at no additional cost to the OWNER.
   3. Special care shall be taken to properly dispose of all used bentonite materials and slurries. Disposal of bentonite slurry in any sewer system will not be permitted.
   4. Public ways and areas shall be kept clear of all spillages from construction operations.

B. The OWNER identified existing former raw water ponds behind the refinery office building for slurry and SB spoils disposal during the Pre-Bid Conference on November 22, 2004. The CONTRACTOR shall haul and dispose of slurry and SB spoils to the location identified by the OWNER. Hauling and disposal shall be conducted in a manner that will not impede or disrupt operation of the refinery and associated activities. If the former raw water disposal ponds are not appropriate to CONTRACTOR, the CONTRACTOR shall construct suitable spoils disposal ponds in a location designated by the OWNER, at no additional cost to the OWNER.

1.5 JOB CONDITIONS

A. Subsurface Information: Refer to Project Information Summary for data on subsurface conditions. Data is not intended as a representation or warranty of continuity of conditions between soil borings nor of groundwater levels at dates and times other than date and time when measured. OWNER will not be responsible for interpretations or conclusions drawing therefrom by CONTRACTOR. Data is solely made available for the convenience of CONTRACTOR.
   1. Additional test borings and other exploratory operations may be made by CONTRACTOR, at no additional cost to the OWNER.

B. Existing Structures and Utilities: The Drawings show certain existing facilities and surface and underground utilities located on or adjacent to the Work. This information has been obtained from existing records. It is not guaranteed to be correct or complete and is shown for the convenience of CONTRACTOR. CONTRACTOR shall explore ahead of the required excavation to determine the exact location of all piping and utilities. They shall be supported and protected from damage by CONTRACTOR. If they are broken or damaged, they shall be restored immediately by CONTRACTOR at his expense. All utilities shall remain in service during the Work.

   Should uncharted or incorrectly charted piping or utilities be encountered during excavation, consult ENGINEER immediately for directions as to procedure.

Cooperate with OWNER and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

C. Use of Explosives:
   1. The use of explosives will not be permitted.

PART 2 - PRODUCTS

2.1 BENTONITE

A. Bentonite shall be high swelling, pure, premium grade type, sodium cation-based bentonite consisting of montmorillonite.

B. Bentonite shall meet the requirements of API Standard 13A. A certificate of compliance (for each lot shipped to the site) from the bentonite manufacturer stating that the bentonite complies with applicable standards shall be provided to the ENGINEER. No bentonite from the bentonite manufacturer shall be used prior to acceptance of the compliance certification by the ENGINEER. Bentonite not meeting specifications shall be promptly removed from the site at the CONTRACTOR's expense. Bentonite shall be protected from moisture during transit and storage.

C. Chemical treatment of bentonite shall not be permitted without approval of ENGINEER.

2.2 WATER

A. Water used for mixing with bentonite shall satisfy the following requirements:
   1. Be clean, fresh and free from oil, acid, alkali, organic matter or other deleterious substances.
   2. Demonstrate the following minimum quality:
      a. Hardness < 50 ppm.
      b. TDS < 500 ppm.
      c. TOC < 50 ppm.
      d. 6<pH<8.

B. The CONTRACTOR shall be responsible for obtaining all water needed for the work at no additional cost to the OWNER. OWNER identified the refinery fire water reservoir as a construction water source during the November 23, 2004 Pre-Bid Conference. CONTRACTOR shall coordinate required construction water volumes with OWNER in advance to avoid impacts on OWNER's operational water needs.

2.3 BENTONITE SLURRY

A. Bentonite slurry shall consist of a stable colloidal suspension comprised of bentonite in water. Resulting bentonite slurry shall have the following minimum characteristics:
   1. Viscosity of stabilizing fluid shall be as required to provide stable trench conditions but shall be a minimum of 35 seconds (V>35 sec-Marsh @ 68 degrees F) using Marsh Funnel Viscometer prior to placement of backfill.
   2. Filtrate loss: 20 cc maximum in 30 minutes @ 100 psi using standard filter press.
   3. Bentonite slurry shall be allowed to hydrate a minimum of 8 hours after it is mixed with water and before it is used, except where specifically requested and approved.
   4. Sand content of 10 percent measured 5 feet above the trench bottom.
   5. pH shall be controlled between 7 and 12.

2.4 SOIL-BENTONITE BACKFILL

A. Soil-Bentonite backfill mix for use in the slurry wall shall be comprised of select soil and bentonite.

B. Soil-Bentonite backfill shall meet the following requirements at time of placement:

Hydraulic Conductivity: Less than or equal to 1×10^{-7} cm/sec (0.0000001 cm/sec)

C. The density of the soil-bentonite backfill shall be such that it completely and rapidly displaces the bentonite slurry upon placement.

D. Selected soils used in the soil-bentonite backfill shall meet the following requirements:
   1. Soils excavated from the slurry trench may be used if the requirements of this specification are met. If the trench soils do not meet the specification requirements, then the CONTRACTOR shall provide off-site soils that meet the requirements, or soil that when mixed with the trench soils meet the requirements of this specification.
   2. Shall be a mixture of clean gravel, sand, silt and clay with no physical organic matter or other deleterious substances.

2.5 BANK-RUN GRAVEL

A. Bank run gravel for trench cover shall consist of well graded hard, sound, tough, durable particles of uncrushed gravel free from soft, thin, elongated or laminated pieces, organic matter and other deleterious substance. The percentage by weight

passing a No. 100 square mesh sieve shall not exceed ten percent, and it shall not contain stones larger than 6-inches.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

A. Perform preparatory work to discover, protect, maintain, and restore utilities, manholes, pipe, force-mains or other facilities in the vicinity of the slurry wall.

B. Employ construction methods and provide protective coverings which prevent the leakage and spillage of excavated materials, bentonite slurry or backfill into adjacent utilities or structures.

C. CONTRACTOR shall be responsible for the proper disposal of excess slurry.

D. At the completion of slurry wall work, all surfaces of adjacent areas and structures shall be restored to their original condition.

E. Take all necessary measures to prevent collapse of the excavated slurry trench prior to backfilling, provide covers and/or barricades at open trench areas as required for safety.

G. Construct work platform as necessary to achieve installation of the slurry wall and adequate support of all construction equipment.

3.2 TRENCH EXCAVATION

A. Excavation equipment shall be capable of removing all materials required for excavation of the slurry wall so that the required width trench can be carried to its final depth of cut continuously along the trench line. The width of the excavating tool shall be equal to or greater than the specified width of the slurry wall. Drilling, hydraulic excavating, scraping or other methods may be used, subject to approval of the ENGINEER.

B. The excavation equipment shall be able to reach at least 5 feet deeper than, for a horizontal length of 8 feet, the maximum depth shown on the drawings. The excavation equipment shall have a minimum gross power of 140 horsepower.

C. The excavation shall begin from the working surface and shall provide a vertical, within 2 percent, continuous 30-inch minimum width trench along the centerline of the excavation. If trench excavation overlaps into previously completed slurry trench, the excavation shall extend a minimum of 10 feet into the previously placed SB backfill at all depths. Any removed section of completed slurry trench shall be refilled with SB backfill at no additional expense to the OWNER.

D. The slurry wall shall be excavated in a continuous manner to the lines and grades shown on the Drawings and as specified herein.

E. The slurry wall shall be constructed with a minimum key-in depth of 3 feet into the lower Nacimiento Formation or until refusal is met; whichever is less in depth. Refusal shall be defined as 3 passes for a horizontal distance of 5 feet with less than 0.2 feet of total penetration. Passes shall be made utilizing 90 percent of the manufacturer's maximum-rated down pressure and breakout power of the excavator.

F. The trench bottom shall be cleaned at the start of each day and as the excavation proceeds. The trench bottom shall be cleaned by using an excavator bucket or other equipment approved by ENGINEER to ensure removal of sand, gravel, sediment, and other material left in the trench during excavation or which has settled out of the slurry. Cleaning equipment shall not remove material from the walls of the trench.

G. Each excavation shall be filled and maintained with a stable suspension of bentonite slurry. Excavation shall proceed through the slurry. Slurry shall be added to the excavated trench as necessary to maintain the slurry level within 2' of the top of the trench. Losses of bentonite slurry into utilities and underground structure may occur, CONTRACTOR shall take all measures necessary to contain such losses. The slurry shall be circulated and cleaned to control uniformity and remove coarse material greater than 4" in diameter throughout its depth.

E. The slurry shall consist of a stable suspension of powdered or granular bentonite thoroughly mixed with water. All slurry for use in trenching shall be mixed in a batch or continuous mixer. No slurry is to be made in the trench. It shall be adequate in all respects to support the sides of the excavation.

F. Losses of bentonite slurry into the surrounding soils may occur. The CONTRACTOR shall take all measures necessary to contain such losses and maintain the stability of the trench.

3.3 MIXING

A. Bentonite Slurry
   1. Mixing method shall be capable of producing a homogenous colloidal suspension of bentonite in water, in pumps, valves, hoses, supply lines, and all other equipment as required to adequately supply slurry to the trench.
   2. Mixing of water and bentonite shall continue until bentonite particles are fully hydrated and the resulting slurry appears homogeneous.
   3. No slurry is to be made in the trench.

B. Soil-Bentonite Backfill

1. Soil-Bentonite backfill shall be mixed in such a manner that results in a backfill mixture that is homogenous with uniform distribution of properties to be tested during construction.
2. Mixing and blending shall be performed in such a manner as to produce the required gradation of backfill.
3. The backfill shall be thoroughly mixed to produce a homogenous mass, free from large lumps or pockets of fine-grained soil, sand, or gravel. Occasional lumps of up to 3-inches in their largest dimension will be permitted. Occasional rocks greater than 3-inches in their largest dimension will be permitted, provided they are not nested (i.e., in contact with one another) in the backfill. All particles shall be coated with slurry. The SB backfill may be sluiced with slurry during the mixing operations. Sluicing with water is not permitted.
4. Backfill shall not be mixed in the trench.

3.4 BACKFILL PLACEMENT

A. The bottom of the slurry-filled trench, defined as the bottom of the key into the Nacimiento Formation, shall be cleaned of all loose material prior to the placement of backfill.

B. Initially, the backfill shall be placed into the trench at one location only by placement at the bottom of the trench through a tremie pipe until the backfill material emerges from the slurry with no less than a 1H:1V slope. Additional backfill may then be placed in such manner that the backfill enters the trench by sliding down the forward face of the backfill slope.

C. Backfill shall be placed continuously from the beginning of the trench, in the direction of the excavation, to the end of daily excavation.

D. Backfill shall be placed in such a manner that the backfill displaces the slurry progressively from the bottom, rising uniformly to the surface, and such that intermixing of the backfill and slurry will not occur.

E. Free dropping of backfill materials through the slurry is not permitted. The backfill shall not be dropped or deposited in any manner that will result in a segregated mixture.

F. The toe of the trench excavation slope shall precede the toe of the backfill slope so that the toe of the backfill shall not be less than 50 feet following the toe of the excavation, or as required to permit proper cleaning of the trench bottom and to permit inspection and measurement.

G. Placement of backfill shall result in a backfill surface below the slurry that shall follow a smooth grade and not trap pockets of slurry during subsequent backfill placement.

H. Soil-bentonite backfill shall not be placed if it contains ice particles or will freeze in the trench. If this occurs, all Work shall cease and an adjustment will be made to the schedule based on the number of days the Work is delayed.

I. CONTRACTOR shall be responsible for the proper disposal of excess slurry.

3.5 TREATMENT OF TOP OF SLURRY TRENCH

A. Prior to placement of the compacted trench cover, a temporary plastic sheeting cover shall be placed over the trench to prevent desiccation. The temporary cover material shall be placed within 2 days after SB backfill placement is completed over each 100 foot reach.

B. If any depression develops within the completed slurry trench area, it shall be repaired by placing soil bentonite mix.

C. After a minimum 3 weeks, the temporary trench cover shall be removed and replaced by a final compacted trench cover.

D. A final compacted trench cover over the entire width of the trench and 3-feet deep shall be placed. A woven geotextile of Mirafi Geolon HP465 or equivalent shall be placed over the top of the SB backfill and along trench walls prior to backfill placement. Backfill in the upper 3 feet of trench shall consist of bank-run gravel placed at 90 percent of maximum density at optimum moisture to plus 3 percent in accordance with ASTM D 698.

3.6 INSPECTION AND TESTING DURING CONSTRUCTION

A. CONTRACTOR shall perform the following quality control testing during construction of the slurry wall.
   1. Testing of bentonite slurry and soil-bentonite backfill shall be in accordance with PART 1 – General, 1.2 Quality Assurance.
   2. CONTRACTOR shall be responsible for verifying that base of excavation is clear of all loose soil or other foreign materials, as well as verifying the depth of the slurry trench. CONTRACTOR shall be responsible for verifying to the ENGINEER that the trench is continuous and keyed the minimum specified depth into the underlying lower clay unit. Trench continuity shall be assured by the action of movement of the trench excavation equipment such that the excavating tools can be passed vertically from top to bottom of the trench as well as moved horizontally along the axis of the trench without encountering unexcavated material. Verification of the key-in depth of the slurry trench,

depth of trench and vertical continuity shall be by sounding techniques with a drop line at 10-foot intervals along the centerline of the trench.

3.7 TOLERANCES

A. The overall out-of-plumb tolerances for the entire cutoff wall from top to bottom shall not exceed 2.0% of the height of the slurry wall at that point.

B. The alignment of the slurry wall shall be limited to a lateral displacement of 1-foot from the alignment identified by the CONTRACTOR prior to trench excavation. Alignment changes as necessary to bypass obstructions may be made with the approval of the ENGINEER.

3.8 CANAL SERVICE ROAD

Canal service road shall be restored to its original grade and condition by placing a minimum 6-inch layer of compacted General Fill material. Finished grade of the service road shall slope away from the canal a minimum of 1/8-inch per foot.

++ END OF SECTION ++

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
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Telephone (505) 428-2500
Fax (505) 428-2567
www.nmenv.state.nm.us

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

December 29, 2004

Mr. Randy Schmaltz
Environmental Supervisor
Giant Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Mr. Ed Riege
Environmental Superintendent
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

SUBJECT: APPROVAL WITH CONDITIONS
VOLUNTARY CORRECTIVE MEASURES
BLOOMFIELD REFINING COMPANY
RCRA PERMIT NO. NMD 089416416
HWB-GRCB-04-006

Dear Mr. Schmaltz and Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the Voluntary Corrective Measures Plan (VCM Plan) titled *Giant Bloomfield Refinery – River Terrace Sheet Pile Area* (RTSPA Plan) dated November 24, 2004, submitted on behalf of Giant Refining Company Bloomfield Refinery (GRCB). NMED hereby approves the RTSPA Plan with the conditions listed below:

1. GRCB must submit construction diagrams for permanent wells MW-48 and MW-49.

2. GRCB must survey the top of the well casings of monitoring wells MW- 48, MW-49 and temporary wells TP-1 through TP-8 relative to a common benchmark to determine the elevations of the well casing rims. GRCB must measure depth to water from the casing rim in each well and, based on the well casing elevation data, determine the groundwater elevations to the nearest 0.01 ft. The groundwater elevation data, including the date(s) of

measurement, must be submitted to NMED in conjunction with the RTSPA Plan conditions.

3. GRCB must submit construction diagrams for the eight recently installed temporary well points (TP-1 through TP-8). This information must include slot size and slot intervals of the PVC hand–slotted screens, identify if the screened intervals intersect the water table, and provide the depth at which the screen was set.

4. GRCB must indicate if separate phase hydrocarbon (SPH) was observed during the installation process and sampling of monitoring wells MW-48, MW-49 and temporary well points TP-1 through TP-8.

5. The "Log of Test Borings" (boring logs) states "Sand, fine to medium, black, damp" in boring log TP1-1004; the term "black" is also used in other boring logs (TP2-1004, TP4-1004, TP5-1004, TP6-1004; TP7-1004, TP8-1004, MW-48, and MW-49). GRCB must clarify the use of the term "black" in the boring logs. (i.e; is black referring to hydrocarbon stained sand or is black the natural color of the sand).

6. GRCB must provide all laboratory analytical results from this investigation. (NMED has received laboratory analytical results from 10/28/04 MW-48 & MW-49 soil sampling, 11/1/04 MW# 48 & MW #49 water sampling, and 10/28/04 TP-1 – TP-8 water sampling)

7. NMED requires GRCB to determine the extent of contamination east of TP-3. GRCB must provide NMED with a map containing proposed well locations for NMED approval prior to installation. NMED requires GRCB to use factory machine-slotted PVC well screen and not hand-slotted screened PVC because the closer spacing of the slots.

8. The RTSPA Plan, Proposed Additional Activities Section, recommends activities #1 – 6. NMED requires the following: (comments 1-6 correspond to the proposed activities 1-6 in the RTSPA Plan).

   1) Submit the results and findings of the 24-hour aquifer test performed on MW-48.
   2) Submit the results of the capture zone analysis.
   3) See comment #7.
   4) Submit all monthly sampling laboratory analytical and monitoring results from MW-48 and MW-49 collected since their installation.
   5) Provide a comment clarifying that the term "feasibility study" was used to describe the implementation of voluntary corrective measures at the riverbank for containment of contaminants.

6) Submit the results of the "interim voluntary corrective measures" for NMED's review.

GRCB must submit the requested information by January 31, 2005. If any of these activities will not be performed, an explanation for the change in scope must be provided to NMED.

If you have any questions regarding this conditional approval please call me at (505) 428-2545.

Sincerely,

Hope Monzeglio
Project Leader
Hazardous Waste Bureau

HCM:hcm

cc: J. Kieling, NMED HWB
D. Cobrain, NMED HWB
W. Price, OCD
D. Foust, OCD Aztec Office
B. Wilkinson, EPA

Reading File and GRCB 2004 File

State of New Mexico
ENVIRONMENT DEPARTMENT
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BILL RICHARDSON
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RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

December 21, 2004

Mr. Randy Schmaltz
Environmental Supervisor
Giant Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Mr. Ed Riege
Environmental Superintendent
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

SUBJECT: APPROVAL WITH CONDITIONS
VOLUNTARY CORRECTIVE MEASURES PLAN
BLOOMFIELD REFINING COMPANY
RCRA PERMIT NO. NMD 089416416
HWB-GRCB-04-005

Dear Mr. Schmaltz and Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the Voluntary Corrective Measures Plan titled *Corrective Action Plan* (CAP) dated November 17, 2004, submitted on behalf of Giant Refining Company Bloomfield (GRCB). NMED hereby approves the CAP with the conditions listed below:

1. In addition to NMED, all requested information shall be submitted to the Oil Conservation Division Santa Fe office and the OCD District office.

2. The barrier wall shall be imbedded a minimum of 5 feet into the Nacimiento Formation. A barrier wall conceptional "flow net study" shall be conducted to ensure the wall is buried deep enough to stop significant seepage from going under the wall. Please provide the results of the study for NMED approval before actual installation of the wall.

3. The final barrier wall type shall be submitted to NMED for approval before installation. GRCB shall demonstrate to NMED that the barrier wall type and design will meet any structural requirement and hydraulic conductivity (k) of 1×10^{-7} cm/sec.

4. Detailed "as built drawings" and photo documentation shall be supplied at the completion of construction. At least one of the drawings shall show a cross section along the entire wall.

5. Daily logs shall be kept during the construction phase. All pertinent information shall be logged such as contamination observed, soil characteristics, water levels, depth to Nacimiento Formation, progress made each day, dewatering or contaminant removal activities, general weather, and all other pertinent information that should be logged that may cause a deviation of the approved design and/or any anomalies found in the trench which may cause GRCB to deviate from the plan or be of a concern. GRCB shall notify NMED of any deviations from the plan within one business day of making the change.

6. GRCB shall submit a weekly progress report and photos via E-mail on Monday morning.

7. GRCB shall submit the fluid collection system design for approval before actual installation. This should include a map identifying the locations of recovery wells or trenches and all other pertinent information. The Permittee may remove fluids during the course of the project for logistic and safety reasons. All fluids and waste removed shall be disposed or recycled in an approved manner.

8. GRCB shall maintain a qualified technical person on site during the construction phase to ensure quality assurance and control of the project. This person shall be experienced in identifying the Nacimiento Formation. Ample confirmation bottom hole soil samples shall be collected in areas where the proposed collection systems may be placed. Samples shall be collected and preserved to properly identify/classify the soils.

9. GRCB will notify the NMED at least 72 hours in advance of the start of construction and all scheduled sampling activities throughout the construction process such that the NMED has the opportunity to witness the events and/or collect split samples during NMED's normal business hours.

10. GRCB shall submit a plan for NMED approval to evaluate the effectiveness of the barrier wall. This plan should include monitoring points on both sides of the barrier wall.

11. GRCB must submit construction diagrams for the peizometers along the north property boundary installed during the November 2003, July 2004, and October 2004 drilling programs. This information must include the slot-size and slot intervals of the PVC hand–slotted screens, length of screen, depth at which the screens were set, and depth of water bearing zones. The "Log of Test Borings" (boring logs) found in the CAP do not include all of this information.

12. Boring log SB1-0704 states "[b]lack with hydrocarbon odor;" the term black is also used in other boring logs SB2-0704, SB3-0704, SB6-0704, and SB7-0704. GRCB must clarify the use of the term "black" in the boring logs. (e.g. is black referring to hydrocarbon staining or is black the actual mineral color in the sand).

13. The CAP, Sections 4.2 contains a table presenting the hydraulic properties from a slug test. GRCB must provide the results of the slug test and the associated calculations. Include graphs as necessary.

14. The CAP, Section 4.3 states "[e]ach boring installed during the October 2004 drilling campaign was drilled 3 to 5 feet into the Nacimiento Formation. Soil samples were collected every 2.5 ft and submitted to a geotechnical laboratory for grain size analysis to estimate the properties important for the design of the barrier and collection system. Samples collected of the Nacimiento Formation were also submitted to the lab for hydraulic conductivity testing."

    GRCB must submit the results of the grain size analyses and hydraulic conductivity testing for all borings.

15. CAP, page 2 of Section 6.1 Barrier Concept, states "Appropriate construction quality control measures will be applied during barrier construction to verify that the performance requirements will be achieved."

    GRCB must identify the quality control measures that will be used and the performance requirements that will be achieved.

16. The CAP, Section 6.2 Fluids Collection Concept, states "[f]luids will be removed from the collection points using a vacuum truck when necessary based on fluids level monitoring results. Collection fluids will be delivered to the existing French Drain collection tank near SB2-0704."

GRCB must clarify if a vacuum truck is the only method of fluid collection removal to be employed upon completion of the barrier wall and fluid collection system.

17. Appendix A provides results from a sieve analysis. GRCB must identify what soil samples are associated with "PEI Lab No." 46464, 46465, 46461, 46462, and 46463 because these were not identified in the October boring logs.

18. The barrier wall installation may cause the displacement of hydrocarbons. In the future, NMED may require additional sampling and monitoring from the monitoring wells located in the southern portion of the refinery (e.g. MW-32, 33, 34, 35, 36, 36, and 38) and the three outfall locations.

The Permittees must submit the requested information within 30 days of receipt of this letter or NMED will rescind approval.

If you have any questions regarding this approval please contact me at (505) 428-2545.

Sincerely,

Hope Monzeglio

Hope Monzeglio
Project Leader
Hazardous Waste Bureau

HCM:hcm

cc: J. Bearzi, NMED HWB
J. Kieling, NMED HWB
D. Cobrain, NMED HWB
W. Price, OCD
D. Foust, OCD Aztec Office
B. Wilkinson, EPA

Reading File and GRCB 2004 File

Price, Wayne

From: Price, Wayne
Sent: Friday, December 17, 2004 1:23 PM
To: Randy Schmaltz (E-mail); Ed Rigie (E-mail)
Cc: Hope Monzeglio (E-mail); Foust, Denny; Bob Wilkinson (E-mail)
Subject: Giant Bloomfield Corrective Action Plan

Please find enclosed a letter that is going out today approving of the plan.


Corrective Action plan approva...

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

December 17, 2004

Mr. James R. Schmaltz
Environmental Manager
Giant Refining Company (Giant)
P.O. Box 159
Bloomfield, New Mexico 87413

Re: Corrective Action Plan

Dear Mr. Schmaltz:

The New Mexico Oil Conservation Division (OCD) is in receipt of the Corrective Action Plan and cover letter dated November 16, 2004. The plan outlines how Giant proposes to mitigate the off-site migration of petroleum hydrocarbons within the shallow-zone soils along the north property boundary of the Bloomfield refinery.

OCD hereby approves of the plan with the following conditions:

1. All information and or actions required by the New Mexico Environment Department Hazardous Waste Bureau shall become part of this approval.

2. The barrier wall shall be imbedded a minimum of 5 feet into the Nacimiento Formation. A barrier wall conceptional "flow net study" shall be conducted to ensure the wall is buried deep enough to stop significant seepage from going under the wall. Please provide for OCD approval before actual installation of wall.

3. The final barrier wall type shall be submitted to OCD for approval before installation. Giant shall demonstrate to OCD that the barrier wall type and design will meet any structural requirement and hydraulic conductivity (permeability (k)) of 1×10^{-7} cm/sec.

4. Detail "as built drawings" and photo documentation shall be supplied at the end of construction. At least one of the drawings shall show a side view along the entire wall.

Daily logs shall be kept during the construction phase. All pertinent information shall be logged such as contamination observed, soil characteristics, water levels, depth to Nacimiento formation, progress made each day, general weather, and any other pertinent information that should be logged that may cause a deviation of the approved design and/or any anomalies found in the trench which may cause Giant to deviate from the plan or be of a concern.

5. Giant shall submit a weekly progress report and photos via E-mail on Monday morning.

6. Giant shall submit the fluid collection system design for approval before actual installation. Giant may remove fluids during the course of the project for logistic and safety reasons. All fluids and waste removed shall be disposed of or recycled in an approved manner.

7. Giant shall maintain a qualified technical person on site during the construction phase to ensure quality assurance and control of the project. This person shall be experienced in identifying the Nacimiento Formation. Ample confirmation bottom hole soil samples shall be collected in areas where the proposed collection systems may be placed. Samples shall be collected and preserved to properly identify/classify the soils and perform permeability test in a certified soils laboratory if deemed warranted by OCD.

8. Giant will notify the OCD Santa Fe office and the OCD District office at least 72 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples during OCD's normal business hours.

9. Giant shall submit a plan for OCD approval to measure and monitor the effectiveness of the barrier wall. This plan should include any area where contamination as been discovered and various monitoring points behind the barrier wall.

Please be advised that NMOCD approval of this plan does not relieve (Giant) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (Giant) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

If you have any questions please do not hesitate to contact me at 505-476-3487 or e-mail WPRICE@state.nm.us.

Sincerely;

Wayne Price-Pet. Engr. Spec.

cc: OCD Aztec Office

Price, Wayne

From: Price, Wayne
Sent: Friday, December 17, 2004 2:58 PM
To: 'Randy Schmaltz'; Dave Cobrain; Foust, Denny; Hope Monzeglio; Robert Wilkinson; Price, Wayne
Cc: Ed Riege; Chad King; Cindy Hurtado
Subject: RE: Giant Bloomfield River Terrace Investigation

Dear Mr. Schmaltz:

OCD hereby approves of the submitted plan. Please provide a report of your findings including recommendations by January 31, 2005.

Please be advised that NMOCD approval of this plan does not relieve (Giant)of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (Giant) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Wednesday, November 24, 2004 11:05 AM
To: Dave Cobrain; Denny Foust; Hope Monzeglio; Robert Wilkinson; Wayne Price
Cc: Ed Riege; Chad King; Cindy Hurtado
Subject: Giant Bloomfield River Terrace Investigation

Please find enclosed a report summarizing Giant's field investigation of the river terrace sheet-pile area. Hard copies of the report will follow.

<<River Terrace Investigation Letter 11-22-04.doc>> <<Figure 1_Sample Location Map.ppt>> <<Figure 2_Analytical Result Summary Location Map-River Tearrace.ppt>> <<River Terrace Appendix A_Boring Logs.pdf>> <<River Terrace Table 1_Analytical Summary.xls>>

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau
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BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

December 15, 2004

Mr. Randy Schmaltz
Environmental Supervisor
Giant Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Mr. Ed Riege
Environmental Superintendent
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

SUBJECT: APPROVAL LETTER WITH CONDITIONS
CORRECTIVE ACTION PLAN
BLOOMFIELD REFINING COMPANY
RCRA PERMIT NO. NMD 089416416
HWB-GRCB-04-00-5

Dear Mr. Schmaltz and Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Corrective Action Plan* (CAP) dated November 17, 2004, submitted on behalf of Giant Refining Company Bloomfield (the Permittee) (GRCB). NMED hereby approves the CAP with conditions; however, NMED requests supplemental information.

1. The Permittee must provide NMED with well installation diagrams for the peizometers along the north property boundary installed during the November 2003, July 2004, and October 2004 drilling programs. This information must include the slot-size of the PVC hand–slotted screens, length of screen, and identify the depth at which the screens were set. Water bearing zones must also be identified as not all "Log of Test Borings" (boring logs) include this information.

2. Boring log SB1-0704 states "[b]lack with hydrocarbon odor;" the term black is also used in other boring logs SB2-0704, SB3-0704, SB6-0704, and SB7-0704. The Permittee

must clarify the use of the term "black" in the boring logs. (e.g. is black referring to stained hydrocarbon sand or is black the actual mineral color in the sand, or does black mean the presence of SPH.)

3. The CAP, Section 4.2 and 4.3 contain tables presenting hydraulic properties from a slug test and of the Nacimiento Formation. The Permittee must provide the results of the slug test and calculations of how this information was derived. Include graphs as necessary.

4. The CAP, Section 4.3 states "[e]ach boring installed during the October 2004 drilling campaign was drilled 3 to 5 feet into the Nacimiento Formation. Soil samples were collected every 2.5 ft and submitted to a geotechnical laboratory for grain size analysis to estimate the properties important for the design of the barrier and collection system. Samples collected of the Nacimiento Formation were also submitted to the lab for hydraulic conductivity testing."

   The Permittee must provide the grain size analysis and hydraulic conductivity results from the geotechnical laboratory for all borings.

5. CAP, page 2 of Section 6.1 Barrier Concept, states "Appropriate construction quality control measures will be applied during barrier construction to verify that the performance requirements will be achieved."

   The Permittee must identify the quality control measures that will be used and the performance requirements that will be achieved.

6. CAP, Section 6.2 Fluids Collection Concept, states "[h]ydraulic control of fluids (groundwater and PSH) captured by the barrier will be accomplished by installing a series of collection wells and/or interceptor trenches at locations along the length of the barrier. Conceptually, collection wells or trenches will be located at Nacimiento trough intersections along the barrier."

   The Permittee must provide the final design of the fluids collection concept that will be installed to NMED and the Oil Conservation Division (OCD) for approval prior to installation. This should include a map identifying the locations of wells or trenches and any other pertinent information.

7. The CAP, Section 6.2 Fluids Collection Concept, states "[f]luids will be removed from the collection points using a vacuum truck when necessary based on fluids level monitoring results. Collection fluids will be delivered to the existing French Drain

collection tank near SB2-0704." GRCB must be aware that a vacuum truck may not be the most effective method for fluid recovery. An alternative method may be needed (e.g. piping to a collection tank.)

The Permittee must clarify if the vacuum truck is the definite method of fluid collection removal to be put in place upon completion of the barrier wall and fluid collection system. The NMED and OCD may require an alternate method of fluid removal.

8. Appendix A provides results from a sieve analysis. The Permittee must identify what soil locations are identified with "PEI Lab No." 46464, 46465, 46461, 46462, and 46463 as these were not found in the October boring logs.

9. The barrier wall installation may cause the displacement of hydrocarbons. In the future, NMED may require additional sampling and monitoring from the monitoring wells located in the southern portion of the refinery (e.g. MW-32, 33, 34, 35, 36, 36, and 38) and the three outfall locations.

10. The Permittee must identify what controls will be put in place to measure and monitor the effectiveness of the barrier wall.

The Permittees must submit the requested information within 30 days of receipt of this letter. If you have any questions regarding this approval please contact me at (505) 428-2545.

Sincerely,

Hope Monzeglio
Project Leader
Hazardous Waste Bureau

HCM:hcm

cc: J. Bearzi, NMED HWB
J. Kieling, NMED HWB
D. Cobrain, NMED HWB
W. Price, OCD
D. Foust, OCD Aztec Office
B. Wilkinson, EPA

Reading File and GRCB 2004 File

GIANT
REFINING COMPANY

Certified Mail # 7099 3220 0010 2242 5174

December 9, 2004

Hope Monzeglio
New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Bldg 1
Santa FE, NM 87505

RE: Topographic Map Request

Dear Hope,

This letter and the corresponding map responds to the NMED request for a map of the refinery and associated drainages.
If you need additional information, please contact me at (505) 632-4161.

Sincerely,

Cindy Hurtado

Cindy Hurtado
Environmental Assistant
Giant Refining – Bloomfield

Cc: Wayne Price – New Mexico Oil Conservation Division – Santa Fe
Denny Foust – New Mexico Oil Conservation Division – Aztec
Bob Wilkinson – USEPA - Dallas

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

Price, Wayne

From: Hope Monzeglio [hope_monzeglio@nmenv.state.nm.us]
Sent: Wednesday, December 08, 2004 9:10 AM
To: Randy Schmaltz
Cc: Cindy Hurtado; Ed Riege; Denny Foust; David Cobrain; Bob Wilkinson; Wayne Price
Subject: Map w/ drainages

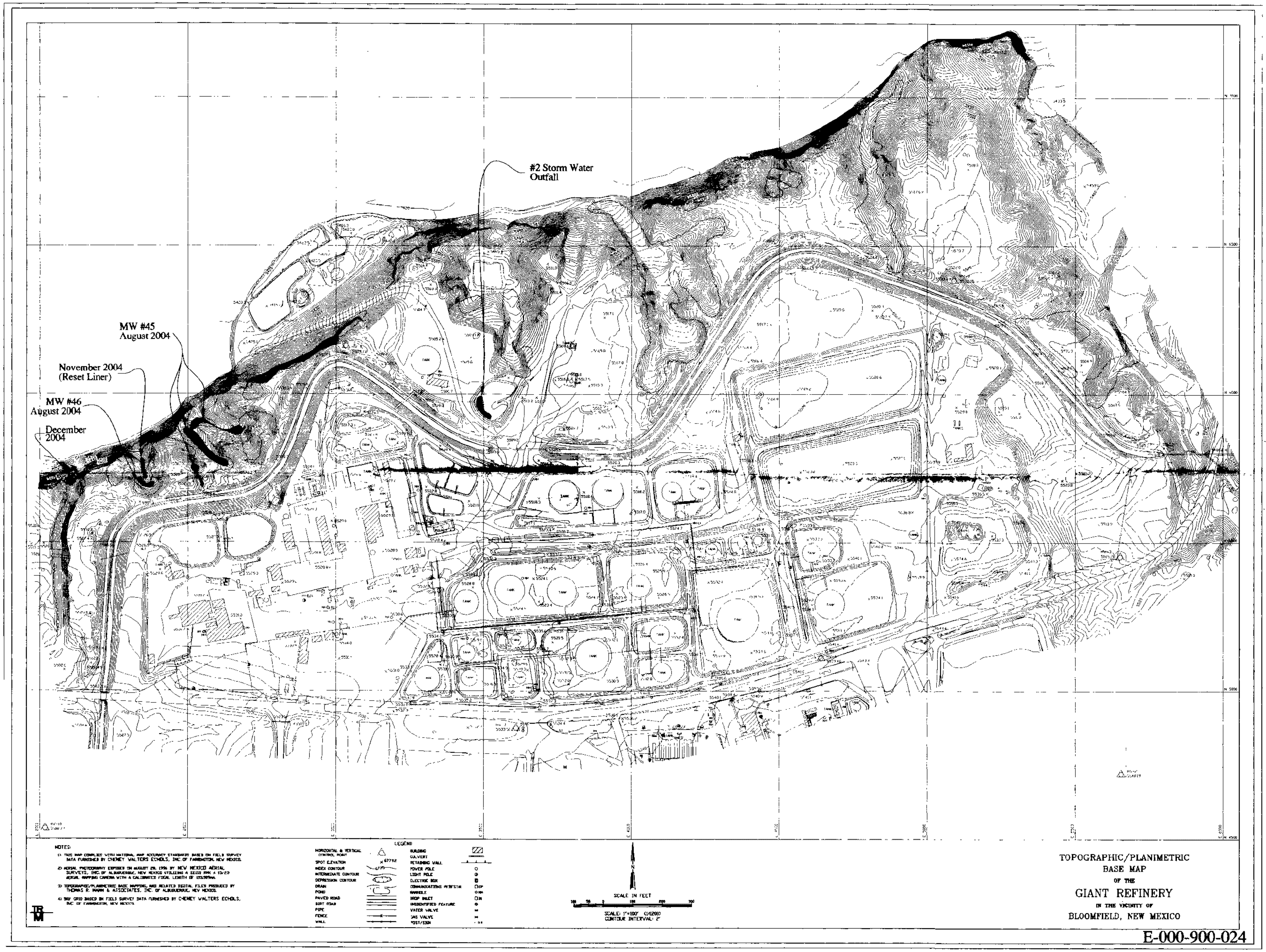
Randy

NMED is requesting a map of the refinery and associated drainages (possibly a topographic map). NMED would like Giant to label the map with all the release areas (including seeps) since August 2004, including the areas that have been cleaned up. If possible, mark the release areas to show the visual extent of contamination by shading. Please ensure Wayne Price, Denny Foust, and Bob Wilkinson receive a copy of the map.

If you have questions please call me at 505-428-2545

Sincerely

Hope Monzeglio


#2 Storm Water Outfall
MW #45 August 2004
November 2004 (Reset Liner)
MW #46 August 2004
December 2004
NOTES:
LEGEND
SCALE IN FEET
TOPOGRAPHIC/PLANIMETRIC
BASE MAP
OF THE
GIANT REFINERY
IN THE VICINITY OF
BLOOMFIELD, NEW MEXICO
E-000-900-024

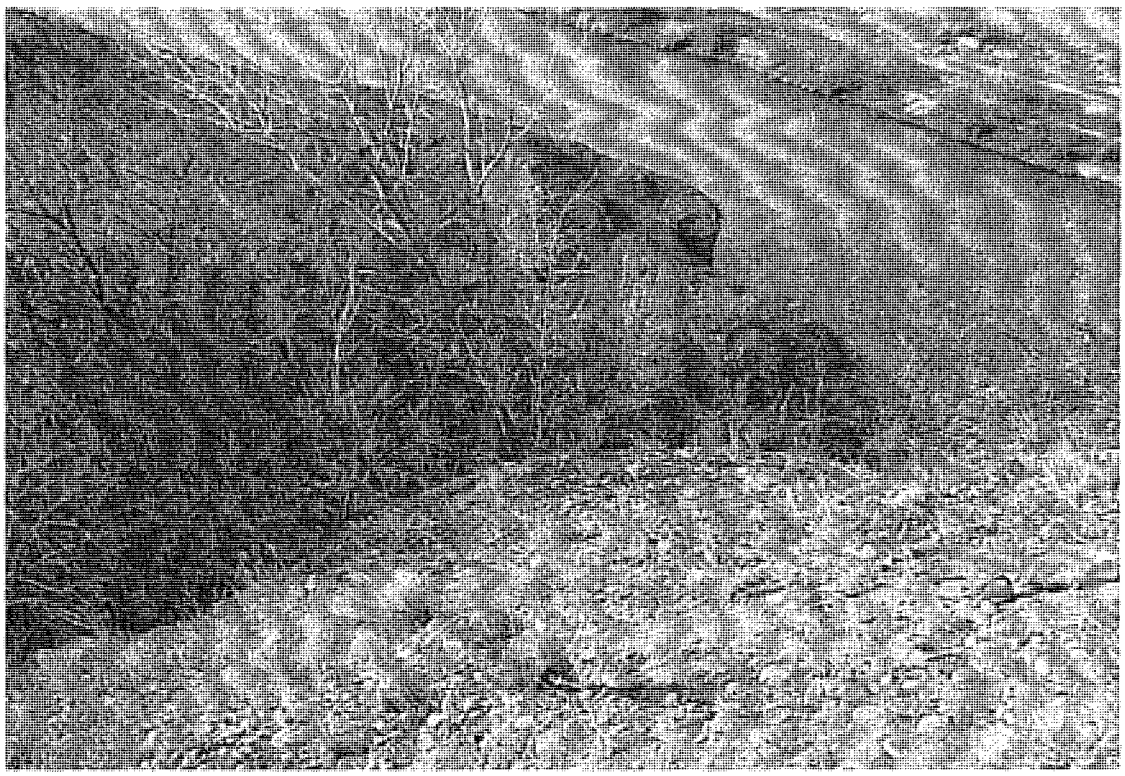
Release Progress Report

12/7/2004

Giant Refining–Bloomfield discovered a small release of oily water in the arroyo west of the refinery, between the refinery and the gravel pit operation. The oily looking water was trickling out of the east side of the arroyo.

Two containment basins were dug by hand. The first containment basin was constructed at the point of release, and is approximately 1.5 cubic yards in size. The second basin is approximately .75 cubic yards and was constructed downstream from the first. Giant will monitor these two basins daily to quantify the seep amount and size the basins accordingly.

It should be noted that this area is very steep, has thick vegetation, and no access to the river.



Price, Wayne

From: Hope Monzeglio [hope_monzeglio@nmenv.state.nm.us]
Sent: Tuesday, November 30, 2004 10:38 AM
To: Wayne Price
Subject: River Terrace investigation

Wayne

I have been looking over the river terrace investigation report that was emailed to us. I have some questions for you?

1. Giant is planning on installing more temporary points upstream of the barrier and east of
TP-3, do we want to give approval of those points? From the information provided it appears there is contamination on the barrier side at low levels. Do we want to recommend installing some temporary points on the San Juan River side to further define the extent of contamination, or do you think this will provide avenues for the contamination to migrate through?

2. Did you receive the laboratory results either via mail or email? I would assume if you received them I would also but I want to double check. If not I will want to request them.

Overall, the report looks good. Is there anything else you can think of that we want to request in reference to the "Proposed Additional Activities" section?

Let me know your thoughts.

Thanks Hope

State of New Mexico
ENVIRONMENT DEPARTMENT
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Telephone (505) 428-2500
Fax (505) 428-2567
www.nmenv.state.nm.us

BILL RICHARDSON
GOVERNOR

RON CURRY
SECRETARY

DERRITH WATCHMAN-MOORE
DEPUTY SECRETARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

November 17, 2004

Mr. Randy Schmaltz
Environmental Supervisor
Giant Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Mr. Ed Riege
Environmental Superintendent
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

SUBJECT: REQUEST FOR SUPPLEMENTAL INFORMATION
GROUND WATER REMEDIATION AND MONITORING ANNUAL REPORT APRIL 2004
GIANT REFINING COMPANY, BLOOMFIELD REFINERY
EPA ID NO. NMD089416416
HWB-GRCB-04-001

Dear Mr. Schmaltz and Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the above-referenced Ground Water Remediation and Monitoring Annual Report (2004 Ground Water Report) for technical adequacy as required under 20.4.2.201.7 NMAC. The Ground Water Annual Report was submitted in April 2004 to fulfill the requirements for the Long-term Ground Water Monitoring Corrective Measure Study and Implementation (CMS/CMI) (Discharge Plan-Abatement Plan) in September 2001.

After reviewing the 2004 Ground Water Report, NMED requests additional information and provides requirements for future ground water reports. The information that must be addressed and future report requirements are described in Attachment A.

The requested information must be submitted to HWB within ninety days of receipt of this Request for Supplemental Information. Failure to respond within this time period will result in issuance of a Notice of Deficiency.

Please call me at 505-428-2545 if you have questions or need additional information.

Sincerely,

Hope Monzeglio

Hope Monzeglio
Project Leader

Attachment

cc: James Bearzi, NMED HWB
David Cobrain, NMED HWB
John Kieling, NMED HWB
Wayne Price, NMDEMNR OCD

file: Reading File and GRCB 2004 File

ATTACHMENT A

GROUND WATER REMEDIATION AND MONITORING ANNUAL REPORT APRIL 2004

GIANT REFINING COMPANY BLOOMFIELD REFINERY
EPA ID NO. NMD089416416

The "Ground Water Remediation and Monitoring Annual Report," April 2004 (2004 Ground Water Report) and the "Long Term Ground Water Monitoring Work Plan" May 29, 2003 (LTGWMWP) were submitted by Giant to fulfill the requirements in Attachment A "Requirements for Long-Term Ground Water Monitoring, Corrective Measure Study and Implementation (CMS/CMI) (Discharge Plan-Abatement Plan)" of the January 6, 2003 letter issued by the New Mexico Environment Department.

The NMED requires Giant to implement the following investigation and ground water monitoring actions during future ground water monitoring reports in addition to providing the following.

General Comments

1. The 2004 Ground Water Report, Executive Summary, p. i, paragraph 4 and p. ii, paragraph 1 references the boring logs and laboratory results in Attachments D and Attachment C of the document, respectively.

   Note: the boring logs and laboratory results are located in Attachments C and F.

2. The 2004 Ground Water Report, Executive Summary, p. ii, paragraph 8, comments on the development of collection galleries and states "Diagrams and locations of the test holes are included in Attachment E and Plate 3."

   Note: the east and west collection gallery diagrams are located in Attachment D.

3. Giant shall ensure the report's narrative represents the data presented in tables, figures, and attachments. The following are examples of inconsistencies:

   a. MW-11 was sampled but never identified as sampled in the Monitoring and Analysis section of the report.

   b. The Monitoring and Analysis section, p. v, paragraph 2, states MW-47 was sampled in March 2003; however, no analytical results for MW-47 could be presented in Table 1 for March because MW-47 had not been installed.

   c. The Monitoring and Analysis section, p. v, paragraph 3 implies MW-45 was sampled in August of 2003, but the table "MW Field Data" presenting the August 2003 field data implies MW-45 was not sampled because it contained hydrocarbons.

Note: Giant does not need to collect water samples from monitoring wells containing separate-phase hydrocarbons (SPH) unless it is for fuel fingerprint analysis. Giant shall identify in the ground water report any water samples that were collected from monitoring and/or recovery wells containing SPH for fingerprinting purposes.

4. LTGWMWP, Site Map, p. 2, appears to have the locations of MW-45 and MW-46 mislabeled based on the map provided in the 2004 Ground Water Report, plate 3, which identifies MW-45 and MW-46 in reverse locations.

5. In the August 11, 2004 meeting between Giant, NMED, the Oil Conservation Division (OCD), and EPA, it was agreed that the August 2004 Sampling Event would include all facility monitoring and recovery wells unless SPH is present in a well. The results from the sampling event will then be used to determine what wells will be sampled in future ground water monitoring events.

6. Giant shall notify and request permission from NMED regarding any significant deviations from approved requirements when conducting investigations or sampling prior to implementing any changes.

7. NMED encourages Giant to follow the HWB's position paper "General Reporting Requirements For Routine Groundwater Monitoring at RCRA Sites" (www.nmenv.state.nm.us/hwb/guidance.html) when preparing groundwater monitoring reports.

Specific Comments

1. The 2004 Ground Water Report, Executive Summary, p. ii, paragraph 7, states "Giant installed a recovery system that employs a collection tank (Tank #38) and a pump at the #1 East outfall. The water/hydrocarbon is routed to a separator tank (Tank #33) that is set up for gravitational separation of the mixed hydrocarbon effluent. Recovered oil is routed to a 25000 gallon horizontal vessel (V-610). The underflow, clarified water, is routed to the refinery's raw water ponds."

   Giant shall collect monthly effluent samples from the underflow outfall discharged to raw water ponds. NMED requires GRCB to analyze the effluent sample for BTEX using EPA method 8021B. If effluent samples exceed the WQCC levels, the effluent shall be treated prior to entering the raw water ponds. NMED may require additional analysis in the future.

2. The 2004 Ground Water Report, Monitoring and Analysis section, p. v, paragraph 3, states MW-36 was sampled in August of 2003. However, the report does not present any analytical results for this well.

Giant shall clarify if MW-36 was sampled and provide the analytical data. An explanation shall be provided if MW-36 was not sampled.

3. The 2004 Ground Water Report, Monitoring and Analysis section, p. v, paragraph 3, states MW-24 was dry during the August 2003 sampling event; however, Table 1 "Summary of Soil & Water Analysis," section 3, illustrates MW-24 was not sampled because the well contained hydrocarbons.

   Giant shall clarify the reason for not collecting a sample from MW-24.

4. Attachment A, #4 a. - e. lists requirements of the proposed monitoring well installation procedures for MW-44, MW-45, and MW-46. Part a. states "approximately 20 feet of well screen are to be placed across the water table interface with at least 5 feet of well screen above the water table." The installation diagrams for the monitoring wells and boring logs presented in Attachment C do not indicate the depth of the water table.

   Giant shall submit the depths to the water table for monitoring wells MW-45 and MW-47.

5. Attachment A, #5 addresses development of the new monitoring wells. Giant did not provide information in the 2004 Ground Water Report or the LTGWMWP pertaining to well development of MW-45 and MW-47. Giant shall provide the following:

   a. The methods used for well development (e.g. pumping, surging, bailing) and the well development procedures.

   b. The removal rate and volume of ground water removed during well development.

   c. The water quality parameters (e.g., pH, electrical conductance, temperature) that were measured during well development and the frequency of measurement.

6. Attachment A, #9, states, "Giant shall measure the depths to water/product from the well casing rims in all facility wells on a semi-annual basis. The water/product levels must be measured to an accuracy of 0.01 foot. Giant shall calculate water table elevations by subtracting the depth to water from the surveyed well casing rim elevations. Giant shall provide a corrected water table elevation in wells containing phase-separated hydrocarbons by adding 0.8 times the measured product thickness to the calculated water table elevation. Giant shall prepare a facility site plan for each ground water monitoring event that presents the well locations, calculated water table elevations, phase-separated hydrocarbon thicknesses (where present) and facility features including aboveground storage tanks (ASTs) and process units." The following shall be presented in all future ground water reports.

a. The water elevation table shall have columns with the following headings: date of measurement, well identification, well casing elevation, total well depth, depth to SPH, depth to water, groundwater elevation, and corrected water table elevation (if SPH are present).

b. The semi-annual water table potentiometric surface maps must show well locations and the corresponding groundwater elevation, label contour lines with elevations or include flow direction arrows, and illustrate pertinent site features. The map should be developed from the data presented in the table described in item 6. **a.** above. The semi-annual water table potentiometric surface maps should be developed only from the data collected during the current sampling event.

c. The semi-annual product thickness map must label each monitoring well with the measured SPH thickness and contain pertinent site features. The map must be developed from the data presented in the tables described in item 6. **a.** above. The semi-annual product thickness maps must only reflect data collected during the current sampling event.

d. Note: The 2004 Ground Water Report, Plates 4 and 5 do not reflect the data collected during the semi-annual and annual sampling events that occurred in March and August but depict groundwater data collected in May and January.

Future ground water reports must include water table potentiometric surface and product thickness maps depicting data from the corresponding semi-annual and annual sampling events. Maps must still be developed from water/product measurements collected from all facility wells (e.g. Plate 4 & 5 May and January maps found in the 2004 Ground Water Report).

e. All future maps and figures must contain a north arrow, scale, and an explanation for all abbreviations, symbols, and acronyms.

7. Attachment A, #11 states, "Giant shall collect ground water samples on an annual basis from the wells listed in Item 10 above and wells RW-1, RW-15, RW-18, MW-3, MW-4, MW-5, MW-8, MW-9, MW-26, MW-27, MW-28, MW-36, MW-42, MW-43 and the background well." According to the 2004 Ground Water Report, Table 2 Recovery System Volumes, MW-1, MW-9, MW-28, MW-42, and MW-43 have been converted into recovery wells. With the exception of MW-1 and MW-9, no other recovery wells were measured or sampled during the annual sampling event.

   The LTGWMWP, Monitoring Plan, p. 5, bullet 5 states, "Recovery wells will not be sampled since they will give a distorted result."

Giant must sample the required recovery wells unless they contain SPH after pumping has been discontinued for 24 hours for all future groundwater sampling events. SPH measurements must be collected from recovery and monitoring wells containing SPH.

8. Attachment A, #11, states "Giant shall submit the ground water samples collected on an annual basis to an analytical laboratory for chemical analysis of ....., total and dissolved chromium by EPA Method 7191, total and dissolved lead by EPA Method 7421."

   Giant analyzed the total and dissolved chromium and lead using EPA Method 6010C and not the methods required. Giant must use the recommended analysis stated in the requirements unless prior approval is given by NMED for use of a different method. Giant must provide an explanation why EPA Method 6010C was used instead of EPA Methods 7191 and 7421.

9. Attachment A, #15 states, "The initial annual ground water monitoring report, and all annual ground water monitoring reports submitted thereafter by Giant, shall include a comprehensive summary of on all investigation, remediation and monitoring activities. The report shall be submitted to the NMOCD Santa Fe Office and to the NMED Hazardous Waste Bureau by April 1 of each respective year with copies provided to the EPA and the NMOCD Aztec District Office."

   The LTGWMWP, Monitoring Plan, p. 6 paragraph 1, states, "The report will be submitted to the NMOCD Santa Fe Office, NMOCD Aztec District Office, NMED Hazardous Waste Bureau, and the EPA by April 15 of each respective year."

   Giant cannot arbitrarily change submittal dates without prior approval. Future reports must be submitted to the NMOCD Santa Fe Office and to the NMED Hazardous Waste Bureau by April 15 of each respective year with copies provided to the EPA and the NMOCD Aztec District Office.

10. Attachment A, #15 a. – j. provides information that should be present in the annual ground water monitoring report. Giant shall ensure the following information is provided in future groundwater monitoring reports.

    a. Giant must provide detailed descriptions of all soil and ground water remediation and monitoring activities, which have occurred during the previous calendar year. The description shall include conclusions and also recommendations if Giant intends to propose changes to the required work.

    b. Giant must submit semi-annual isopleth maps for benzene, total BTEX, and MTBE. The maps must include the corresponding concentrations detected at the sampled monitoring wells.

    c. Giant must provide summary tables of all soil and ground water quality sampling results during the past calendar year that compares detected contaminant

concentrations to applicable cleanup standards or screening levels and also copies of the laboratory analytical data reports and associated QA/QC data for the reporting period. Any data exceeding the cleanup standards or screening levels must be highlighted. The tables must provide the detection limits indicated in the laboratory results (e.g., <10) and not denote the detection limit as non detect (ND). The report should include a section discussing any exceedances of the cleanup standards and address any laboratory data quality exceptions or elevated detection limits.

d. Giant must notify the NMOCD and the NMED of the exceedance of any WQCC standard or EPA maximum contaminant level (MCL) in any monitoring well where contaminant concentrations did not exceed WQCC standards or MCLs during the preceding monitoring event. The reporting to both agencies must be in accordance with NMOCD Rule 116.

e. Plots of concentration versus time for BTEX and MTBE should include the y-axis displaying the "Concentrations (ppm)" to identify the concentrations. The x-axis of the time-plots presented in the 2004 Ground Water Report indicates a zero concentration line for some contaminants and other times does not indicate a zero concentration. Giant must be consistent with the data being presented.

f. Waste disposition must identify the management and disposal of wastes generated during the groundwater sampling event and groundwater investigations that have occurred during the reporting period.

g. Giant must include the results of any below grade line testing or provide an explanation as to why testing did not occur in the groundwater report.

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Friday, November 05, 2004 12:31 PM
To: Dave Cobrain; Denny Foust; Hope Monzeglio; Robert Wilkinson; Wayne Price
Cc: Chad King; Ed Riege; David Kirby; Cindy Hurtado
Subject: Release Progress Update 11/5/04


Release Progress Update.doc

<<Release Progress Update.doc>>

Release Progress Update Report

During the week of October 25-29 Precision Engineering was on site to conduct two separate soil boring campaigns, one on the west side of the refinery, the other was on the river terrace.

Seven soil borings were drilled on the west side of the refinery along Hammond Ditch. The soil boring logs will be sent to the agencies once Giant has received them. The proposed monitoring well in the gravel pit was not installed due to the landowner's refusal. Giant's management will pursue other options for negotiation with the landowner.

Precision Engineering drilled eight new borings on the river terrace, and installed two new monitoring wells. Monitoring Well # 48 is located on the plant side of the sheet piling /slurry wall, and Monitoring Well # 49 is on the river side of the wall. Grab samples were taken from each boring and both wells. Results as well as an updated map will be provided to the agencies when completed.

On November 3, 2004 hydrocarbon was seen in the secondary containment structure that was built in the western most draw located North of Monitoring Well #46. It was determined that hydrocarbon was getting under the containment liner constructed at the mouth of this draw. To fix this problem Giant remove this liner and lowered this containment structure an additional eight feet. Extreme caution was used to accomplish this task. The area is steep and construction is complicated by the amount of soil disturbed during the lining of the Hammond Ditch. All impacted soil will be placed in a staging pile, sampled, and final disposition determined by sample results.

Price, Wayne

From: Price, Wayne
Sent: Thursday, October 28, 2004 9:44 AM
To: 'Randy Schmaltz'; Price, Wayne
Cc: Dave Cobrain; Foust, Denny; Hope Monzeglio; Robert Wilkinson; Chad King; Ed Riege; Dennis Tucker
Subject: RE: River Terrace

OCD approves with the following condition:

1. First round of sampling shall include general chemistry.

Please be advised that NMOCD approval of this plan does not relieve (Giant) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (Giant) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Thursday, October 28, 2004 9:18 AM
To: Wayne Price
Cc: Dave Cobrain; Denny Foust; Hope Monzeglio; Robert Wilkinson; Chad King; Ed Riege; Dennis Tucker
Subject: River Terrace

<<River Terrace Letter 10-27-04.doc>> <<River Terrace Proposed Sample and Well Locations_rev3.ppt>> <<River Terrace Well Diagram.pdf>>

Price, Wayne

From: Hope Monzeglio [hope_monzeglio@nmenv.state.nm.us]
Sent: Thursday, October 28, 2004 11:16 AM
To: Price, Wayne
Cc: Denny Foust; Bob Wilkinson
Subject: RE: River Terrace

Wayne

NMED is in agreement with this.

Hope

-----Original Message-----
From: Price, Wayne [mailto:WPrice@state.nm.us]
Sent: Thursday, October 28, 2004 9:44 AM
To: 'Randy Schmaltz'; Price, Wayne
Cc: Dave Cobrain; Foust, Denny; Hope Monzeglio; Robert Wilkinson; Chad King; Ed Riege; Dennis Tucker
Subject: RE: River Terrace

OCD approves with the following condition:

1. First round of sampling shall include general chemistry.

Please be advised that NMOCD approval of this plan does not relieve (Giant) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (Giant) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Thursday, October 28, 2004 9:18 AM
To: Wayne Price
Cc: Dave Cobrain; Denny Foust; Hope Monzeglio; Robert Wilkinson; Chad King; Ed Riege; Dennis Tucker
Subject: River Terrace

<<River Terrace Letter 10-27-04.doc>> <<River Terrace Proposed Sample and Well Locations_rev3.ppt>> <<River Terrace Well Diagram.pdf>>

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October 27, 2004

Mr. Wayne Price

New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Giant Bloomfield Refinery – River Terrace Sheet Pile Area

Dear Mr. Price:

As discussed in our meeting with OCD and NMED-Haz staff at your office on October 18, 2004, Giant is submitting this activity plan for the river terrace sheet pile area at the Bloomfield facility.

During the week of October 25, 2004, Giant will install two new monitoring wells at the river terrace to supplement the two existing piezometers currently used for water quality monitoring. One monitoring well will be installed on the river side of the sheet-pile barrier in the vicinity of the existing piezometer. The other well will be installed in the terrace on the refinery side of the barrier. The attached photograph shows the planned locations of these wells. The purpose of the new wells will be to conduct pumping tests and to perform additional water quality sampling.

The wells will be constructed according to the attached schematic. However, the length of the screened interval may vary if bedrock is encountered during drilling. After installation, the wells will be developed until the purge water is clear. The wells will then be sampled for the following parameters: TPH (EPA 8015 DRO and GRO) and BTEX/MTBE (EPA 8021).

In addition to the two new wells, Giant will collect groundwater grab samples from up to eight spatially distributed locations across the river terrace to assess the lateral extent of potential groundwater impacts behind the barrier. The attached photograph shows the planned locations for the grab samples. The exact locations of these samples will be finalized in the field based on drill rig access. The groundwater samples will be obtained by advancing a borehole and placing a temporary two-inch PVC well casing and screen. After collecting a sample, the casing will be removed and the borehole will be properly abandoned. The samples obtained will be analyzed for the following parameters: TPH (EPA 8015 DRO and GRO) and BTEX/MTBE (EPA 8021).

Giant will conduct a pumping test on the new monitoring well in the terrace on the refinery side of the barrier to evaluate the subsurface hydraulic characteristics of the terrace area. The information gained from this test, and the water quality data from the sampling described above, will be used to assess the groundwater and hydraulic conditions and develop a mitigation strategy, if required.

Giant anticipates completing these activities and submitting a letter report of our findings to OCD within two weeks after receipt of analytical sample results from the laboratory.

If you have any questions, please contact me at 505-632-4171.

Sincerely,

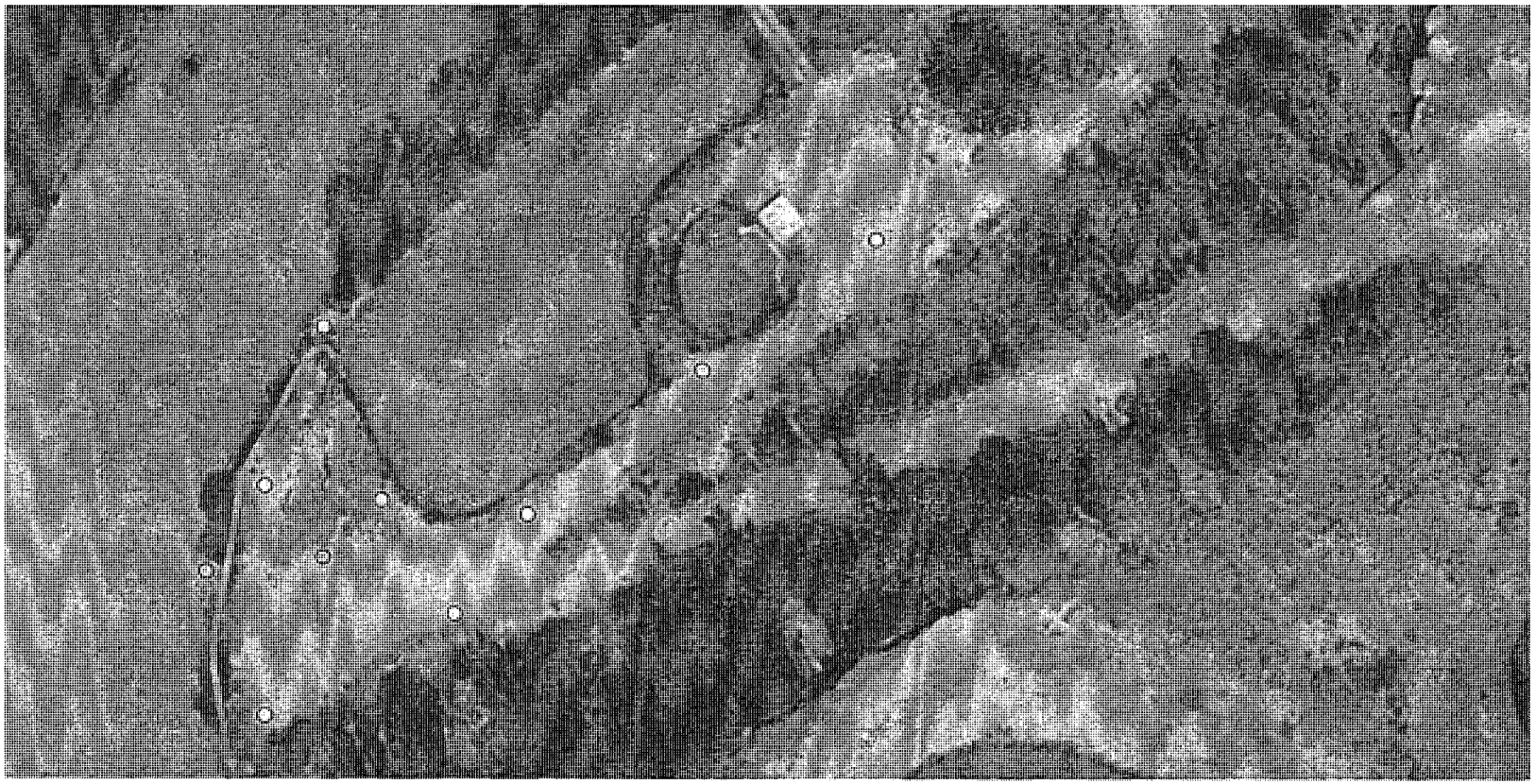
GIANT REFINING COMPANY

James R. Schmaltz
Environmental Manager

Cc: Denny Foust - OCD Aztec Office
Dave Cobrain – NMED Hazardous Waste Bureau
Bob Wilkinson – EPA
Ed Riege
Chad King

Giant Refining Company

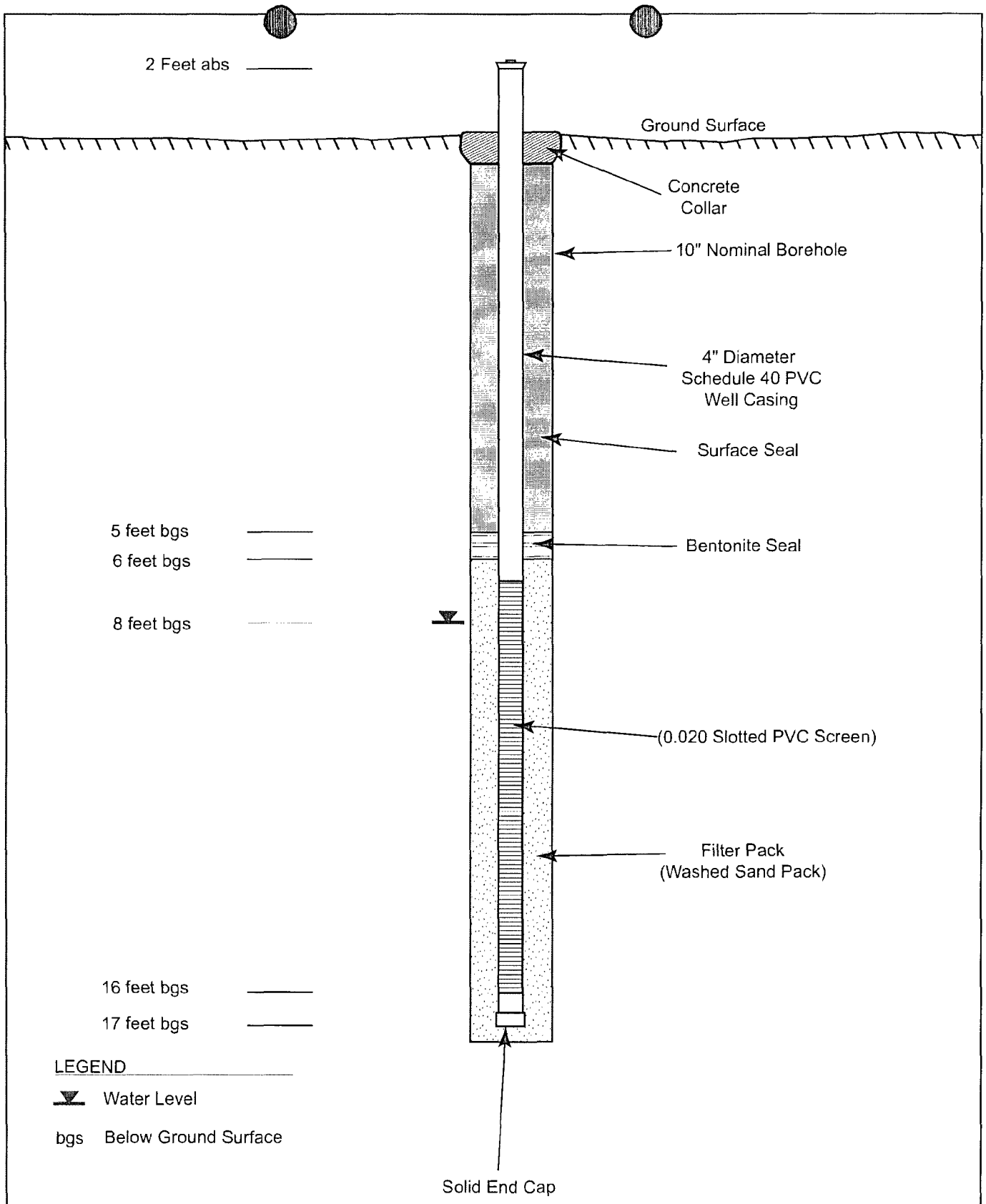
River Terrace Barrier Sampling Locations



◎ = Proposed Monitoring Well Location

○ = Proposed Grab-Sample Location

▬ = Existing Barrier Alignment



*not to scale

MALCOLM PIRNIE	Schematic Well Design Giant Refining Co.	Malcolm Pirnie, Inc. Figure 1

Price, Wayne

From: Hope Monzeglio [hope_monzeglio@nmenv.state.nm.us]
Sent: Wednesday, October 27, 2004 3:57 PM
To: Cindy Hurtado; Price, Wayne
Cc: Bob Wilkinson; Randy Schmaltz; Ed Riege; Denny Foust; David Cobrain
Subject: RE: Soil Disposal Request

NMED is in agreement with OCD, this email constitutes NMED's approval of Giant's request to dispose of hydrocarbon contaminated soil in the San Juan Co. Landfill. A follow up letter will follow.

Hope Monzeglio

-----Original Message-----
From: Price, Wayne
Sent: Wednesday, October 27, 2004 2:52 PM
To: 'Cindy Hurtado'; Price, Wayne; 'Hope Monzeglio'
Cc: Foust, Denny; 'Robert Wilkinson'; 'Dave Cobrain'; Randy Schmaltz; Ed Riege
Subject: RE: Soil Disposal Request

OCD hereby approves of Giant's request to dispose of hydrocarbon contaminated soil in the San Juan Co. Landfill with the following conditions:

1. The soil must be RCRA non-hazardous and NMED-haz waste must approve.
2. Giant shall provide proof of disposal, waste manifest, etc.
3. This approval is good for 30 days and only for soils generated during the emergency response approved by OCD.

Please be advised that NMOCD approval of this plan does not relieve (Giant) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (Giant) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

-----Original Message-----
From: Cindy Hurtado [mailto:churtado@giant.com]
Sent: Wednesday, October 27, 2004 2:15 PM
To: 'Wayne Price'; 'Hope Monzeglio'
Cc: 'Denny Foust'; 'Robert Wilkinson'; 'Dave Cobrain'; Randy Schmaltz; Ed Riege
Subject: Soil Disposal Request

<<Soil Disposal Request.doc>> <<Drummed soil (MW #45).doc>>

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Price, Wayne

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Subject: Soil Disposal Request

<<Soil Disposal Request.doc>> <<Drummed soil (MW #45).doc>>

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor

Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

Price, Wayne

From: Cindy Hurtado [churtado@giant.com]
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Subject: Soil Disposal Request

Soil Disposal Request.doc Drummed soil (MW #45).doc

<<Soil Disposal Request.doc>> <<Drummed soil (MW #45).doc>>

GIANT
REFINING COMPANY

Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, New Mexico 87505

Hope Monzeglio
New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Dr. East
Bldg 1
Santa Fe, New Mexico 87505

October 26, 2004

Re: **Request for Disposal of Impacted Soil**

Dear Mr. Price and Ms. Monzeglio,

Giant Refining Company – Bloomfield Refinery requests for approval for final disposition of 16 barrels of impacted soil from the MW #45 Release to the San Juan County Landfill. The waste will be treated at the Landfill Facility to New Mexico State standards and directly disposed of at the San Juan County Landfill.

Enclosed, please find analytical data and Waste Management's profile and approval. Hard copies for your records will follow.

Your prompt attention to this matter will be greatly appreciated. If you need more information, please contact me at (505) 632-4161.

Sincerely,

Cindy Hurtado

Cindy Hurtado
Environmental Assistant
Giant Refining Company – Bloomfield

Cc: Dave Cobrain, NMED
Robert Wilkinson, EPA
Denny Foust, New Mexico Oil Conservation Division – Aztec
Ed Riege

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Giant	Project #:	96012-028
Sample ID:	001	Date Reported:	08-18-04
Laboratory Number:	30030	Date Sampled:	08-13-04
Chain of Custody:	12752	Date Received:	08-13-04
Sample Matrix:	Soil	Date Analyzed:	08-18-04
Preservative:	Cool	Date Extracted:	08-16-04
Condition:	Cool & Intact	Analysis Requested:	BTEX-MTBE

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Methyl-tert-butyl Ether	ND	2.1
Benzene	1,190	1.8
Toluene	671	1.7
Ethylbenzene	792	1.5
p,m-Xylene	2,180	2.2
o-Xylene	728	1.0
Total BTEX	5,560	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	99 %
	1,4-difluorobenzene	99 %
	Bromochlorobenzene	99 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Outfall Area Top of Spill.

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Giant	Project #:	96012-028
Sample ID:	001	Date Reported:	08-18-04
Laboratory Number:	30030	Date Sampled:	08-13-04
Chain of Custody No:	12752	Date Received:	08-13-04
Sample Matrix:	Soil	Date Extracted:	08-16-04
Preservative:	Cool	Date Analyzed:	08-18-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	3,880	0.2
Diesel Range (C10 - C28)	5,400	0.1
Total Petroleum Hydrocarbons	9,280	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Outfall Area Top of Spill.

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Giant	Project #:	96012-028
Sample ID:	001	Date Reported:	08-17-04
Laboratory Number:	30030	Date Sampled:	08-13-04
Chain of Custody:	12752	Date Received:	08-13-04
Sample Matrix:	Soil	Date Analyzed:	08-17-04
Preservative:	Cool	Date Digested:	08-16-04
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.009	0.001	5.0
Barium	0.422	0.001	100
Cadmium	ND	0.001	1.0
Chromium	0.002	0.001	5.0
Lead	0.001	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.006	0.001	1.0
Silver	ND	0.001	5.0

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils. SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emmision Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: **Outfall Area Top of Spill.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Giant	Project #:	96012-028
Sample ID:	001	Date Reported:	08-19-04
Laboratory Number:	30057	Date Sampled:	08-14-04
Chain of Custody:	12756	Date Received:	08-14-04
Sample Matrix:	Soil Extract	Date Extracted:	08-17-04
Preservative:	Cool	Date Analyzed:	08-18-04
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	8.00	s.u.		
Conductivity @ 25° C	267	umhos/cm		
Total Dissolved Solids @ 180C	236	mg/L		
Total Dissolved Solids (Calc)	218	mg/L		
SAR	1.8	ratio		
Total Alkalinity as CaCO3	53.6	mg/L		
Total Hardness as CaCO3	88.0	mg/L		
Bicarbonate as HCO3	53.6	mg/L	0.88	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	1.7	mg/L	0.03	meq/L
Nitrite Nitrogen	0.025	mg/L	0.00	meq/L
Chloride	28.8	mg/L	0.81	meq/L
Fluoride	0.27	mg/L	0.01	meq/L
Phosphate	8.3	mg/L	0.26	meq/L
Sulfate	74.0	mg/L	1.54	meq/L
Iron	0.266	mg/L	0.01	meq/L
Calcium	25.6	mg/L	1.28	meq/L
Magnesium	5.86	mg/L	0.48	meq/L
Potassium	2.08	mg/L	0.05	meq/L
Sodium	39.0	mg/L	1.70	meq/L
Cations			3.52	meq/L
Anions			3.54	meq/L
Cation/Anion Difference			0.48%	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983. Water And Waste Water", 18th ed., 1992.

Comments: Outfall Area Top of Spill.

Christine M Walters
Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-18-TPH QA/QC	Date Reported:	08-18-04
Laboratory Number:	30030	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-18-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	02-19-04	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	02-19-04	1.5507E-002	1.5492E-002	0.10%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	3,880	3,860	0.5%	0 - 30%
Diesel Range C10 - C28	5,400	5,380	0.4%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	3,880	250	4,120	99.8%	75 - 125%
Diesel Range C10 - C28	5,400	250	5,640	99.8%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 30030 - 30034, 30055 - 30056.

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS
Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-17-04 QA/AC	Date Reported:	08-17-04
Laboratory Number:	30030	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	08-17-04
Condition:	N/A	Date Digested:	08-16-04

Blank & Duplicate Conc. (mg/Kg)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.009	0.009	0.0%	0% - 30%
Barium	ND	ND	0.001	0.422	0.419	0.7%	0% - 30%
Cadmium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.002	0.002	0.0%	0% - 30%
Lead	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	0.006	0.006	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/Kg)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.009	0.508	99.8%	80% - 120%
Barium	0.500	0.422	0.920	99.8%	80% - 120%
Cadmium	0.500	ND	0.500	100.0%	80% - 120%
Chromium	0.500	0.002	0.502	100.0%	80% - 120%
Lead	0.500	0.001	0.500	99.8%	80% - 120%
Mercury	0.050	ND	0.050	100.0%	80% - 120%
Selenium	0.500	0.006	0.505	99.8%	80% - 120%
Silver	0.500	ND	0.500	100.0%	80% - 120%

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils. SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emmision Spectoscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 30030 - 30034.

Analyst

Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	08-18-BTEX QA/QC	Date Reported:	08-18-04
Laboratory Number:	30030	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-18-04
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Methyl-tert-butyl Ether	7.7846E-001	7.8002E-001	0.2%	ND	0.2
Benzene	2.8990E-001	2.9077E-001	0.3%	ND	0.2
Toluene	2.5460E-002	2.5511E-002	0.2%	ND	0.2
Ethylbenzene	3.8451E-002	3.8567E-002	0.3%	ND	0.2
p,m-Xylene	3.2988E-002	3.3088E-002	0.3%	ND	0.2
o-Xylene	3.3333E-002	3.3400E-002	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Methyl-tert-butly Ether	ND	ND	0.0%	0 - 30%	2.1
Benzene	1,190	1,220	2.5%	0 - 30%	1.8
Toluene	671	657	2.0%	0 - 30%	1.7
Ethylbenzene	792	776	2.0%	0 - 30%	1.5
p,m-Xylene	2,180	2,240	2.8%	0 - 30%	2.2
o-Xylene	728	750	3.0%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Methyl-tert-butly Ether	ND	50.0	40	80.0%	80 - 120
Benzene	1,190	50.0	1,230	99.2%	39 - 150
Toluene	671	50.0	719	99.8%	46 - 148
Ethylbenzene	792	50.0	840	99.8%	32 - 160
p,m-Xylene	2,180	100	2,270	99.6%	46 - 148
o-Xylene	728	50.0	777	99.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for samples 30030 - 30034, 30055.

Analyst

Review

5796 U.S. Highway 64 • Farmington, NM 87401 • Tel 505 • 632 • 0615 • Fax 505 • 632 • 1865

WASTE MANAGEMENT

PO Box 15700
Rio Rancho, NM 87174

Monday, October 04, 2004

Giant Refinery
#50 Road 4990
P.O Box 159
Bloomfield, NM 87413

To: Cindy Hurtado

Effective 10/4/04 the waste material on Profile # SJC 06765 B has been approved for disposal at WASTE MANAGEMENT INC. San Juan County Landfill pending the return and approval of account set up information. The waste material will be treated on site to acceptable New Mexico State standards and directly disposed of at the San Juan County Landfill. This approval is limited to the waste described on the profile # stated above and is valid until 4/4/05. The San Juan County Facility reserves the right to reject any shipment of waste that fails to conform with profile sheet information/documentation.

Sincerely,

Waste Management
Industrial Landfill Sales New Mexico

Mark Allen

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Profile Number, WMI: 06765B

Renewal Date: ONE TIME

Service Agreement on File? ☒YES ☐NO

☐Hazardous ☒Non-Hazardous ☐TSCA

A. Waste Generator Information

1. Generator Name:	Giant (San Juan) Refining	2. SIC Code:	
3. Facility Street Address:	#50 Road 4990	4. Phone:	505-632-4151
5. Facility City:	Bloomfield	6. State/Province:	N.M.
7. Zip/Postal Code:	87413	8. Generator USEPA/Federal ID #:	NMD089416416
9. County:	SAN JUAN	10. State/Province ID #:	
11. Customer Name:	~~PHILIP Transportation & Production~~ Same	12. Customer Phone:	~~602-252-4186~~
13. Customer Contact:	Scott Davis	14. Customer Fax:	~~602-367-1590~~
15. Billing Address:	~~2002 W. McDowell Rd.~~ AS ABOVE		☐Same as above

B. Waste Stream Information

1. Description
   a. Name of Waste: Petroleum contaminated soil
   b. Process Generating Waste: State mandated cleanup of petroleum hydrocarbons leaching from under oil refinery.

c. Color	d. Strong odor (describe):	e. Physical state @ 70°F	f. Layers	g. Free liquid range
Black		X solid	☒Single Layer	B
brown		☐Gas ☐Sludge ☐Other	X	h. pH: Range
	oil			6to8

i. Liquid Flash Point: ☐<73°F ☐73-90°F ☐100-139°F ☐140-199°F ☐> 200°F ☒Not applicable

j. Chemical Composition (List all constituents [including halogenated organics, debris, and UHC's] present in any concentration and submit representative analysis)

Constituents	Concentration Range	Constituents	Concentration Range
Soil	98 – 100%		
Petroleum hydrocarbons	0-2%		

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

k. ☐Oxidizer ☐Pyrophoric ☐Explosive ☐Radioactive ☐Carcinogen ☐Infectious ☐Shock Sensitive ☐Water Reactive

l. Does the waste represented by this profile contain asbestos? ☐YES ☒NO
   If yes: ☐friable ☐non-friable

m. Does the waste represented by this profile contain benzene? ☒YES ☐NO
   If yes, concentration: 1,190 ppb

n. Does the waste contain debris? (list in Section B.1.j) ☐YES ☒NO

2. Quantity of Waste
   Estimated Annual Volume: 16 ☐Tons ☐Yards ☒Drums ☐Other (specify)

3. Shipping Information
   a. Packaging ☐Bulk Solid: Type/Size: , ☐Bulk Liquid, Type/Size: , ☒Drum, Type, Size:55 gal ☐Other
   b. Shipping Frequency: Units: 16 x 55 gal. Per: ☐Month ☐Quarter ☐Year ☒One time ☐Other
   c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f) ☐YES ☐NO
   d. Reportable Quantity (lbs.; kgs.): e. Hazard Class/ID #:
   f. USDOT Shipping Name:
   g. Personal Protective Equipment Requirements:

C. Generator Certification (Please check appropriate responses, sign and date below)

1. Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2. ☐YES ☒NO
   a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U)
   b. If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (If yes, list in Section B.1.j) ☐YES ☐NO
2. Is this a state hazardous waste? ☐YES ☒NO
   Identify ALL state hazardous waste codes
3. Is this waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean-up? ☒YES ☐NO
   If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity. For state mandated clean-up, provide relevant documentation.
4. Does the waste represented by this waste profile sheet contain radioactive material, or is disposal Regulated by the Nuclear Regulatory Commission? ☐YES ☒NO
5. Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (If yes, list in Chemical Composition - B.1.j) ☐YES ☒NO
   a. If yes, were the PCBs imported into the U.S.? ☐YES ☐NO
6. Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒YES ☐NO
7. Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒YES ☐NO

☐Check here if a Certificate of Destruction or Disposal is required.

Approved for disposal @ San Juan Landfill Tonya Miller 9/21/04

WM

GENERATOR'S WASTE PROFILE SHEET

PLEASE PRINT IN INK OR TYPE

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method. I authorize WMI to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: *Cindy Hurtado* Title: *Environmental Assistant*

Name (Type or Print): *Cindy Hurtado* Company Name: *Giant Refinery - Bloomfield* Date: *9-21-04*

☐ Check if additional information is attached. Indicate the number of attached pages ____

Approved for disposal @ San Juan LF Terry Nelson 9/24/04

Instructions

Information on this form is used to determine if the waste may be transported, treated, stored or disposed in a legal, safe, and environmentally sound manner. This information will be maintained in strict confidence. Answers must be provided for sections A, B, and C and must be printed in ink or typed. A response of "NONE" or NA" (not applicable) can be made if appropriate. If additional space is needed, indicate on the form that additional information is attached, and attach the information to Generator's Waste Profile Sheet. If you have questions concerning this form, please contact the Contractor's sales representative.

A. Waste Generator Information

1. **Generator Name** - Enter the name of the facility where the waste is generated.
2. **SIC Code** - Enter the four digit Standard Industrial Classification Code for the facility where the waste is generated.
3. **Facility Street Address** - Enter the street address (not P.O. Box) of the facility where the waste is generated.
4. **Phone** - Enter Generator's area code and phone number.
5. **Facility City** - Enter the city where the waste is generated.
6. **State/Province** - Enter the state or province where the waste is generated.
7. **Zip/Postal Code** - Enter the generating facility's zip or postal code.
8. **Generator USEPA/Federal ID #** - Enter the identification number issued by the USEPA, Canadian, or Mexican Federal Agency to the facility generating the waste (if applicable).
9. **County** - Enter the county where the waste is generated.
10. **State/Province ID #** - Enter the identification number issued by the state or province to the facility generating the waste (if applicable).
11. **Customer Name** - Entity that the Contractor is directly working with regarding the represented waste stream. If the same as the Generator, mark "Same as Above".
12. **Customer Phone** - Enter technical contact's area code and telephone number.
13. **Customer Contact** - Enter the name of the person who can answer technical questions about the waste.
14. **Customer Fax** - Area code and facsimile number for the customer.
15. **Billing Address** - Address where bill for services should be sent.

B. Waste Stream Information

1.a. **Name of Waste** - Enter a name generally descriptive of the waste (e.g., paint sludge, fluorescent bulbs).

1.b. **Process Generating Waste** - Describe the process generating the waste in detail. List the specific process/operation or source that generates the waste (e.g., incineration of municipal refuse, asbestos removal, wastewater treatment, building maintenance).

At a minimum, the Generator should answer the following questions in determining the process generating the waste:

- What chemicals are stored and/or used at the facility?
- Is the waste generated from the production/manufacturing of any of the following industries: wood preservation; inorganic pigments; organic pigments; pesticides; explosives; petroleum refining; iron and steel; copper, lead or zinc production?
- Is the waste a result from degreasing, solvent parts cleaning, recovery/reclaiming of solvents (bottoms), wastewater treatment (sludges), or electroplating?

1.c. **Color** - Describe the color of the waste (e.g., blue, transparent, varies).

1.d. **Strong odor** - DO NOT SMELL THE WASTE! If the waste has a known odor, then describe (e.g., acrid, pungent, solvent, sweet).

1.e. **Physical state @ 70°F** - If the four boxes provided do not apply, a descriptive phrase may be entered after "Other" (e.g., multi-phase).

1.f. **Layers** - Single Layer means the waste is homogenous. Multi-layer means the waste is comprised of two or more layers (e.g., oil/water/sludge).

1.g. **Free liquid range** - Range (in percent by volume) of free liquids in the waste.

1.h. **pH Range** - Indicate the pH range.

1.i. **Liquid Flash Point** - Indicate the flash point obtained using the appropriate test method.

1.j. **Chemical Composition** - List all organic and/or inorganic components of the waste using chemical names. If trade names are used, attach Material Safety Data Sheets or other documents that adequately describe the composition of the waste. For each component, estimate the range (in percent) in which the component is present. Identify any element, chemical compound, or mixture in concentration of 0.1 percent or greater that is considered a carcinogen or potential carcinogen pursuant to OSHA.

1.k. Check all that apply.

1.l. Indicate if this waste contains asbestos. Indicate if the asbestos is friable.

1.m. Indicate if the waste contains benzene, the level in ppm, and whether it is subject to the benzene NESHAP.

1.n. Indicate if the waste contains debris (list size and type in B.1.j).

2. **Quantity of Waste** - Approximate volume in tons, yards, or other (e.g., drums, gallons) that will be received by the ultimate management facility. This volume amount is not intended for use in complying with state and/or permit restrictions.

3.a. **Packaging** - Choose the appropriate option or "other" along with a description.

3.b. **Shipping Frequency** - Choose the appropriate option or "other" along with a description.

3.c. **Is this a U.S. Department of Transportation (USDOT) hazardous material?** - Choose the appropriate response: yes or no.

3.d. **Reportable Quantity (lbs.; kgs.)** - If the answer to 3.c. is yes, enter the Reportable Quantity (RQ) established by 40 CFR 302.4 or equivalent Canadian or Mexican regulation for this waste. Indicate the appropriate units for the RQ.

3.e. **Hazard Class/ID #** - If the answer to 3.c. is yes, indicate the proper USDOT hazard class and identification number.

3.f. **USDOT Shipping Name** - If the answer to 3.c. is yes, enter the proper USDOT shipping name for the waste.

3.g. **Personal Protective Equipment Requirements** - All personal protective equipment necessary to safely manage the waste stream.

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-138
Revised June 10, 2003

Submit Original
Plus 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☐ No ☐	4. Generator: Giant Refining Company
	5. Originating Site: Giant Refinery-Bloomfield
2. Management Facility Destination: San Juan County Regional Landfill	6. Transporter: Waste Management
3. Address of Facility Operator: #78 CR 3140 Aztec, NM 87410	8. State: New Mexico
7. Location of Material (Street Address or ULSTR): #49 CR 4990 Bloomfield, NM 87413	

9. Circle One:

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is non-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL:

Petroleum Impacted Soil

Must have OCD approval letter before transporting and disposal at San Juan County Landfill.

J. Hamm 10/26/04

Estimated Volume 4 cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE J. L. Hamm (Waste Management Facility Authorized Agent) TITLE: District Mgr. DATE: 10/26/04

TYPE OR PRINT NAME: John Hamm TELEPHONE NO. 505 334 1121

E-MAIL ADDRESS jhamm2@wm.com

(This space for State Use)

APPROVED BY: _____ TITLE: _____ DATE: _____

APPROVED BY: _____ TITLE: _____ DATE: _____

Price, Wayne

From: Cindy Hurtado [churtado@giant.com]
Sent: Wednesday, October 27, 2004 2:15 PM
To: 'Wayne Price'; 'Hope Monzeglio'
Cc: 'Denny Foust'; 'Robert Wilkinson'; 'Dave Cobrain'; Randy Schmaltz; Ed Riege
Subject: Soil Disposal Request


Soil Disposal Request.doc


Drummed soil (MW #45).doc

<<Soil Disposal Request.doc>> <<Drummed soil (MW #45).doc>>

Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, New Mexico 87505

Hope Monzeglio
New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Dr. East
Bldg 1
Santa Fe, New Mexico 87505

October 26, 2004

Re: **Request for Disposal of Impacted Soil**

Dear Mr. Price and Ms. Monzeglio,

Giant Refining Company – Bloomfield Refinery requests for approval for final disposition of 16 barrels of impacted soil from the MW #45 Release to the San Juan County Landfill. The waste will be treated at the Landfill Facility to New Mexico State standards and directly disposed of at the San Juan County Landfill.

Enclosed, please find analytical data and Waste Management's profile and approval. Hard copies for your records will follow.

Your prompt attention to this matter will be greatly appreciated. If you need more information, please contact me at (505) 632-4161.

Sincerely,

Cindy Hurtado
Environmental Assistant
Giant Refining Company – Bloomfield

Cc: Dave Cobrain, NMED
Robert Wilkinson, EPA
Denny Foust, New Mexico Oil Conservation Division – Aztec
Ed Riege

Price, Wayne

From: Price, Wayne
Sent: Thursday, October 21, 2004 11:05 AM
To: 'Randy Schmaltz'; Price, Wayne; 'Dave Cobrain'; 'Hope Monzeglio'
Cc: Ed Riege; Cindy Hurtado
Subject: RE: Soil Boring Request

OCD hereby Approves with approval confirmation from NMED-haz

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Wednesday, October 20, 2004 5:14 PM
To: 'Wayne Price'; 'Dave Cobrain'; 'Hope Monzeglio'
Cc: Ed Riege; Cindy Hurtado
Subject: Soil Boring Request

<<Soil Boring Request.doc>> <<Soil Borings.pdf>>

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Wednesday, October 20, 2004 5:14 PM
To: 'Wayne Price'; 'Dave Cobrain'; 'Hope Monzeglio'
Cc: Ed Riege; Cindy Hurtado
Subject: Soil Boring Request


Soil Boring Request.doc


Soil Borings.pdf

<<Soil Boring Request.doc>> <<Soil Borings.pdf>>

Price, Wayne

From: Hope Monzeglio [hope_monzeglio@nmenv.state.nm.us]
Sent: Thursday, October 21, 2004 10:19 AM
To: Price, Wayne
Subject: RE: Soil Boring Request

Wayne

We are ok with this also. You can approve.

-----Original Message-----
From: Price, Wayne [mailto:WPrice@state.nm.us]
Sent: Thursday, October 21, 2004 9:44 AM
To: Dave Cobrain (E-mail); Hope Monzeglio (E-mail)
Subject: FW: Soil Boring Request

This looks OK with OCD how about you! Let me know so I can approve.

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Wednesday, October 20, 2004 5:14 PM
To: 'Wayne Price'; 'Dave Cobrain'; 'Hope Monzeglio'
Cc: Ed Riege; Cindy Hurtado
Subject: Soil Boring Request

<<Soil Boring Request.doc>> <<Soil Borings.pdf>>

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Wednesday, October 20, 2004 5:14 PM
To: 'Wayne Price'; 'Dave Cobrain'; 'Hope Monzeglio'
Cc: Ed Riege; Cindy Hurtado
Subject: Soil Boring Request


Soil Boring Request.doc


Soil Borings.pdf

<<Soil Boring Request.doc>> <<Soil Borings.pdf>>

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, New Mexico 87505

October 20, 2004

Re: **Request to Conduct Soil Borings**

Dear Mr. Price,

Giant Refining Company – Bloomfield Refinery requests permission to conduct a soil boring campaign on the West end of the refinery property. The soil borings will be used to determine the surface contour of the Naciemento formation. Please find enclosed a map containing the proposed locations as well as previous soil boring locations.

Giant will install 2" slotted PVC pipe in all soil borings to be used in product/water elevation studies.

Giant is currently gathering information on the installation of the river sheet piling/slurry wall project of 1997. We are currently pumping and sampling this location. The investigation continues.

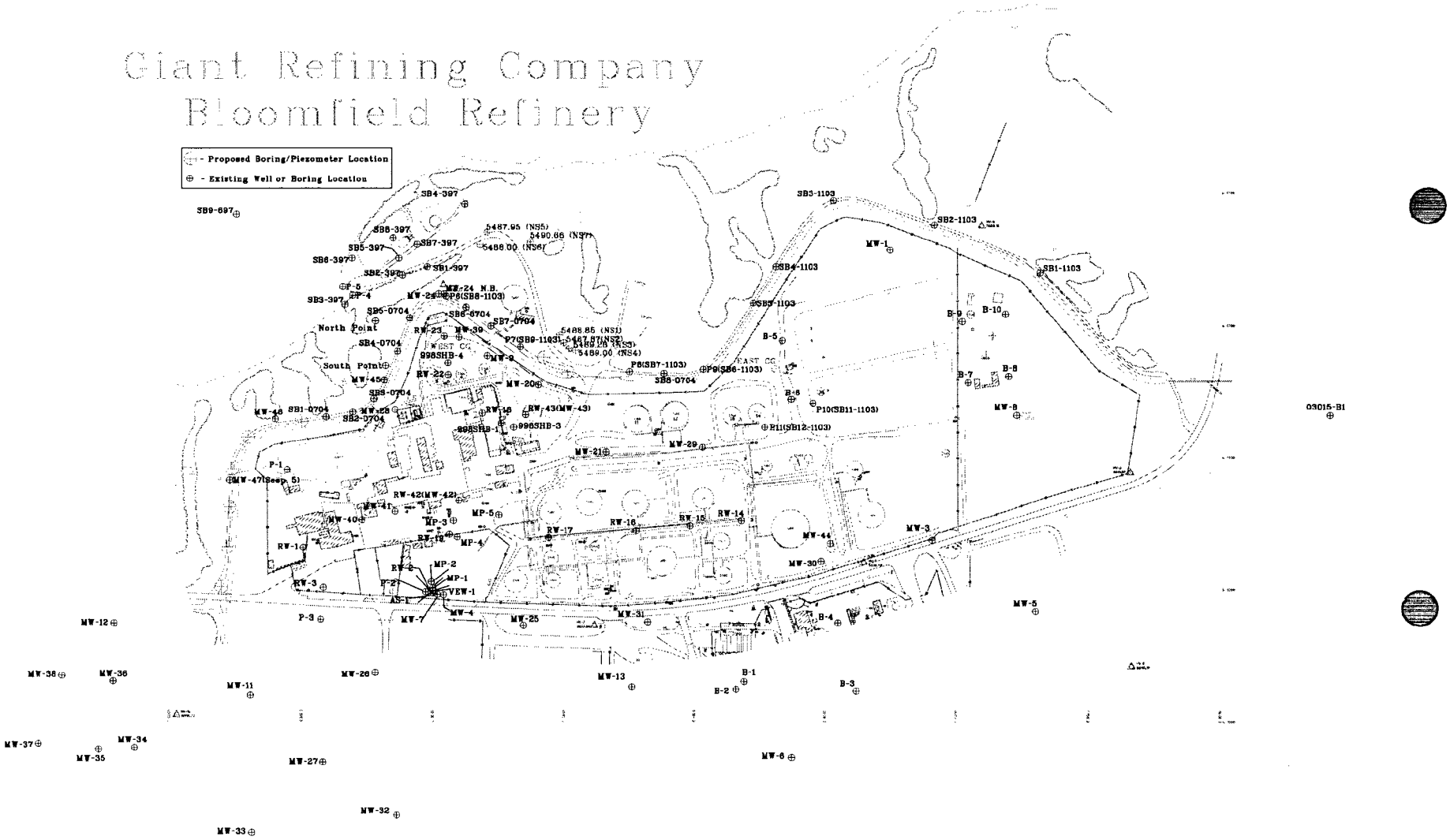
Your prompt attention to this matter will be greatly appreciated. If you need more information, please contact me at (505) 632-4171.

Sincerely,

Randy Schmaltz
Environmental Supervisor
Giant Refining Company – Bloomfield

Cc: Dave Cobrain, NMED
Hope Monzeglio, NMED
Denny Foust, New Mexico Oil Conservation Division – Aztec
Ed Riege

Giant Refining Company
Bloomfield Refinery



Price, Wayne

From: Price, Wayne
Sent: Thursday, October 21, 2004 8:31 AM
To: 'Randy Schmaltz'; Price, Wayne
Cc: 'Hope Monzeglio'; Foust, Denny
Subject: RE: Soil Request

OCD hereby approves of your request with the following conditions:

1. One treatment zone soil sample shall be collected three feet below the approximate center of the temporary landfarm area before placement of any soils. The soil sample shall be analyzed for TPH, BTEX, and general chemistry.

2. On the general site plot plan mark this location and submit for our files.

Please be advised that NMOCD approval of this plan does not relieve (Giant)of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (Giant) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Wednesday, October 20, 2004 4:48 PM
To: 'Wayne Price'
Cc: 'Hope Monzeglio'; 'Denny Foust'
Subject: Soil Request

<<Release N. MW #45 Soil Request.doc>>

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, New Mexico 87505

October 20, 2004

Re: **Request to Utilize Non-Hazardous Soil -Release North of MW #45**

Dear Mr. Price,

Giant Refining Company – Bloomfield Refinery requests permission for on-site utilization of the non-hazardous impacted soil removed from the release North of Monitoring Well #45. This soil will be placed in a low-lying area on the East end of the refinery property. An earthen berm will be constructed around this area to prevent storm water contamination.

Please find enclosed the analytical results from composite samples taken from this material:

1. Hydro Blast Pad Composite (1200 cubic yards)
   - BTEX – Non-hazardous for any chemical.
     Benzene =.097 (mg/Kg)
     Total BTEX= .722 (mg/Kg)
   - TCLP-

Arsenic	0.002 (mg/Kg)
Barium	0.068 (mg/Kg)
Cadmium	ND
Chromium	0.001 (mg/Kg)
Lead	ND
Mercury	ND
Selenium	ND
Silver	ND

   - TPH – 301 (mg/kg)
     GRO = 57.2 (mg/Kg)
     DRO = 244 (mg/Kg)

- Ignitability – Negative
- Corrosivity – Negative
- Reactivity – Negative
- PH = 7.43
- Flash Point >350 C

2. Tank 36 Composite (3600 cubic yards)
   - BTEX – Non-hazardous for any chemical.
     Benzene =.011 (mg/Kg)
     Total BTEX= .149 (mg/Kg)

   - TCLP-

Arsenic	0.003 (mg/Kg)
Barium	0.073 (mg/Kg)
Cadmium	ND
Chromium	0.001 (mg/Kg)
Lead	ND
Mercury	ND
Selenium	ND
Silver	ND

   - TPH – 351 (mg/kg)
     GRO = 85.1 (mg/Kg)
     DRO = 266 (mg/Kg)

   - Ignitability – Negative
   - Corrosivity – Negative
   - Reactivity – Negative
   - PH = 7.69
   - Flash Point >350 C

Your prompt attention to this matter will be greatly appreciated. If you need more information, please contact me at (505) 632-4171.

Sincerely,

Randy Schmaltz
Environmental Supervisor
Giant Refining Company – Bloomfield

Cc: Hope Monzeglio, NMED
Denny Foust, New Mexico Oil Conservation Division – Aztec

Ed Riege

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Wednesday, October 20, 2004 4:48 PM
To: 'Wayne Price'
Cc: 'Hope Monzeglio'; 'Denny Foust'
Subject: Soil Request

Release N. MW #45 Soil Request...

<<Release N. MW #45 Soil Request.doc>>

Re: Loco Hills Gas Storage Facility

Dear Mr. Hicks:

During our meeting on October 19, 2004, you requested that the Oil Conservation Division (OCD) provide you with an outline of the process for seeking approval of a clay-lined brine pit with a designed seepage rate.

Background

Loco Hills intends to propose a clay-lined brine storage pit, with a designed seepage rate. (The exact seepage rate has yet to be determined.) The brine to be stored in the pit contains approximately 100,000 parts per million (ppm) chlorides. The groundwater underneath the Loco Hills facility contains approximately 40,000 ppm chlorides, due to existing contamination at the site. Groundwater standards call for total dissolved solids not to exceed 250 ppm. Although the groundwater underneath the Loco Hills facility greatly exceeds standards, it is nevertheless protectable because protectable waters from Bear Grass Draw flow under and combine with the waters underneath the Loco Hills facility.

Loco Hills proposes to abate existing contamination at the site by pumping out contaminated water. By pumping out more contaminated water than they introduce through the clay-lined pit, Loco Hills contends that its project will result in a net environmental gain to the state.

Applicable Rules - General

OCD rules require brine pits to be double-lined with leak detection. 19.15.2.50.C(2)(b)(ii) and (iii) NMAC. The OCD may grant an exemption to those requirements "if the operator demonstrates that the granting of such exemption will not endanger fresh water, public health or the environment." 19.15.2.50.G(2) NMAC.

OCD rules require Stage I and Stage II abatement plans for the abatement of existing contamination. The purpose of a Stage I abatement plan is to design and conduct a site investigation that will adequately define site conditions and provide the data necessary to select and design an effective abatement option. See 19.15.1.19.E(3) NMAC. The purpose of a Stage II abatement plan is to select and deign an abatement option that, when implemented, will result in attainment of the abatement standards. See 19.15.1.19.E(4) NMAC. Abatement standards require total dissolved solids not to exceed 250 ppm.

If the person responsible for abatement is not able to meet the abatement standards using commercially accepted abatement technology, he may propose that compliance is "technically infeasible." 19.15.1.19.B(5) NMAC. In no event shall a proposed technical infeasibility demonstration be approved for any water contaminant if its concentration is greater than 200% of the abatement standard for the contaminant. 19.15.1.19.B(5)(b) NMAC.

The person responsible for abatement may petition for approval of alternative abatement standards. The petition must make the specific showings required under 19.15.1.19.B(6)(a) NMAC, designed to show the problems with the existing standards, the feasibility of the proposed

standard, and that compliance with the proposed standard "will not create a present or future hazard to public health or undue damage to property."

Process for Seeking Approval

To operate a clay-lined brine pit, Loco Hills must seek an exemption to the liner requirements set out in 19.15.2.50.C(2)(b)(ii) and (iii) NMAC. To obtain that exemption, Loco Hills must demonstrate that the granting of such exemption will not endanger fresh water, public health or the environment. 19.15.2.50.G NMAC. The OCD understands that Loco Hills intends to make that showing by demonstrating that its proposed abatement plan will remove more contamination than is introduced through the proposed pit. Because the liner exemption is linked to the abatement proposal, the two issues must be considered together. Additionally, as we discussed, the OCD will not grant one permit without granting the other. Because it appears that Loco Hill's abatement plan may not result in the groundwater meeting the standards for contaminants, Loco Hills may also need to petition for approval of alternative abatement standards under 19.15.1.19.B(6)(a) NMAC. (Loco Hills will not be eligible for a "technical infeasibility" finding under 19.15.1.19.B(5) unless it can reduce the concentration of chlorides to below 500 ppm.) The suggests the following procedure for requesting an exemption to pit liner requirements and approval of an abatement plan:

1. File a consolidated application with the environmental bureau of the OCD making the following requests:
   a. an exemption to the pit liner requirements, demonstrating that the granting of the exemption will not endanger fresh water, public health or the environment. 19.15.2.50.G NMAC.
   b. approval of a Stage I abatement plan under 19.15.1.19.E(3) NMAC. If Loco Hills does not have complete information defining site conditions, OCD may establish assumed conditions for the plan with a timetable for additional information and provide for revision of the permit to reflect the conditions as they exist at that time.
   c. approval of a Stage II abatement plan under 19.15.1.19.E(4) NMAC demonstrating that the plan will attain abatement standards, and must contain the information required under 19.15.1.19.E(4)(b) NMAC. If the plan cannot meet abatement standards, Loco Hills must also include a petition for alternative abatement standards under 19.15.1.19.B(6)(a) NMAC. The petition for alternative abatement standards must contain the information set out in 19.15.1.19.B(6)(b) NMAC and make the showings required by 19.15.1.19.B(6)(a) NMAC.

2. The OCD will make every effort to review the Stage I and Stage II abatement plans immediately upon receipt for administrative completeness. Once the OCD concludes that they are administratively complete, Loco Hills should put them out for public notice and comment, as required under 19.15.1.19.G NMAC. This includes written notice to the appropriate persons, and advertisement in a newspaper of general circulation in the state and in a newspaper of general circulation in the affected county. The rules require 30 days for public comment.

3. The OCD will set the application for hearing upon receipt of an administratively complete application. That way, if a hearing is necessary, it may be conducted immediately upon the close of the public comment period. The rules require a public hearing if the OCD receives any objections to the plan, or if Loco Hills files a petition for an alternative abatement standard. If the OCD determines that no hearing is necessary, the hearing will be dismissed and the matter will be decided administratively. The hearing may be held before the Oil Conservation Commission rather than a division examiner, if you request that action.

As you will see from this brief outline, once the OCD receives an administratively complete application, process can move quickly. The OCD is committed to a prompt review of the application, a prompt hearing (if necessary) and a prompt decision on the application. The OCD suggests that Loco Hills contact us once they have prepared a draft application so that our technical staff can assist in assuring an administratively complete application.

Price, Wayne

From: Price, Wayne
Sent: Tuesday, October 19, 2004 2:08 PM
To: Ed Rigie (E-mail); Randy Schmaltz (E-mail)
Cc: Dave Cobrain (E-mail); Hope Monzeglio (E-mail); Anderson, Roger; Foust, Denny
Subject: Giant Bloomfield Northern Boundary Barrier Meeting Oct 18, 2004

Minutes of Meeting:

Roger Anderson-OCD Environmental Bureau Chief notified Giant of a pending compliance order concerning the hydrocarbon release from the northern boundary of the refinery. Giant's consultant presented an overview of its preliminary findings and discussed remedial options.

all parties agreed that Giant will be performing the following actions:

1. Giant to submit to OCD and NMED-Haz ASAP a plan showing where the new bore holes will be located and a plan to address the sheet piling area near the San Juan River. OCD pointed out that contamination has been observed for the last three years with no action being performed.

2. By November 17, Giant will submit an action plan for OCD/NMED approval. The plan will include a preliminary design of the slurry wall system and a monitoring plan to obtain engineering/hydrology data to design and implement a barrier system with an optimum recovery system. This plan will include maps showing all of the bore holes, MW's , recovery wells, potentametric surface of groundwater, PSH, copy of all logs and drawings of the barrier system.

During the meeting OCD indicated that a slurry wall type system (barrier) around the northern boundary with a recovery system is OCD's preferred choice.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm

10/18/04

MEETing: OCD + GIANT

		LEGIBLE	E-MAIL
Wayne Price – OCD		505-476-3487	WPRICE@STATE.NM.US
Dave Cobrain - NMED - HWB		505-428-2553	david_cobrain@nmenv.state.nm.us
Hope Monzeglio - NMED - HWB		505-428-2545	hope_monzeglio@nmenv.state.nm.us
Ed Riege	Giant	505 722 0217	eriege@giant.com
Bill Kingsley	Precision Eng.	505-523-7674	WERMEI@AOL.com
Randy Schmaltz	Giant	505-632-4171	rschmaltz@GIANT
Dennis Tucker	Malcolm Pirnie	602-797-4623	dtucker@pirnie.com
Steven Sugstad	Malcolm Pirnie	602 7974620	ssagstad@pirnie.com
Cindy Hurtado	Giant	505-632-4161	churtado@giant.com
Denny Foust	NMOCD	505 334-6178 ext 115	dfoust@state.nm.us
Roger Anderson	NMOCD	505 476-3490	roanderson@state.NM.US

Price, Wayne

From: Price, Wayne
Sent: Wednesday, September 29, 2004 11:06 AM
To: Randy Schmaltz (E-mail); Ed Rigie (E-mail)
Cc: Foust, Denny; Anderson, Roger; Hope Monzeglio (E-mail)
Subject: River samples

Dear Randy:

I have been out of the office and just have reviewed the river water samples. OCD is very concerned that the samples are showing hits on hydrocarbons. Therefore, please ASAP take a river sample 100 yards downstream and include this in your sampling program. These samples shall be collected within 24 hours and analyzed on an emergency basis. Also Giant needs to address this issue in the overall remediation plan ASAP.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

Price, Wayne

From: Kingsleywh@aol.com
Sent: Friday, September 24, 2004 11:56 AM
To: wprice@state.nm.us
Cc: eriege@giant.com; rschmaltz@giant.com
Subject: Monitoring Well - Bloomfield Refinery

Wayne,

Ed asked me to notify you of when we were going to install the well at Bloomfield and to provide you with a brief list of tasks for the project. Attached is our proposed installation procedure for MW-48 (I presume that will be what it is going to be called) to be located in the gravel pit next to the refinery. We will be starting sometime on October 4. We will be mobilizing from Gallup. If things change we will notify you of the new date. I believe the location will be as close to the power pole mound as possible within the pit. Let me know if you have any concerns or want to be there when we drill it. I believe it will be fairly shallow so it shouldn't take longer than about half a day to complete the boring. Cleanup, surface completion, and development will take a bit longer.------ -Bill

William H. Kingsley
Precision Engineering, Inc.
P.O. Box 422
Las Cruces, New Mexico 88004

505-523-7674 Office
505-523-7248 Fax

September 24, 2004

Mr. Wayne Price
State of New Mexico
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Monitoring Well Installation - Giant Refining Company, Bloomfield Refinery
File No. 04-103

Mr. Price,

Giant Refining has requested Precision Engineering, Inc. to install an additional monitoring well west of the refinery property in the neighboring sand and gravel mine. We understand the final well location will be designated by the Giant Refining Company with the consensus of agencies and land owners involved. As a part of the well installation process we are tasked with notifying appropriate agencies of the installation. This letter serves as your notification. Currently, the work is planned to begin approximately midday on Monday October 4, 2004. Below is a brief description of the work that will be performed.

Task 1: Drill (1) boring. The boring will be advanced using four and one fourth (4-¼) inch I.D. continuous flight hollow stemmed auger. The boring will be advanced to a depth approximately five (5) feet below the interface of the Nacimiento Formation and the Jackson Lake Terrace deposits. A decision on site will be made as to the necessity to advance the boring deeper to evaluate water migration. The drilling plan is based on the premise that water flows across the surface of the Nacimiento Formation in a thin zone at the base of the Jackson Lake Terrace deposits. Advancing the boring into the Nacimiento Formation allows evaluation of the upper sediments of the Nacimiento and will provide a reservoir for adequate purging and sampling of the water. It is our intent to place screen such that it extends approximately two feet above the top of the water table. Once the boring penetrates the surface gravels the formations will be sampled continuously to evaluate the stratigraphy of the location. Precision Engineering, Inc. will be responsible for all logging.

Task II: The boring will be converted to a two (2) inch diameter monitoring wells. The well will be constructed to Current State of New Mexico standards. Construction of the monitoring well will consist of placing number ten (10) slot, schedule 40, PVC screen; the length will be determined in the field, however, eight (8) to ten (10) feet is estimated. The screen will be machine slotted pipe. Riser consisting of schedule 40 PVC pipe will be extended to the surface. All screen and casing will be flush threaded material. No glue or other adhesives will be used in the construction of the well. The annulus surrounding the screen will be packed with environmental quality silica sand. The sand will extend to a point two (2) feet above the top of the slotted length of the pipe. A two (2) foot thick

bentonite plug will be placed immediately above the sand. The plug will be placed as chips and will be hydrated after placement to form a dense, impervious seal above the sanded portion of the well. The sand and the bentonite chips will be tremied through the hollow auger. After hydration the well will be backfilled with a 6% bentonite/cement slurry to within one (1) to one and one half (1-½) feet of the ground surface. The well will be finished using an above ground surface protective casing. Protective bollards will be placed as necessary to provide a traffic resistant barrier. The above ground vault will be set in a concrete surface collar four (4) feet square. The concrete will be sloped away from the casing. The minimum thickness of the concrete will be four (4) inches. A two (2) inch lockable casing plug as well as a lockable vault cap will be provided. Giant Refining will provide locks to be installed by Precision Engineering, Inc. upon completion of the well.

Precision Engineering, Inc. will develop the well to a point where satisfactory samples can be obtained for laboratory analysis.

Task III: Contaminated cuttings, if any, will be removed from the property and stored at a location on the Bloomfield Refinery property and in a manner designated by Giant Refining.

Task V: All equipment will be decontaminated on the refinery site. Augers will be decontaminated prior to advancing borings. All sampling equipment will be decontaminated after each sampling interval. Decontamination of sampling equipment will consist of washing with Liquinox solution, rinse with clean water, 2nd rinse with clean water. Water will be tap water.

If you have any questions or require clarification on the intended scope of work please contact our office.

Sincerely,
Precision Engineering, Inc.

William H. Kingsley, PE

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Wednesday, September 22, 2004 3:28 PM
To: 'Dave Cobrain'; 'Denny Foust'; 'Hope Monzeglio'; 'John Kieling'; 'Robert Wilkinson'; 'Wayne Price'; 'William Olson'
Cc: Ed Riege; Chad King; Cindy Hurtado; David Kirby
Subject: Progress 9-22 (revised)


Release Progress Wkly 9-22.doc...

Please disregard the previous email I made a typing mistake on the date we pumped out the containment dike. Sorry for any inconvenience I may have caused.

<<Release Progress Wkly 9-22.doc>>

Release North of MW#45 Progress Report

Weekly Progress

The Bloomfield area experienced heavy rains over the weekend. All of the containment dikes as well as the draw areas were inspected, no problems were found. The containment dike at the origin of the draw North of MW #45 was emptied via vacuum truck on 9/21/2004. This liquid was returned back to the plants wastewater treatment system.

Giant continues to work with Malcom Pirnie on the Engineering and Design of a cut system. Precision Engineering has also been contacted in regards to the drilling of a new monitoring well in the gravel pit area.

Final disposition of the impacted soil is still pending.

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Wednesday, September 15, 2004 4:37 PM
To: 'Foust, Denny'; Randy Schmaltz; 'Dave Cobrain'; 'Hope Monzeglio'; 'John Kieling'; 'Robert Wilkinson'; Price, Wayne; Olson, William
Cc: Ed Riege; David Kirby; Cindy Hurtado; Chad King
Subject: RE: Release Progress


Sample points #2 & 3 .doc

Yes they are two separate distinct draws. I have enclosed a map that might help.

-----Original Message-----
From: Foust, Denny [mailto:DFOUST@state.nm.us]
Sent: Wednesday, September 15, 2004 4:00 PM
To: 'Randy Schmaltz'; 'Dave Cobrain'; Foust, Denny; 'Hope Monzeglio'; 'John Kieling'; 'Robert Wilkinson'; Price, Wayne; Olson, William
Cc: Ed Riege; David Kirby; Cindy Hurtado; Chad King
Subject: RE: Release Progress

Can you distinguish between sample point #2 and #3.

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Wednesday, September 15, 2004 3:47 PM
To: 'Dave Cobrain'; 'Denny Foust'; 'Hope Monzeglio'; 'John Kieling'; 'Robert Wilkinson'; 'Wayne Price'; 'William Olson'
Cc: Ed Riege; David Kirby; Cindy Hurtado; Chad King
Subject: Release Progress

<<Release Progress Wkly.doc>>

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Price, Wayne

From: Foust, Denny
Sent: Wednesday, September 15, 2004 4:00 PM
To: 'Randy Schmaltz'; 'Dave Cobrain'; Foust, Denny; 'Hope Monzeglio'; 'John Kieling'; 'Robert Wilkinson'; Price, Wayne; Olson, William
Cc: Ed Riege; David Kirby; Cindy Hurtado; Chad King
Subject: RE: Release Progress

Can you distinguish between sample point #2 and #3.

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Wednesday, September 15, 2004 3:47 PM
To: 'Dave Cobrain'; 'Denny Foust'; 'Hope Monzeglio'; 'John Kieling'; 'Robert Wilkinson'; 'Wayne Price'; 'William Olson'
Cc: Ed Riege; David Kirby; Cindy Hurtado; Chad King
Subject: Release Progress

<<Release Progress Wkly.doc>>

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Wednesday, September 15, 2004 3:47 PM
To: 'Dave Cobrain'; 'Denny Foust'; 'Hope Monzeglio'; 'John Kieling'; 'Robert Wilkinson'; 'Wayne Price'; 'William Olson'
Cc: Ed Riege; David Kirby; Cindy Hurtado; Chad King
Subject: Release Progress

Release Progress Wkly.doc

<<Release Progress Wkly.doc>>

Release North of MW#45 Progress Report

Weekly Progress

River samples were taken on 8/14/2004, 8/16/2004 and again on 9/7/2004. Three points on the river are sampled (1) upstream of the refinery, (2) inlet from draw North of MW #45, and (3) inlet from draw North of MW# 47. The results from 9/7/2004 were Non-Detect for BTEX and Gasoline Organics. These results were obtained verbally from Hall Environmental on 9/15/04. All written reports will be sent upon completion of the remaining tests. Results from the samples taken on 8/14/2004 and 8/16/2004 are listed below:

1. Sample Point #1 – Upstream of Refinery
    - EPA Method 8021 "Aromatic Volatile Organics"
      MTBE = ND
      Benzene = ND
      Toluene = ND
      Ethylbenzene = ND
      p,m-Xylene =ND
      o-xylene = ND

    - Trace Metal Analysis
      Arsenic = ND
      Barium = 0.005 (mg/L)
      Cadmium = ND
      Chromium = ND
      Lead = ND
      Mercury = ND
      Selenium = ND
      Silver = ND

    - pH = 7.87
    - Cation/Anion Difference = 0.01%

2. Sample Point #2 – Draw North of MW #45
    - EPA Method 8021 "Aromatic Volatile Organics"
      MTBE = ND
      Benzene = 0.0097 (mg/L)
      Toluene = 0.0614 (mg/L)
      Ethylbenzene = 0.022 (mg/L)
      p,m-Xylene = 0.068 (mg/L)
      o-xylene = 0.013 (mg/L)

- Trace Metal Analysis
  Arsenic = 0.001 (mg/L)
  Barium = 0.016 (mg/L)
  Cadmium = ND
  Chromium = ND
  Lead = ND
  Mercury = ND
  Selenium = ND
  Silver = ND

- pH = 7.75
- Cation/Anion Difference = 0.04%

3. Sample Point #3 – Draw North of MW #47

   - EPA Method 8021 "Aromatic Volatile Organics"
     MTBE = ND
     Benzene = 0.0063 (mg/L)
     Toluene = 0.0854(mg/L)
     Ethylbenzene = 0.029 (mg/L)
     p,m-Xylene = 0.0958 (mg/L)
     o-xylene = 0.0149 (mg/L)

   - Trace Metal Analysis
     Arsenic = 0.001 (mg/L)
     Barium = 0.027 (mg/L)
     Cadmium = ND
     Chromium = ND
     Lead = ND
     Mercury = ND
     Selenium = ND
     Silver = ND

   - pH = 7.53
   - Cation/Anion Difference = 0.00%

Hard copies of all sample results will be forwarded.

All impacted material has been removed from the site. Composite sample results were sent to the agencies on 9/8/2004. Final disposition of soil is pending.

Giant continues to recover H20 and SPH in MW#45 and the lined containment dike at the point of origin in draw North of MW #45.

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Thursday, September 09, 2004 4:16 PM
To: 'Price, Wayne'; Ed Riege; Randy Schmaltz
Subject: RE: Giant GW-001 Bloomfield

Monitoring Well #45 contained SPH from the start, it was installed 1/15/2003.
Monitoring Well #47 was installed 3/06/2003 it didn't show any SPH until 12/18/03.

-----Original Message-----
From: Price, Wayne [mailto:WPrice@state.nm.us]
Sent: Thursday, September 09, 2004 3:12 PM
To: Ed Rigie (E-mail); Randy Schmaltz (E-mail)
Subject: Giant GW-001 Bloomfield

Dear ED:

When did Giant discover product in MW-45 and do you have documentation that OCD was notified. Please provide this information ASAP.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

GIANT
REFINING COMPANY

RECEIVED
SEP 0 9 2004
OIL CONSERVATION DIVISION

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, New Mexico 87505

September 8, 2004

Re: **Soil Final Disposition-Release North of MW #45**

Dear Mr. Price,

As you are aware of Giant Refining Company – Bloomfield Refinery removed all the impacted soil from the release North of Monitoring Well #45 as directed in the "Emergency Action Directive". The heavily impacted soil was sampled, removed and placed into 55-gallon drums. The remainder of the soil placed into staging piles. The staging piles were segregated into two categories based upon visual inspection of the soil.

Giant collected composite samples from the staging piles of each category. All samples were analyzed for Method 6010C (RCRA 8 metals) TCLP, BTEX, Reactivity, Corrosivity, Ignitability, Flash point, and TPH.

The following is a summary of sample results including quantity of material:

1. Drummed Soil (16 barrels)
   - BTEX – Hazardous for Benzene
   - TCLP –

Arsenic	0.009 (mg/Kg)
Barium	0.422 (mg/Kg)
Cadmium	ND
Chromium	0.002 (mg/Kg)
Lead	0.001 (mg/Kg)
Mercury	ND
Selenium	0.006 (mg/Kg)
Silver	ND

   - TPH – 9280 (mg/Kg)

2. Hydro Blast Pad Composite (1200 cubic yards)
   - BTEX – Non-hazardous for any chemical.
     Benzene =.097 (mg/Kg)
     Total BTEX= .722 (mg/Kg)

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

- TCLP-

Arsenic	0.002 (mg/Kg)
Barium	0.068 (mg/Kg)
Cadmium	ND
Chromium	0.001 (mg/Kg)
Lead	ND
Mercury	ND
Selenium	ND
Silver	ND

- TPH – 301 (mg/kg)
  GRO = 57.2 (mg/Kg)
  DRO = 244 (mg/Kg)

- Ignitability – Negative
- Corrosivity – Negative
- Reactivity – Negative
- PH = 7.43
- Flash Point >350 C

3. Tank 36 Composite (3600 cubic yards)
   - BTEX – Non-hazardous for any chemical.
     Benzene =.011 (mg/Kg)
     Total BTEX= .149 (mg/Kg)

   - TCLP-

Arsenic	0.003 (mg/Kg)
Barium	0.073 (mg/Kg)
Cadmium	ND
Chromium	0.001 (mg/Kg)
Lead	ND
Mercury	ND
Selenium	ND
Silver	ND

   - TPH – 351 (mg/kg)
     GRO = 85.1 (mg/Kg)
     DRO = 266 (mg/Kg)

   - Ignitability – Negative
   - Corrosivity – Negative
   - Reactivity – Negative
   - PH = 7.69
   - Flash Point >350 C

Based on these results Giant will send the 16 barrels of soil to an EPA permitted TSD facility. Giant requests the Agency's permission to use the remaining soil for beneficial use at the refinery (dike material and leveling low lying areas).

Your prompt attention to this matter will be greatly appreciated. If you need more information, please contact me at (505) 632-4171.

Sincerely,

Randy Schmaltz
Environmental Supervisor
Giant Refining Company – Bloomfield

Cc: Hope Monzeglio, NMED
Denny Foust, New Mexico Oil Conservation Division – Aztec
Ed Riege

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

RECEIVED

SEP 01 2004

OIL CONSERVATION DIVISION

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Giant	Project #:	96012-028
Sample ID:	001	Date Reported:	08-18-04
Laboratory Number:	30030	Date Sampled:	08-13-04
Chain of Custody:	12752	Date Received:	08-13-04
Sample Matrix:	Soil	Date Analyzed:	08-18-04
Preservative:	Cool	Date Extracted:	08-16-04
Condition:	Cool & Intact	Analysis Requested:	BTEX-MTBE

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Methyl-tert-butyl Ether	**ND**	**2.1**
Benzene	**1,190**	**1.8**
Toluene	**671**	**1.7**
Ethylbenzene	**792**	**1.5**
p,m-Xylene	**2,180**	**2.2**
o-Xylene	**728**	**1.0**
Total BTEX	**5,560**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**99 %**
	1,4-difluorobenzene	**99 %**
	Bromochlorobenzene	**99 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Outfall Area Top of Spill.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Giant	Project #:	96012-028
Sample ID:	001	Date Reported:	08-18-04
Laboratory Number:	30030	Date Sampled:	08-13-04
Chain of Custody No:	12752	Date Received:	08-13-04
Sample Matrix:	Soil	Date Extracted:	08-16-04
Preservative:	Cool	Date Analyzed:	08-18-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**3,880**	**0.2**
Diesel Range (C10 - C28)	**5,400**	**0.1**
Total Petroleum Hydrocarbons	**9,280**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **Outfall Area Top of Spill.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Giant	Project #:	96012-028
Sample ID:	001	Date Reported:	08-17-04
Laboratory Number:	30030	Date Sampled:	08-13-04
Chain of Custody:	12752	Date Received:	08-13-04
Sample Matrix:	Soil	Date Analyzed:	08-17-04
Preservative:	Cool	Date Digested:	08-16-04
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)	TCLP Regulatory Level (mg/Kg)
Arsenic	0.009	0.001	5.0
Barium	0.422	0.001	100
Cadmium	ND	0.001	1.0
Chromium	0.002	0.001	5.0
Lead	0.001	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	0.006	0.001	1.0
Silver	ND	0.001	5.0

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils. SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emmision Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments: **Outfall Area Top of Spill.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client:	Giant	Project #:	96012-028
Sample ID:	001	Date Reported:	08-19-04
Laboratory Number:	30057	Date Sampled:	08-14-04
Chain of Custody:	12756	Date Received:	08-14-04
Sample Matrix:	Soil Extract	Date Extracted:	08-17-04
Preservative:	Cool	Date Analyzed:	08-18-04
Condition:	Cool & Intact		

Parameter	Analytical Result	Units		Units
pH	8.00	s.u.		
Conductivity @ 25° C	267	umhos/cm		
Total Dissolved Solids @ 180C	236	mg/L		
Total Dissolved Solids (Calc)	218	mg/L		
SAR	1.8	ratio		
Total Alkalinity as CaCO3	53.6	mg/L		
Total Hardness as CaCO3	88.0	mg/L		
Bicarbonate as HCO3	53.6	mg/L	0.88	meq/L
Carbonate as CO3	<0.1	mg/L	0.00	meq/L
Hydroxide as OH	<0.1	mg/L	0.00	meq/L
Nitrate Nitrogen	1.7	mg/L	0.03	meq/L
Nitrite Nitrogen	0.025	mg/L	0.00	meq/L
Chloride	28.8	mg/L	0.81	meq/L
Fluoride	0.27	mg/L	0.01	meq/L
Phosphate	8.3	mg/L	0.26	meq/L
Sulfate	74.0	mg/L	1.54	meq/L
Iron	0.266	mg/L	0.01	meq/L
Calcium	25.6	mg/L	1.28	meq/L
Magnesium	5.86	mg/L	0.48	meq/L
Potassium	2.08	mg/L	0.05	meq/L
Sodium	39.0	mg/L	1.70	meq/L
Cations			3.52	meq/L
Anions			3.54	meq/L
Cation/Anion Difference			**0.48%**	

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983. Water And Waste Water", 18th ed., 1992.

Comments: **Outfall Area Top of Spill.**

Christine M Walters
Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

September 6, 2004

Mr. Randy Schmaltz
Giant Refinery
P.O. Box 159
Bloomfield, NM 87413

Phone: (505) 632-4171

Client No.: 96012-009

Dear Mr. Schmaltz,

Enclosed are the analytical results for the soil samples collected by Giant designated personnel on 8/31/04, and received by the Envirotech laboratory on 8/31/04 for Total Petroleum Hydrocarbons (TPH) per USEPA Method 8015, BTEX per USEPA Method 8021, RCRA 8 List Metals, Flashpoint, Ignitability, Corrosivity and Reactivity analysis..

The samples were documented on Envirotech Chain of Custody No. 12882. The samples were assigned Laboratory Nos. 30341 (Hydroblast Comp)and 30342 (Tank 36 Comp) for tracking purposes.

The samples were analyzed on 9/01/04 and 9/02/04 using USEPA or equivalent methods.

Should you have any questions or require additional information, please do not hesitate to contact us at (505) 632-0615.

Respectfully submitted,
Envirotech, Inc.

Christine M Walters

Christine M. Walters
Laboratory Coordinator / Environmental Scientist

enc.

CMW/cmw

C:/files/labreports/Giant.wpd

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Hydroblast Comp.	Date Reported:	09-01-04
Laboratory Number:	30341	Date Sampled:	08-31-04
Chain of Custody:	12882	Date Received:	08-31-04
Sample Matrix:	Soil	Date Analyzed:	09-01-04
Preservative:	Cool	Date Extracted:	09-01-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**97.4**	**1.8**
Toluene	**85.9**	**1.7**
Ethylbenzene	**105**	**1.5**
p,m-Xylene	**285**	**2.2**
o-Xylene	**149**	**1.0**
Total BTEX	**722**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**95 %**
	1,4-difluorobenzene	**95 %**
	Bromochlorobenzene	**95 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Tank 36 Comp.	Date Reported:	09-01-04
Laboratory Number:	30342	Date Sampled:	08-31-04
Chain of Custody:	12882	Date Received:	08-31-04
Sample Matrix:	Soil	Date Analyzed:	09-01-04
Preservative:	Cool	Date Extracted:	09-01-04
Condition:	Cool & Intact	Analysis Requested:	BTEX

Parameter	Concentration (ug/Kg)	Det. Limit (ug/Kg)
Benzene	**11.3**	**1.8**
Toluene	**14.6**	**1.7**
Ethylbenzene	**14.0**	**1.5**
p,m-Xylene	**50.1**	**2.2**
o-Xylene	**58.8**	**1.0**
Total BTEX	**149**	

ND - Parameter not detected at the stated detection limit.

Surrogate Recoveries:	Parameter	Percent Recovery
	Fluorobenzene	**95 %**
	1,4-difluorobenzene	**95 %**
	Bromochlorobenzene	**95 %**

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021
AROMATIC VOLATILE ORGANICS

Client:	N/A	Project #:	N/A
Sample ID:	09-01-BTEX QA/QC	Date Reported:	09-01-04
Laboratory Number:	30341	Date Sampled:	N/A
Sample Matrix:	Soil	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-01-04
Condition:	N/A	Analysis:	BTEX

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff. Accept. Range 0 - 15%	Blank Conc	Detect. Limit
Benzene	2.8990E-001	2.9077E-001	0.3%	ND	0.2
Toluene	2.5460E-002	2.5511E-002	0.2%	ND	0.2
Ethylbenzene	3.8451E-002	3.8567E-002	0.3%	ND	0.2
p,m-Xylene	3.2988E-002	3.3088E-002	0.3%	ND	0.2
o-Xylene	3.3333E-002	3.3400E-002	0.2%	ND	0.1

Duplicate Conc. (ug/Kg)	Sample	Duplicate	%Diff.	Accept Range	Detect. Limit
Benzene	97.4	96.2	1.2%	0 - 30%	1.8
Toluene	85.9	84.2	2.0%	0 - 30%	1.7
Ethylbenzene	105	102	2.0%	0 - 30%	1.5
p,m-Xylene	285	281	1.2%	0 - 30%	2.2
o-Xylene	149	147	1.2%	0 - 30%	1.0

Spike Conc. (ug/Kg)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Range
Benzene	97.4	50.0	147	99.9%	39 - 150
Toluene	85.9	50.0	135	99.6%	46 - 148
Ethylbenzene	105	50.0	154	99.8%	32 - 160
p,m-Xylene	285	100	384	99.8%	46 - 148
o-Xylene	149	50.0	198	99.7%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: **QA/QC for samples 30341 - 30342, 30345.**

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Hydroblast Comp.	Date Reported:	09-01-04
Laboratory Number:	30341	Date Sampled:	08-31-04
Chain of Custody No:	12882	Date Received:	08-31-04
Sample Matrix:	Soil	Date Extracted:	09-01-04
Preservative:	Cool	Date Analyzed:	09-01-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**57.2**	**0.2**
Diesel Range (C10 - C28)	**244**	**0.1**
Total Petroleum Hydrocarbons	**301**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Tank 36 Comp.	Date Reported:	09-01-04
Laboratory Number:	30342	Date Sampled:	08-31-04
Chain of Custody No:	12882	Date Received:	08-31-04
Sample Matrix:	Soil	Date Extracted:	09-01-04
Preservative:	Cool	Date Analyzed:	09-01-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

Parameter	Concentration (mg/Kg)	Det. Limit (mg/Kg)
Gasoline Range (C5 - C10)	**85.1**	**0.2**
Diesel Range (C10 - C28)	**266**	**0.1**
Total Petroleum Hydrocarbons	**351**	**0.2**

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments:

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	09-01-TPH QA/QC	Date Reported:	09-01-04
Laboratory Number:	30341	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	09-01-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF:	C-Cal RF:	% Difference	Accept. Range
Gasoline Range C5 - C10	02-19-04	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	02-19-04	1.5507E-002	1.5492E-002	0.10%	0 - 15%

Blank Conc. (mg/L - mg/Kg)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

Duplicate Conc. (mg/Kg)	Sample	Duplicate	% Difference	Accept. Range
Gasoline Range C5 - C10	57.2	57.0	0.3%	0 - 30%
Diesel Range C10 - C28	244	243	0.3%	0 - 30%

Spike Conc. (mg/Kg)	Sample	Spike Added	Spike Result	% Recovery	Accept. Range
Gasoline Range C5 - C10	57.2	250	307	99.8%	75 - 125%
Diesel Range C10 - C28	244	250	493	99.8%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: **QA/QC for samples 30341 - 30345.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Hydroblast Comp.	Date Reported:	09-01-04
Lab ID#:	30341	Date Sampled:	08-31-04
Sample Matrix:	Soil	Date Received:	08-31-04
Preservative:	Cool	Date Analyzed:	09-01-04
Condition:	Cool and Intact	Chain of Custody:	12882

Parameter	Result	
IGNITABILITY:	**Negative**	
CORROSIVITY:	**Negative**	**pH = 7.43**
REACTIVITY:	**Negative**	

RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
IGNITABILITY:	Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. *(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)*
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. *(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)*
REACTIVITY:	Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. *(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)*

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments:

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

SUSPECTED HAZARDOUS WASTE ANALYSIS

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Tank 36 Comp.	Date Reported:	09-01-04
Lab ID#:	30342	Date Sampled:	08-31-04
Sample Matrix:	Soil	Date Received:	08-31-04
Preservative:	Cool	Date Analyzed:	09-01-04
Condition:	Cool and Intact	Chain of Custody:	12882

Parameter	Result	
IGNITABILITY:	**Negative**	
CORROSIVITY:	**Negative**	**pH = 7.69**
REACTIVITY:	**Negative**	

RCRA Hazardous Waste Criteria

Parameter	Hazardous Waste Criterion
IGNITABILITY:	Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. *(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)*
CORROSIVITY:	Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. *(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)*
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Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments:

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL ANALYSIS

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Hydroblast Comp.	Date Reported:	09-02-04
Laboratory Number:	30341	Date Sampled:	08-31-04
Chain of Custody:	12882	Date Received:	08-31-04
Sample Matrix:	TCLP Extract	Date Analyzed:	09-02-04
Preservative:	Cool	Date Extracted:	09-01-04
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	**0.002**	**0.001**	**5.0**
Barium	**0.068**	**0.001**	**100**
Cadmium	**ND**	**0.001**	**1.0**
Chromium	**0.001**	**0.001**	**5.0**
Lead	**ND**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**ND**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL ANALYSIS

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Tank 36 Comp.	Date Reported:	09-02-04
Laboratory Number:	30342	Date Sampled:	08-31-04
Chain of Custody:	12882	Date Received:	08-31-04
Sample Matrix:	TCLP Extract	Date Analyzed:	09-02-04
Preservative:	Cool	Date Extracted:	09-01-04
Condition:	Cool & Intact	Analysis Needed:	TCLP metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	Regulatory Level (mg/L)
Arsenic	**0.003**	**0.001**	**5.0**
Barium	**0.073**	**0.001**	**100**
Cadmium	**ND**	**0.001**	**1.0**
Chromium	**0.001**	**0.001**	**5.0**
Lead	**ND**	**0.001**	**5.0**
Mercury	**ND**	**0.001**	**0.2**
Selenium	**ND**	**0.001**	**1.0**
Silver	**ND**	**0.001**	**5.0**

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, December 1996.

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission SW-846, USEPA. December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, August 24, 1998.

Comments:

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 1311
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
TRACE METAL ANALYSIS
Quality Assurance Report

Client:	N/A	Project #:	N/A
Sample ID:	09-02-TCM QA/QC	Date Reported:	09-02-04
Laboratory Number:	30341	Date Sampled:	N/A
Sample Matrix:	TCLP Extract	Date Received:	N/A
Analysis Requested:	TCLP Metals	Date Analyzed:	09-02-04
Condition:	N/A	Date Extracted:	09-01-04

Blank & Duplicate Conc. (mg/L)	Instrument Blank	Method Blank	Detection Limit	Sample	Duplicate	% Difference	Acceptance Range
Arsenic	ND	ND	0.001	0.002	0.002	0.0%	0% - 30%
Barium	ND	ND	0.001	0.068	0.067	1.5%	0% - 30%
Cadmium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Chromium	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Lead	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.002	0.502	100.0%	80% - 120%
Barium	0.500	0.068	0.566	99.6%	80% - 120%
Cadmium	0.500	ND	0.500	100.0%	80% - 120%
Chromium	0.500	0.001	0.501	100.0%	80% - 120%
Lead	0.500	ND	0.499	99.8%	80% - 120%
Mercury	0.050	ND	0.050	100.0%	80% - 120%
Selenium	0.500	ND	0.499	99.8%	80% - 120%
Silver	0.500	ND	0.499	99.8%	80% - 120%

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, Dec. 1996

Methods 3010, 3020, Acid Digestion of Aqueous Samples and Extracts for Total Metals, SW-846, USEPA, December 1996.

Methods 6010B Analysis of Metals by Inductively Coupled Plasma-Atomic Emission, SW-846, USEPA, December 1996.

Comments: **QA/QC for sample 30341 - 30342.**

Analyst

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

FLASH POINT ANALYSIS

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Hydroblast Comp.	Date Reported:	09-01-04
Lab ID#:	30341	Date Sampled:	08-31-04
Sample Matrix:	Soil	Date Received:	08-31-04
Preservative:	Cool	Date Analyzed:	09-01-04
Condition:	Cool & Intact	Chain of Custody:	12882

Parameter	Result
FLASH POINT	**> 350° C**

Reference: Method 1010, Pensky-Metrens Closed-Cup Method For Determining Flash Point. SW846, USEPA September 1986.

Comments:

Analyst

Review

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ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

FLASH POINT ANALYSIS

Client:	Giant Refinery	Project #:	96012-009
Sample ID:	Tank 36 Comp.	Date Reported:	09-01-04
Lab ID#:	30342	Date Sampled:	08-31-04
Sample Matrix:	Soil	Date Received:	08-31-04
Preservative:	Cool	Date Analyzed:	09-01-04
Condition:	Cool & Intact	Chain of Custody:	12882

Parameter	Result
FLASH POINT	**> 350° C**

Reference: Method 1010, Pensky-Metrens Closed-Cup Method For Determining Flash Point. SW846, USEPA September 1986.

Comments:

Analyst

Review

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CHAIN OF CUSTODY RECORD

12882

Client / Project Name	Project Location
Giant Refining	~~Tank 36~~
Sampler:	Client No. 96012-009

Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	8015 TPH	RCI	TCLP Metals	BTEX	Flash Point		Remarks
Hydroblast Comp	8/31/04	14:15	30341	Soil	1	✓	✓	✓	✓	✓		
Tank 36 Comp	8/31/04	14:00	30342	Soil	1	✓	✓	✓	✓	✓		

ANALYSIS / PARAMETERS

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	8/31/04	14:40	[signature]	8/31/04	14:40
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received by: (Signature)		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt	Y	N	N/A
Received Intact	✓		
Cool - Ice/Blue Ice	✓		

Price, Wayne

From: Price, Wayne
Sent: Friday, August 27, 2004 11:57 AM
To: 'Randy Schmaltz'; Price, Wayne
Cc: Foust, Denny; Ed Riege; Chad King; Cindy Hurtado; Hope Monzeglio (E-mail)
Subject: RE: Material Handling

OCD hereby approves of the plan with the following conditions:

Any material that exceeds OCD's guidelines for leaks and spills shall be approved before being placed for plant usage.

Please be advised that NMOCD approval of this plan does not relieve (Giant) of liability should their operations fail to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD approval does not relieve (Giant) of responsibility for compliance with any other federal, state, or local laws and/or regulations.

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Friday, August 27, 2004 11:30 AM
To: 'Wayne Price'
Cc: 'Denny Foust'; Ed Riege; Chad King; Cindy Hurtado
Subject: Material Handling

Wayne, in follow up to our phone conversation I have enclosed Giant's proposal for the handling of the release material.
<<Release N. MW #45 Waste.doc>>
Thanks Randy

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, New Mexico 87505

August 27, 2004

Re: **Release North of Monitoring Well #45**

Dear Mr. Price,

Giant Refining Company – Bloomfield Refinery submits the following proposal for the handling and final disposition of the soil removed from the release North of Monitoring Well #45.

Giant will take composite samples of the staging piles and have them analyzed by Method 6010C (RCRA 8 Metals) TCLP, Reactivity, Corrosivity, and Ignitability.

The results of the samples will determine where this material will go. Material within land farm limits will be sent to Giant's Mid-Continental land farm. Material that does not possess any of the Hazardous Characteristics will be utilized on site.

If you need more information, please contact me at (505) 632-4171.

Sincerely,

Randy Schmaltz
Environmental Supervisor
Giant Refining Company – Bloomfield

Cc: Denny Foust, New Mexico Oil Conservation Division – Aztec
Chad King
Ed Riege
Cindy Hurtado

Price, Wayne

From: Price, Wayne
Sent: Tuesday, August 24, 2004 9:26 AM
To: Randy Schmaltz (E-mail)
Cc: Foust, Denny
Subject: Progress reports

Dear Randy, you may reduce your report to use to weekly if you so desire. However, please keep a daily log. Also make sure you notify Denny of any major work to be started.

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

Release North of MW#45 Progress Report

Daily Progress

Friday, August 20, 2004

Not much change in activities today. We continued to excavate impacted soil. Approximately 70 cubic yards of soil removed.

Release North of MW#45 Progress Report

Daily Progress

Tuesday August 17, 2004

Most of the day was spent redoing the containment liner at the mouth of the release. The sidewall was unstable causing sloughing. The liner was remove the sidewall scaled back and a new liner reinstalled. A second excavator was brought in and began work establishing a transfer point that will be used to relay the impacted soil out of the draw. It will take two excavators to lift the impacted soil out of the draw. The first excavator will lift the material up to the transfer point, with the second excavator taking the material from the transfer point to the haul trucks. Our target is to have the transfer point down and ready for use tomorrow.

Price, Wayne

From: Cindy Hurtado [churtado@giant.com]
Sent: Wednesday, August 18, 2004 7:16 AM
To: 'wprice@state.nm.us'
Cc: Randy Schmaltz
Subject: Soil Analysis

Wayne,
We are currently analyzing soil per the Emergency Action Directive that you sent on 8-13-04. The lab called me yesterday with some questions. There is some confusion as to how the WQCC metals pertain to soil analysis. Are there specific metals you want to know about and what are their limits? Also, please specify what General Chemistry parameters you would like us to analyze for.
Thanks,
Cindy Hurtado

Giant Bloomfield Refinery
Monitoring and Contingency Plan
Prepared August 2004

River Sampling: The river will be sampled at the mouth of the draws on a monthly basis and analyzed for BTEX/MTBE (8021), TPH (8015 DRO and GRO), WQCC metals, semi-volatiles organics (8270) and general chemistry. After four months of sampling and no evidence of pollutants the sampling frequency will be reduced to quarterly.

Monitoring of the draws: All draws will be inspected every other week for visual hydrocarbon staining.

Record Keeping: Records of monitoring and sampling will be kept onsite and available for inspection. A recap summarizing all events will be submitted to OCD in the annual report. Any new discovery of hydrocarbon will require immediate reporting.

Immediate containment and corrective actions to be taken in the event of a release to the river: In the event of a release to the river containment booms will be deployed on the river to contain the release. The earthen containment structures will be constructed at the point of release. Downstream containment booms will be deployed in the event the release gets out side of the immediate containment.

Emergency Resources:

- 1- 100 foot floating containment boom.
- 1- 75 foot floating containment boom
- Various sizes of absorbent pads
- Vacuum truck
- Backhoe

Outside Contractors:

- Envirotech – Morgan Killion (work) 632-0615, (cell) 320-1436, (home) 324-8465
- Envirotech – Morris Young (work) 632-0615.
- Riley Industrial Services – George Riley 327-4947.
- Key Energy – 327-0416, (24 hr dispatch) 325-6892.

Emergency notification: In the event of a release to the river, the Bloomfield Refinery will notify the following agencies and water users pursuant to OCD Rule 116 and WQCC 1203:

- Denny Foust, OCD Aztec, 334-6178.
- Wayne Price, OCD Santa Fe, 476-3487.
- William Olson, OCD Santa Fe, 476-3491
- Dave Cobrain, NMED Santa Fe, 428-2553
- Hope Monzeglio, NMED Santa Fe, 428-2545
- Robert Wilkinson, EPA Dallas Tex. (214) 665-8316

Downstream Water Users

- Lower Valley Water Users Cooperative Association, (emergency) 598-5175
- BHP 598-4200
- PNM, San Juan Generating Station 598-7200
- Williams Field Service, (24 hr emergency) 632-4600

Price, Wayne

From: Hope Monzeglio [hope_monzeglio@nmenv.state.nm.us]
Sent: Friday, August 13, 2004 3:24 PM
To: David Cobrain
Cc: Wayne Price
Subject: Bloomfield

Dave

Wayne is going to send out an email probably next week. Here is a summary of what should be in the email. Wayne has this information just in a different format. Thanks Wayne

As discussed and agreed upon in the August 11, 2004 meeting, the following modifications shall be implemented during the semi-annual August 2004 groundwater sampling event.

1. All monitoring and recovery wells shall be sampled unless product is present in the well. All recovery wells shall be turned off 24 hours prior to the sampling event. All water and product levels shall be measured and recorded. If two hundredths (.02) of product is present in a well, a water sample shall be collected.

2. Giant shall analyze all groundwater samples for BTEX & MTBE using EPA Method 8021B, RCRA 8 total Metals, Dissolved WQCC Metals, and General Chemistry.

3. Giant shall collect oil samples from the following locations: MW-47 and RW-17 and run a hydrocarbon fingerprint. The storm water outfall # 2 and East Outfall #1 should also be sampled for oil and hydrocarbon fingerprinted if a sample can be obtained.

4. Giant shall provide isopleth maps for BTEX and MTBE to include detected concentrations at the sampled monitoring and recovery wells.

5. Giant shall provide a report and sampling results..... to OCD, NMED HWB, and EPA within .....days of the completion of field activities.

6. Giant shall set up an oil recovery operation at MW-47.

7. Giant shall speak with the owner of the gravel pits and try to receive permission from owners to install a monitoring well near poles. (flesh surface and traffic vault)

Not sure if we want to address these issue in the email or wait for the discharge/order: the extra load to the waste water system and collection of effluent sample from Tank 38 or 33 that enters the raw water ponds. If samples exceeds WQCC regs Giant must treat the water before it enters the raw water ponds.

Have a good weekend.

Hope

Price, Wayne

From: Hope Monzeglio [hope_monzeglio@nmenv.state.nm.us]
Sent: Friday, August 13, 2004 3:24 PM
To: David Cobrain
Cc: Wayne Price
Subject: Bloomfield

Dave

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Have a good weekend.

Hope

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

August 13, 2004

Mr. Randy Schmaltz
Environmental Manager
San Juan Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Re: ***EMERGENCY ACTION DIRECTIVE***
Discharge Permit GW-01
Giant Bloomfield Refinery

Dear Mr. Schmaltz:

On August 11, 2004, New Mexico Oil Conservation Division (OCD) employees Bill Olson, Wayne Price and Denny Foust discovered active discharges of hydrocarbon in two small tributaries (draws) on the north side of the refinery. Hydrocarbon stained soil and dead vegetation was noted during inspection of the draws. The contamination was noted to have migrated down the draws to within a few feet of the San Juan River. In addition, a new seep was noted in the embankment at the Hammond Ditch tank 37-collection area.

OCD hereby orders Giant to immediately implement all actions necessary to prevent any pollution from entering into the San Juan River. The following actions shall be taken immediately:

1. Barriers shall be constructed in each tributary to prevent oil from migrating into the river during surface runoff events.

2. Giant shall remove all visually contaminated soils in the draw areas. Representative soil samples shall be collected before and after the removal actions. The soil samples shall be analyzed for TPH (8015 DRO and GRO), BTEX/MTBE (8021), WQCC metals and General Chemistry.

3. Giant shall begin oil recovery operations in Monitor Well MW-45. Giant shall collect oil samples and run a hydrocarbon fingerprint to determine the source of the contamination.

4. Giant shall investigate the vertical and horizontal extent of the contamination in the draw areas.

5. Giant shall install a collection and barrier system at the point of the seeps to prevent further oil migration. Any collection sumps shall be lined.

6. Giant shall immediately implement a monitoring and contingency plan along the entire length of the river and all tributaries within ¼ mile of Giant's property lines. The plan shall include routine water sampling near the mouth of the draws, monitoring the draws for visual hydrocarbon staining, record keeping, immediate containment and corrective actions to be taken in the event of a release to the river, equipment required, and emergency notifications to downstream water users and appropriate agencies in the event that oil enters the river. A written copy of the plan shall be provided by August 17, 2004.

7. Giant shall collect river water samples immediately at the upstream side of the refinery and the mouth of each draw. Samples shall be analyzed for BTEX/MTBE (8021), TPH (8015 DRO and GRO), WQCC metals, semi-volatiles organics (8270) and General Chemistry.

8. All waste generated shall be disposed of at an approved OCD site.

9. Giant shall submit daily reports with photos to the OCD District and Santa Fe offices by E-mail until OCD determines emergency actions are completed.

If you have any questions, please contact Wayne Price of my staff at (505-476-3487).

Sincerely,

for Roger C. Anderson
Environmental Bureau Chief

RCA/lwp

cc: OCD Aztec Office
Dave Cobrain-NMED Hazardous Waste Bureau
Bob Wilkinson-EPA Region VI

Communication Record

Meeting: 8/11/04 at Giant Refining Company Bloomfield

Attendence: NMED: Hope Monzeglio, Dave Cobrain, John Kieling
OCD: Wayne Price, Bill Olson, Denny Foust
EPA: Bob Wilkinson
Giant: Randy Schmaltz, Ed Riege, Cindy Hurtado (end of day Plant Manager Ched King)
Precision Engineering: Bill Kingsley

Subject: – Ground Water Monitoring Plan, address product breakthrough.

Areas addressed/Conversations

-Presentation by Bill Kingsley: addressed installation of soil borings during a November and July investigation. Borings were to identify the depth of the Nacimiento Formation and contour of the land (low and high spots or trough) along Hammond Ditch. Location of MW-45 is in a so called low spot and MW-46 high spot. Nacimiento slopes to the north. Bill feels product is appearing due to the loss of hydrologic barrier in the Hammond Ditch.

- The El Paso Pipeline was addressed: Giant is unsure of the pipeline depth and which is anywhere from 5' to 20' below surface. The oil/gas companies are not disclosing much information.

-East outfall # 1 possible sources of hydrocarbons are thought to result from the tank farm or product running down pipeline. There was also bad tank in the past that leaked. There is thought to be another "low" point following the pipeline north.

-Randy mentioned a major spill in 2000 near MW-24 and RW-9 in trough area.

-Randy mentioned earlier in year that Giant discovered sewer damage in area near FCC /gason unit. It has been repaired.

-Gravel pits were addressed, the owner has been reluctant to allow a monitoring well on their property

-Giant is currently utilizing Recovery Wells RW-22, RW-23, RW-9, RW-28, RW-18, RW-1, RW-19, RW-42, RW-2, RW-17, RW-16, RW-15, RW-14, and RW-43. RW-43 is not recovering much product. RW-3 is not in service.

-Giant has two collection galleries, east and west. They are recovering from the West Collection Gallery and the east collection gallery is clean.

-OCD is going to hold off on the discharge plan until Giant receives results of August 2004 sampling event. OCD will set a time frame for Giant in which they must have a report and results to OCD.

-Aeration ponds did not appear to be aerating very much. Not sure if they have enough volume/flow rate or horsepower. Check with Wayne about recent influent data into the injection well to help identify if aeration ponds are working.

-Discharge plan – maps need to include the location of all the outfalls

NMED & OCD Proposal (Comments)

1. The August 16, 2004 Sampling Event shall sample all monitoring and recovery wells unless product is present. All recovery wells shall be turned off 24 hours prior to sampling. If product is present, product levels shall be measured.

2. All samples shall be analyzed for BTEX & MTBE EPA Method 8021B, RCRA 8 total metals, Dissolved WQCC, and General Chemistry.

3. Fingerprinting of separate phase hydrocarbons (SPH); samples shall be collected from MW-45, MW-47, RW-17, storm water pond outfall 2, and East Outfall # 1 if a sample can be obtained depending on the amount of water.

4. OCD – provide time frame in which Giant shall provide sampling results and a report, OCD will then provide the discharge plan.

5. Giant shall provide isopleth maps for BTEX, MTBE

6. Giant shall talk to owner of gravel pits and see if they can install a monitoring well near the poles. (flesh surface and traffic rated vault)

7. Giant shall set up some type of recovery system at MW-45 and MW-47. Recovery efforts shall begin immediately at MW-45. (interim measures, running a line to tank 37, bail down test, Wayne pump you mentioned ?interface probe) Wayne you stated you want cumulative data of product recovery.

8. Giant shall collect sample from Tank 38/east outfall # 1 prior to entering into raw water ponds. If exceed WQCC, Giant shall treat the water before it enters raw water ponds. (set up stripper?)

9. NMED, OCD, EPA require immediate action (ER) to the surface release found NW side of RW-45 (of the bluff). Giant shall submit documentation of the release to EPA Bob Wilkinson. Recommend soil excavation, recovery of product from MW-45, find source of contamination and stop it, implement a barrier..... Soil samples shall be collected from the surface spill area. This needs to be

addressed before it becomes NPDES problem. Giant shall be in contact with Denny Foust with OCD out of the Aztec Office.

10. Denny prefers emails to be sent as word document.

Price, Wayne

From: Price, Wayne
Sent: Friday, August 13, 2004 11:58 AM
To: Randy Schmaltz (E-mail); Ed Rigie (E-mail)
Cc: Chavez, Frank; Foust, Denny; Anderson, Roger; Olson, William; Dave Cobrain (E-mail); 'wilkinson.robert@epa.gov'
Subject: Giant Bloomfield Refinery-Emergency Action Directive

Went out today!!


Emergency action directive Aug...

Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

August 13, 2004

Mr. Randy Schmaltz
Environmental Manager
San Juan Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

Re: ***EMERGENCY ACTION DIRECTIVE***
Discharge Permit GW-01
Giant Bloomfield Refinery

Dear Mr. Schmaltz:

On August 11, 2004, New Mexico Oil Conservation Division (OCD) employees Bill Olson, Wayne Price and Denny Foust discovered active discharges of hydrocarbon in two small tributaries (draws) on the north side of the refinery. Hydrocarbon stained soil and dead vegetation was noted during inspection of the draws. The contamination was noted to have migrated down the draws to within a few feet of the San Juan River. In addition, a new seep was noted in the embankment at the Hammond Ditch tank 37-collection area.

OCD hereby orders Giant to immediately implement all actions necessary to prevent any pollution from entering into the San Juan River. The following actions shall be taken immediately:

1. Barriers shall be constructed in each tributary to prevent oil from migrating into the river during surface runoff events.

2. Giant shall remove all visually contaminated soils in the draw areas. Representative soil samples shall be collected before and after the removal actions. The soil samples shall be analyzed for TPH (8015 DRO and GRO), BTEX/MTBE (8021), WQCC metals and General Chemistry.

3. Giant shall begin oil recovery operations in Monitor Well MW-45. Giant shall collect oil samples and run a hydrocarbon fingerprint to determine the source of the contamination.

4. Giant shall investigate the vertical and horizontal extent of the contamination in the draw areas.

5. Giant shall install a collection and barrier system at the point of the seeps to prevent further oil migration. Any collection sumps shall be lined.

6. Giant shall immediately implement a monitoring and contingency plan along the entire length of the river and all tributaries within ¼ mile of Giant's property lines. The plan shall include routine water sampling near the mouth of the draws, monitoring the draws for visual hydrocarbon staining, record keeping, immediate containment and corrective actions to be taken in the event of a release to the river, equipment required, and emergency notifications to downstream water users and appropriate agencies in the event that oil enters the river. A written copy of the plan shall be provided by August 17, 2004.

7. Giant shall collect river water samples immediately at the upstream side of the refinery and the mouth of each draw. Samples shall be analyzed for BTEX/MTBE (8021), TPH (8015 DRO and GRO), WQCC metals, semi-volatiles organics (8270) and General Chemistry.

8. All waste generated shall be disposed of at an approved OCD site.

9. Giant shall submit daily reports with photos to the OCD District and Santa Fe offices by E-mail until OCD determines emergency actions are completed.

If you have any questions, please contact Wayne Price of my staff at (505-476-3487).

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/lwp

cc: OCD Aztec Office
Dave Cobrain-NMED Hazardous Waste Bureau
Bob Wilkinson-EPA Region VI

Price, Wayne

From: Foust, Denny
Sent: Friday, August 13, 2004 7:50 AM
To: Price, Wayne; Fesmire, Mark; Anderson, Roger
Cc: Olson, William; Chavez, Frank
Subject: RE: Giant Bloomfield Refinery

Randy Schmaltz and I have agreed on a treatment program utilizing 50% hydrogen peroxide solution as an oxidizer. Giant has dammed the arroyo neat the mouth and is removing vegetation, today they should give the area which is contaminated to 4"/6" a surface treatment followed by tilling in about 3 days then another treatment every three or four day period until remediation standards are met. Do we need any initial samples for BTEX or MTE?

NO - per RCA

-----Original Message-----
From: Price, Wayne
Sent: Thursday, August 12, 2004 10:21 AM
To: Fesmire, Mark; Anderson, Roger
Cc: Olson, William; Chavez, Frank; Foust, Denny
Subject: Giant Bloomfield Refinery

Dear Mark, Roger and Frank:

Yesterday OCD, EPA and the NMED held a joint discharge plan and corrective action technical meeting and inspection concerning groundwater contamination at the Giant Bloomfield refinery which is located in close proximity to the San Juan river. During our inspection phase of the trip Bill Olson found an area where hydrocarbons are seeping out of the face of the bluff past the recovery and monitoring system. I have attached some photos for reference. The contamination appears to go all the way to the river. We instructed Giant to take immediate emergency actions and provide us a daily report. Any sort of rainfall will most likely cause the contamination to enter the river.
We are going to issue a Notice of Violation today. Roger indicated the issue of a fine should be discussed with the District and the Environmental Bureau.

Picture 2154: Looking SE refinery in background MW-45 is in this area has five feet of product noted recently.
2156: Looking west. Draw to the left has had product seeping out of the ground. It travels all the way to the river bank.
2157 Picture looking down into draw.
2158: Closer to the River (app 50 feet)
2164: Looking back up the draw.
2171: Standing east of where draw with visible contamination was noted.

<< File: DCP02154.JPG >> << File: DCP02156.JPG >> << File: DCP02157.JPG >> << File: DCP02158.JPG >> << File: DCP02164.JPG >> << File: DCP02171.JPG >>
Sincerely:

Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505
505-476-3487
fax: 505-476-3462
E-mail: WPRICE@state.nm.us

Price, Wayne

From: Price, Wayne
Sent: Friday, August 13, 2004 4:25 PM
To: 'Randy Schmaltz'; Dave Cobrain; Price, Wayne; Olson, William; John Kieling; Hope Monzeglio; Robert Wilkinson
Subject: RE: Release North of Monitoring Well #45

Dear Randy: Your spill report should be amended to show that a watercourse was impacted. The draw or tributary by OCD definitions is a watercourse.

-----Original Message-----
From: Randy Schmaltz [mailto:rschmaltz@giant.com]
Sent: Friday, August 13, 2004 4:04 PM
To: Dave Cobrain; Wayne Price; William Olson; John Kieling; Hope Monzeglio; Robert Wilkinson
Subject: Release North of Monitoring Well #45

Here is a copy of the C-141 and some pictures that were sent as directed to Denny Foust, OCD Aztec. If you have any questions please feel free to call me at (505) 632-4171 or moblie (505) 632-6989.

<<MW 45 release C-141.doc>> <<Release North of Monitoring Well.doc>>

Thanks Randy

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised October 10, 2003

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR

X Initial Report (revised) Final Report

Name of Company: Giant Bloomfield Refinery – GW1	Contact: Randy Schmaltz
Address: # 50 CR. 4990, Bloomfield, New Mexico	Telephone No. (505) 632-4171
Facility Name: Giant-San Juan Refinery Bloomfield	Facility Type: Oil Refinery

Surface Owner: Giant Industries, Inc.	Mineral Owner	Lease No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County:
NW/4SW/4	26	29 North	11 west	2442	South	1250	East	San Juan

Latitude_____ **Longitude**_____

NATURE OF RELEASE

Type of Release: Release	Volume of Release: Liquid volume unknown, 100 yds impacted soil.	Volume Recovered: to be determined
Source of Release: Groundwater plume liquid – Hydrocarbon and water	Date and Hour of Occurrence: Sometime between March – August 2004	Date and Hour of Discovery: 8/11/2004 2:00 pm
Was Immediate Notice Given? XYes ☐ No ☐ Not Required	If YES, To Whom? Denny Foust, OCD Aztec, Wayne Price OCD, William Olson OCD, John Kieling NMED, Dave Cobrain NMED, Hope Monzeglio NMED, and Robert Wilkinson EPA.	
By Whom? James R. Schmaltz	Date and Hour: 8/11/2004 2:00 pm	
Was a Watercourse Reached? X Yes No	If YES, Volume Impacting the Watercourse. Liquid volume unknown, 100 yds impacted soil.	

If a Watercourse was Impacted, Describe Fully: The release occurred in a draw North of monitoring well #45. This draw continues north to the San Juan River. The release does not appear to have reached the waters of the San Juan River

Describe Cause of Problem and Remedial Action Taken: An apparent release of Groundwater plume liquid (hydrocarbon & water) was discovered in a draw directly north of monitoring well # 45. An earthen berm was constructed at the bottom edge of the draw where the area narrows to prevent migration of the release material and contain any storm water runoff.

Describe Area Affected and Cleanup Action Taken: Release material has been contained with an earthen berm. Monitoring well # 45 has been equipped with a recovery pump and groundwater liquids are being recovered. Vegetation is currently being removed in the effected area. Remediation will include the removal of all impacted soil. A containment structure will be constructed at the mouth of the seep area. This containment structure will be made of earthen materials covered with a HDPE liner. Successful remediation will be confirmed through soil sampling,

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION
Printed Name: James R. Schmaltz	Approved by District Supervisor:

Title: Environmental Supervisor	Approval Date:	Expiration Date:	
E-mail Address: rschmaltz@giant.com	Conditions of Approval:		Attached ☐
Date: 8/13/2004 Phone: (505) 632-4171			

* Attach Additional Sheets If Necessary

GIANT
REFINING COMPANY

RECEIVED

JUL 2 2 2004

OIL CONSERVATION DIVISION

July 20, 2004

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

Re: Information Needed November Soil Boring Investigation

Dear Ms. Monzeglio,

I have enclosed the following information as requested regarding Giant 's San Juan Refining – Bloomfield Refinery's Discharge Plan and the November drilling activities:

- I have enclosed a map identifying the eleven (11) soil boring locations. The number of soil borings was erroneously stated in the Executive Summary. Giant had contracted Precision Engineering to drill twelve borings, but SB10-1103 was not completed. During the drilling campaign the auger head was damaged preventing the completion of SB10-1103.

  The locations for the 2" hand slotted PVC are identified in the January 2004 maps in Plates 4 & 5 of the " Ground Water Remediation and Monitoring Annual Report" April 2004. These locations have also been identified on the enclosed map. For further reference SB8 = P-6, SB9 = P-7, SB7 = P-8, SB6 = P-9, SB11 = P-10, SB12 = P-11.

- No Samples (water nor soil) were taken on any of the borings. The purpose of the drilling was to investigate the elevations of the Naciemento Formation. Core samples were visually examined.

- SB10-1103, the drilling of this boring did not get completed due to damage of the auger head.

PHONE
505-632-8013
FAX
505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413

- No soil boring samples were sent in for laboratory analysis.

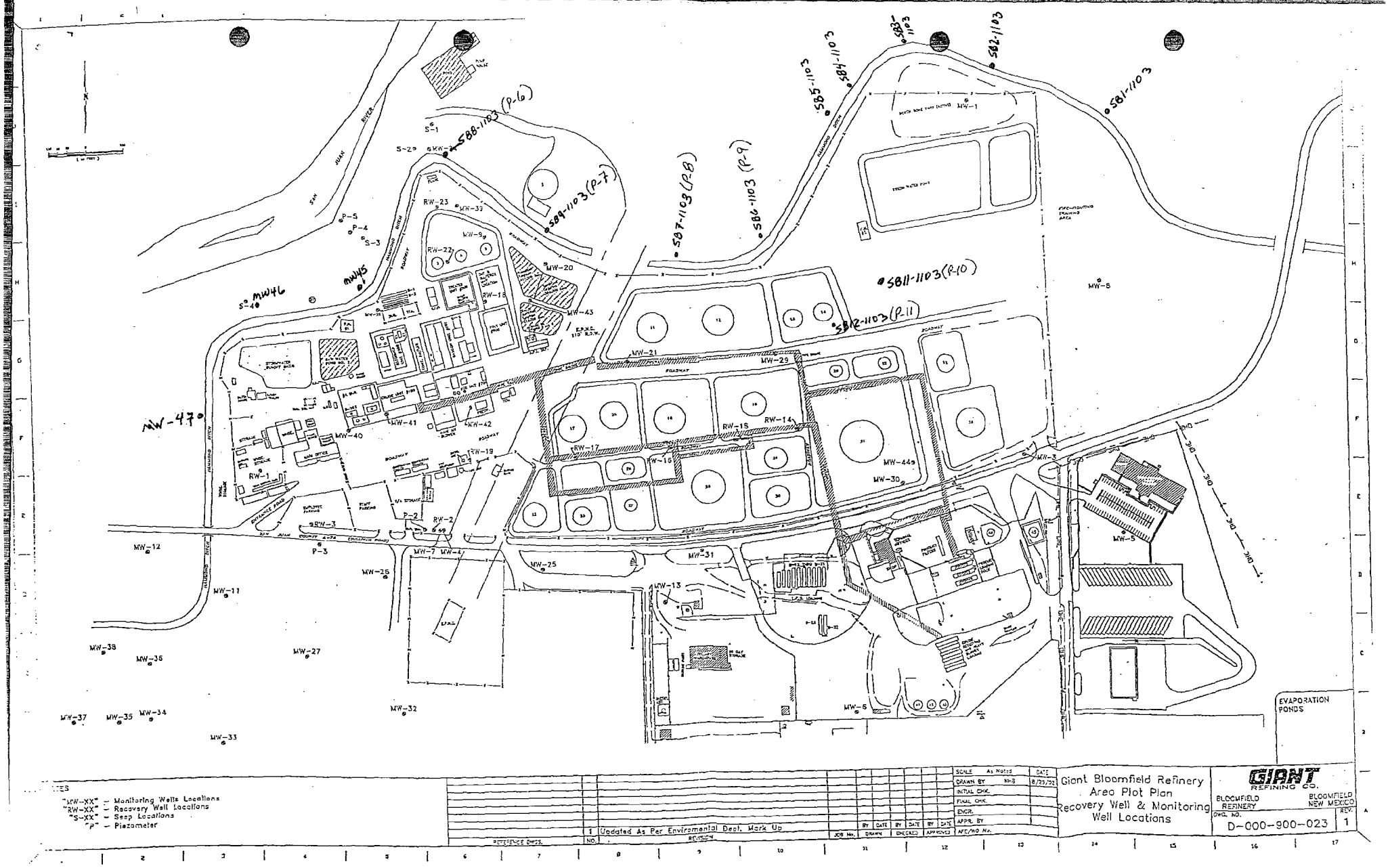
- Investigations continue to move forward in the groundwater remediation. Giant drilled eight more soil borings in July 2004. Preliminary results indicate that the hydraulic pressure on the ground water plume has dissipated since the lining of the Hammond Ditch. The loss of this hydraulic pressure is allowing the groundwater plume to migrate to the low spots in the Naciemento formation. There are indications that some of this water is getting under the French Drain recovery systems. Giant 's focus has been to identify these low areas, and insure the recovery efforts are strategically placed and concentrated on these areas.

If you have any questions please feel free to contact me at (505) 632-4171.

Sincerely,

James R. Schmaltz
Environmental Supervisor

Enc. Dave Cobrain, NMED
Wayne Price, OCD
William Olson, OCD
Denny Foust, OCD
Bob Wilkinson, EPA
Ed Riege, Giant
Chad King, Giant



NOTES

"MW-XX" – Monitoring Wells Locations
"RW-XX" – Recovery Well Locations
"S-XX" – Seep Locations
"P" – Piezometer

NO	REVISION	BY	DATE	BY	DATE	BY	DATE
1	Updated As Per Enviromental Dept. Mark Up						

REFERENCE DWGS.

		DATE
SCALE	As Noted	
DRAWN BY	NHB	8/23/92
INITIAL CHK.		
FINAL CHK.		
ENGR.		
APPR. BY		
JOB No.	AFE/WO No.	

Giant Bloomfield Refinery
Area Plot Plan
Recovery Well & Monitoring
Well Locations

GIANT REFINING CO.
BLOOMFIELD REFINERY — BLOOMFIELD NEW MEXICO
DWG. NO. D-000-900-023 — REV. 1

NOTICE OF PUBLICATION

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following discharge permit application(s) has been submitted to the Director of the Oil Conservation Division, 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

(GW-001) Giant Refining Company, Randy Schmaltz, P.O. Box 159, Bloomfield, New Mexico 87413, has submitted a renewal application for the previously approved discharge plan for its Bloomfield Petroleum Refinery located in the NW/4 NE/4 and the S/2 NE/4 and the N/2 NW/4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West, NMPM, San Juan County, New Mexico. The renewal application consist of methods and procedures for handling products, waste, waste water management, and site investigation/ abatement plans. Groundwater most likely to be affected by a spill, leak, or accidental discharge to the surface varies in depth from 10 feet to 30 feet with a total dissolved solids concentration of approximately 200 mg/l. The discharge plan addresses how spills, leaks, and other accidental discharges to the surface will be managed.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The discharge permit application and draft discharge permit may be viewed at the above address between 8:00 a.m. and 4:00 p.m., Monday through Friday. The draft discharge permit may also be viewed at OCD's web site http://www.emnrd.state.nm.us/ocd/. Prior to ruling on any proposed discharge permit or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed permit based on information available. If a public hearing is held, the director will approve or disapprove the proposed permit based on information in the permit and information submitted at the hearing.

GIVEN under the Seal of New Mexico Oil Conservation Commission at Santa Fe, New Mexico, on this 6th day of June 2004.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

S E A L

Mark Fesmire, Director

ACKNOWLEDGEMENT OF RECEIPT OF CHECK/CASH

I hereby acknowledge receipt of check No. [redacted] dated 5/27/0

or cash received on _____ in the amount of $ 100.00

from GIANT INDUSTRIES

for GIANT BLOOMFIELD REFINERY GW-01

(Facility Name) (DP No.)

Submitted by: WAYNE PRICE Date: 6/8/04

Submitted to ASD by: _____ Date: "

Received in ASD by: _____ Date: _____

Filing Fee X New Facility ___ Renewal ___

Modification ___ Other _____

(specify)

Organization Code 521.07 Applicable FY 2004

To be deposited in the Water Quality Management Fund.

Full Payment ___ or Annual Increment ___

[redacted]

GIANT INDUSTRIES ARIZONA, INC.
DBA GIANT REFINING COMPANY - BLOOMFIELD
P.O. BOX 159 PH. 632-8013
BLOOMFIELD, NM 87413

95-207/1022

DATE 5/27/04

PAY TO THE ORDER OF NMED - Water Quality Management $100.00

One hundred and no/100's DOLLARS

Security Features Included Details on Back.

Citizens Bank
Bloomfield Branch
320 West Broadway
Bloomfield, NM 87413

AMOUNTS OVER 500.00 REQUIRE COUNTER SIGNATURE

FOR Application Fee

[redacted]

MP

© PELLAS PDF

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Revised June 10, 2003

Submit Original
Plus 1 Copy
to Santa Fe
1 Copy to Appropriate
District Office

DISCHARGE PLAN APPLICATION FOR SERVICE COMPANIES,GAS PLANTS, REFINERIES, COMPRESSOR, GEOTHERMAL FACILITES AND CRUDE OIL PUMP STATIONS

(Refer to the OCD Guidelines for assistance in completing the application)

☐ New X Renewal ☐ Modification

1. Type: Petroleum Refinery

2. Operator: San Juan Refining Company – Giant Bloomfield Refinery

Address: 50 County Road 4990, Bloomfield NM. 87413 P.O. Box 159 Bloomfield NM. 87413

Contact Person: James R. Schmaltz Phone: (505) 632-4171

3. Location: NE/4 NE/4 and S/2 NW/4 and the N/2 NE/4 SE/4 of Section 27, and the S/2 NW/4 and the N/2 NW4 SW/4 and the SE/4 NW/4 SW/4 and the NE/4 SW/4 of Section 26, Township 29 North, Range 11 West.
Submit large scale topographic map showing exact location.

4. Attach the name, telephone number and address of the landowner of the facility site.
See existing Discharge Plan GW-01, (Nothing has changed).

5. Attach the description of the facility with a diagram indicating location of fences, pits, dikes and tanks on the facility.
See existing Discharge Plan GW-01, (Nothing has changed).

6. Attach a description of all materials stored or used at the facility.
See existing Discharge Plan GW-01, (Nothing has changed).

7. Attach a description of present sources of effluent and waste solids. Average quality and daily volume of waste water must be included.
See existing Discharge Plan GW-01, (Nothing has changed).

8. Attach a description of current liquid and solid waste collection/treatment/disposal procedures.
See existing Discharge Plan GW-01, (Nothing has changed).

9. Attach a description of proposed modifications to existing collection/treatment/disposal systems.
See existing Discharge Plan GW-01, (Nothing has changed).

10. Attach a routine inspection and maintenance plan to ensure permit compliance.
See existing Discharge Plan GW-01, (Nothing has changed).

11. Attach a contingency plan for reporting and clean-up of spills or releases.
See existing Discharge Plan GW-01, (Nothing has changed).

12. Attach geological/hydrological information for the facility. Depth to and quality of ground water must be included.
See existing Discharge Plan GW-01, (Additional information has been submitted in the 2002 "Site Investigation and Abatement Plan CMS").

13. Attach a facility closure plan, and other information as is necessary to demonstrate compliance with any other OCD rules, regulations and/or orders.
See existing Discharge Plan GW-01. (Nothing has changed.)

14. CERTIFICATION I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: James R. Schmaltz Title: Environmental Supervisor

Signature: James R Schmaltz Date: 5/26/2004

E-mail Address: rschmaltz@giant.com

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Thursday, May 27, 2004 9:42 AM
To: Wayne Price
Cc: Ed Riege
Subject: GW-01 Discharge Plan Renewal

Wayne, here is the electronic copy of the renewal application for "GW-01". I will follow it up with a hard copy and a check for the filing fee.
Thanks for your help.
Randy
<<GW-01 Renewal App.rtf>>

Price, Wayne

From: Randy Schmaltz [rschmaltz@giant.com]
Sent: Tuesday, May 04, 2004 4:12 PM
To: Wayne Price
Cc: William Olson; Dave Cobrain; Denny Foust; Ed Riege; Chad King; Cindy Hurtado
Subject: #2 Outfall (Storm Water Pond)


#2 Outfall letter.doc


Stormwater Outfall.jpg


Aerial Photo.doc


Storm Water Outfall.doc


SWO 1.JPG


SWO 2.JPG


SWO 3.JPG

Enclosed please find letter describing the conditions for #2 Outfall, as well as photos and maps to help you visualize the area.
Thanks Randy
<<#2 Outfall letter.doc>> <<Stormwater Outfall.jpg>> <<Aerial Photo.doc>>
<<Storm Water Outfall.doc>> <<SWO 1.JPG>> <<SWO 2.JPG>> <<SWO 3.JPG>>

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, New Mexico 87505

May 4, 2004

Re: **#2 Outfall (Storm Water Pond)**

Dear Mr. Price,

On May 3, 2004 Giant's San Juan Refining Company –Bloomfield Refinery confirmed a suspicion that minimal amounts of hydrocarbon were being transported into the #2 Outfall (Storm Water Pond).

Giant contacted Denny Foust (OCD) on May 3, 2004. Wayne Price, William Olson, (OCD) and Dave Cobrain (NMED-HWB) were contacted on May 4, 2004 to inform all parties of the existing conditions.

Giant had been watching the water contained in the #2 Outfall (Storm Water Pond) and noted a sheen on the water. This water is stagnate with a fair amount of decomposition taking place. Through continual observations it was suspected that this sheen was the result of petroleum and not natural decomposition and vegetation.

Giant used a track hoe to expose the south wall of the #2 Outfall confirming that water and minimal amounts of hydrocarbon were entering the area. Upon this confirmation Giant constructed an earthen dike to serve as a catch basin and segregate the seep entering the pond from the existing water.

The #2 Outfall is a large basin (75yds x 75yds x 16ft deep). By design storm water enters the basin from the southeast. Should this catch basin ever overflow there is an additional larger basin to the north.

Giant proposes as a temporary action to continue to expose the south wall of #2 Outfall in order to quantify the amount of seepage. A catch basin will be established along the exposed south wall and the separation dike will be upgraded. All liquids from the hydrocarbon-water catch basin will be returned to the plant API separator.

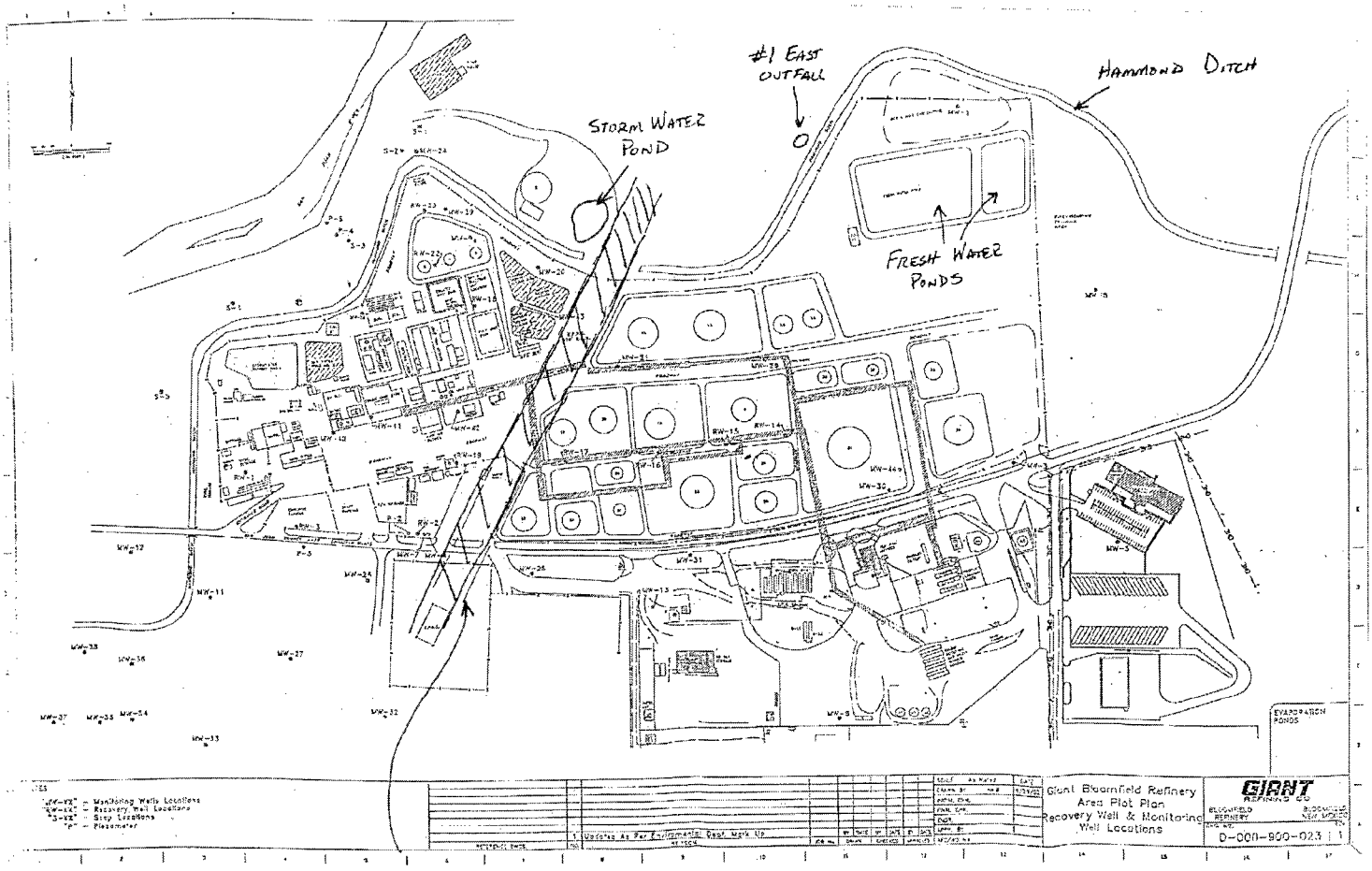
Giant will continue investigations and will keep the agencies informed of the findings.

If you need more information, please contact me at (505) 632-4171.

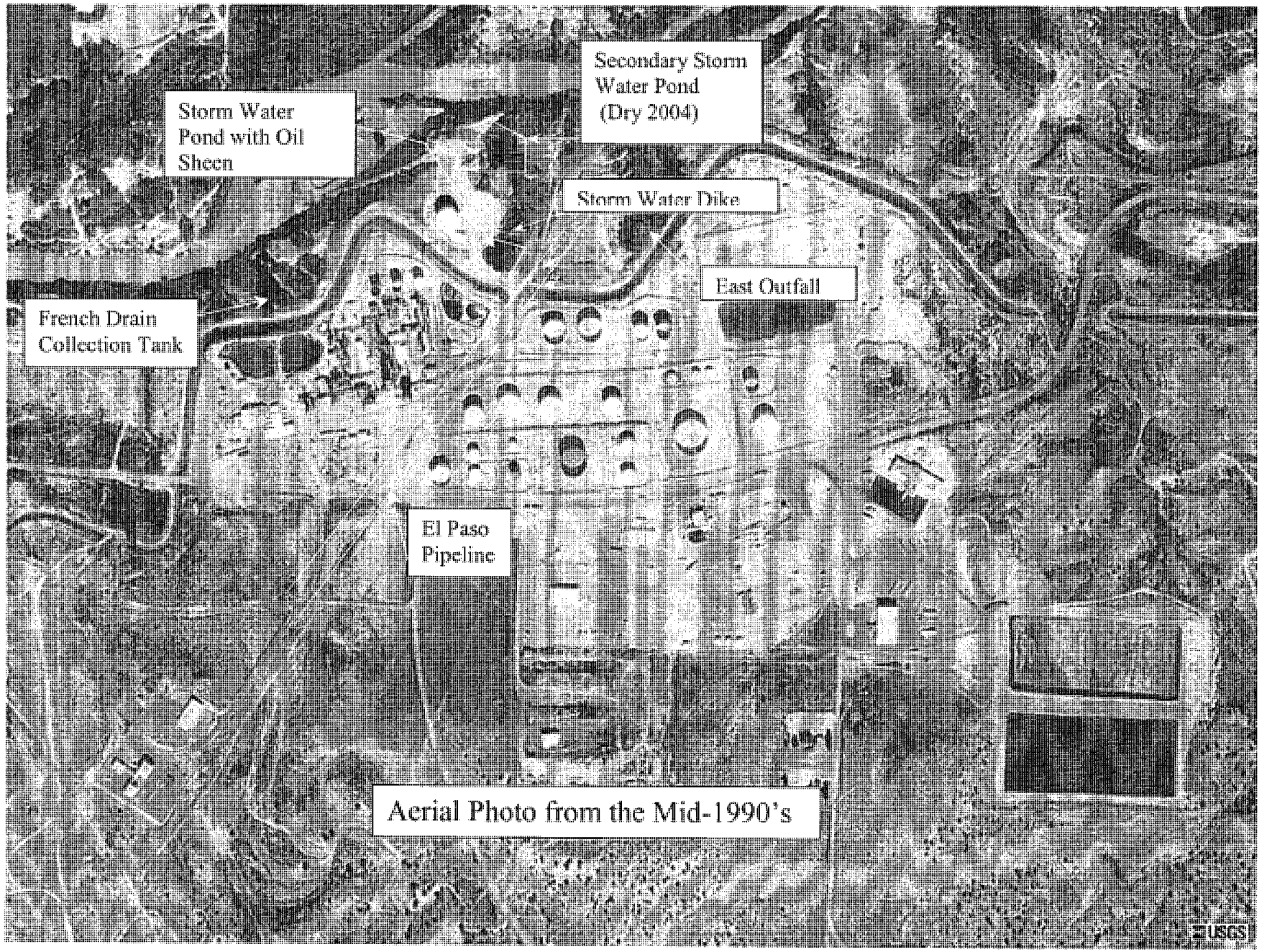
Sincerely,

James R. Schmaltz
Environmental Supervisor
Giant Refining Company – Bloomfield

Cc: Chad King, Bloomfield Refinery Manager
Ed Riege, Giant Refining Environmental Superintendent
William Olson, New Mexico Oil Conservation Division-Santa Fe
Denny Foust, New Mexico Oil Conservation Division – Aztec
Dave Cobrain, NMED – Hazardous Waste Bureau



EL PASO PIPELINE
RIGHT-OF-WAY


Secondary Storm Water Pond (Dry 2004)
Storm Water Pond with Oil Sheen
Storm Water Dike
East Outfall
French Drain Collection Tank
El Paso Pipeline
Aerial Photo from the Mid-1990's
USGS

Storm Water Outfall #2
Looking East