GW - 001

GENERAL CORRESPONDENCE

2007 - 1982
4 of 11

1	Water deluge system	Wetgas comp
10	Self-contained breathing apparatus	Various
2	Air line breathing apparatus	Warehouse
3	First aid kits (large standard)	Control Room/ Maintenance/ Office
2	First aid kits (trauma)	Firehouse
2	Medical oxygen units	Firehouse
2	Chlorine cylinder patch kit	Control Room
3	Stretchers and rescue blankets	Firehouse
400	Feet of rescue rope & equipment	Control Room
8	Safety showers	Various
7	Fire hose boxes with 400 feet hose, 3 nozzles, and 1 gated wye	Various
600	Feet of 2-1/2" fire hose	Firehouse
800	Feet of 1 1/2" fire hose	Firehouse
18	Nozzles	Firehouse
	Miscellaneous other fire appliances	Firehouse
	Assorted respiratory equipment for specific use	Warehouse
600	Pounds stock Purple-K Extinguisher Chem.	Firehouse
8	Acid resistant slicker suits	Various
1	2000 gpm portable foam monitor	Firehouse
150	Feet of oil skimmer boom, ACME Products, 6" flotation, 8" skirt x 50' sections, x 1/4" chain, flex couplers.	Maintenance
3	Rolls of oil sorbent blanket,	

	Conweed, 3M-PIOO, (3/8[11]x36"x150' each)	Warehouse
1	Flat bottom boat, small two-man w/oars	Maintenance
	Numerous diaphragm pumps (10 to 300 gpm)	Maintenance
	Portable air compressors	Maintenance
1	1000 gpm portable diesel pump	Maintenance
	Assorted vacuum truck hoses w/attachments	Maintenance
	Numerous hand tools for any job	Tool room

Quantity	Description (Manufacturer, Make, Model)	Location
	Communication Equipment	
3	Cellular phones 320-0343 320-0344 320-7074	 Operations Maintenance Warehouse
29	Two-way radios. All operations personnel, maintenance supervisors, safety personnel, and others as needed carry two-way radios. Channel one used by operations during emergency, Channel two used to direct emergency.	Operations Maintenance Safety Supervisors

1.1.5 Response Equipment Testing and Deployment (Section 1.3.3)

Response and safety equipment are inspected on a monthly basis by personnel responsible for the location where that equipment is stored. Inspection logs are returned to the safety department for review and filing. Since these inspection requirements are integral to the operating procedures of the refinery and are very comprehensive, they are not repeated in this plan. Their existence is certified in accordance with this plan.

Rolling stock of the refinery is inspected, at a minimum, in accordance with manufacturer's recommendations. An inspection log is maintained for each. For critical equipment, an inspection checklist is done every time the equipment is used. Inspection logs are maintained by the maintenance department. They are not repeated in this plan, but their existence is certified in accordance with this plan.

Major safety training exercises are done at least twice per year. During this time, safety equipment is deployed. Other rolling stock is used frequently for other purposes, essentially verified on a daily basis that it is ready to be deployed.

1.1.6 Facility Response Team (Section 1.3.4)

GRC has a detailed procedure (Safety Order S-1) for responding to any emergency that may occur at the facility. The facility is operated 24 hours per day, 365 days per year. A call out procedure with phone numbers is maintained in the control room. Response teams are dynamic; based on presence at the facility, normal refining duties, specialised training, and as assigned by the fire chief (qualified individual in charge of the emergency) With the exception of some of the office staff, all personnel at the refinery receive the same training. An Emergency Response Personnel list (from which a response team is created in accordance with Safety Order S-I) is included on the next page.

Phone numbers of all personnel are not included in this plan to avoid giving them out without authorization. They are maintained by qualified personnel in the refinery control room for immediate use in accordance with call-out guidance.

Response training records are extensive and are maintained in the records of the Safety Manager.

Response contractors immediately available to GRC are listed on page 1-33.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

EMERGENCY RESPONSE PERSONNEL

Name	Response Time-hours	Responsibility
Stiffler, Jim	0.5	Fire Chief, Qualified Individual
Schmaltz, Randy	1	Fire Scene Command, Qualified Ind.
Alexander, Richard	0.5	Fire Crew Leader, Qualified Ind.
Lohman, Ed	0.5	Fire Crew Leader, Qualified Ind.
McDaniel, Vic	0.5	Fire Crew Leader, Qualified Ind.
Hawkins, Larry	1	Fire Crew Leader, Qualified Ind.
Belt, Mike	1	Support
Brown, Dale	0.5	Fire Crew
Buczinski, Ron	0.5	Operations Supervisor, Fire Crew
Castor, Vicki	0.5	Fire Crew Leader, Supplies & Equip.
Cunningham, Cecil	0.5	Fire Crew Leader
Davis, Matt	1.5	Fire Crew, Technical Support
Evans, Nancy	0.5	Support
Garcia, Connie	0.5	Support
Garcia, Steve	1	Fire Crew, Supplies & Equip.
Hamlow, Hal	1	Fire Crew
Hampton, Maria	1	Support
Hovland, Avis	0.5	Support
Hunter, John	1	Fire Crew
Jess, Carl	1	Fire Crew, Technical Support
King, Chad	2	Operations Support, Fire Crew
Mackey, Janet	0.5	Support
Markle, June	1	Support
Meldrum, Craig	1	Fire Crew, Technical Support
McDaniel, Rob	0.5	Fire Crew
Perry, Hines	0.5	Fire Crew Leader, Maint. Suprv.
Runyon, Becky	0.5	Support
Shelton, Lynn	1	Fire Crew, Reporting, Environmental
Stokes, John	1	Refinery Manager, Fire Crew
Tristano, Tony	1	Fire Crew
Walters, Diane	1	Support
Wimsatt, Don	1	Fire Crew Leader, Maint. Manager
Charley, Mike	0.5	Fire Crew
Gibson, Bill	0.5	Fire Crew
Montoya, Rick	0.5	Fire Crew
Todacheene, Larry	0.5	Fire Crew

BLOOMFIELD REFINING COMPANY

OIL SPILL RESPONSE PLAN

EMERGENCY RESPONSE PERSONNEL

Name	Time-hrs	Responsibility
Nolan, Al	0.5	Fire Crew
Salazar, Alex	0.5	Fire Crew
Weaver, Ron	0.5	Fire Crew Leader, Terminal Suprv.
Clark, Michal	0.5	Support
Hart, Korbi	0.5	Fire Crew, Envr. Response
Poore, Roger	0.5	Support
Adams, Bill	0.5	Fire Crew
Armenta, Bengie	0.5	Fire Crew
Ashley, Irvin	2	Fire Crew
Begay, Hanley	1	Fire Crew
Bia, Nelson	2	Fire Crew
Bozarth, Leroy	0.5	Fire Crew
Brown, Todd	0.5	Fire Crew
Delaney, Mike	2	Fire Crew
DeLeon, Richard	0.5	Fire Crew
Durden, Clyde	1	Fire Crew
Ervin, Emile	1	Fire Crew
Garlington, Jerry	0.5	Fire Crew
Hartle, Jim	1	Fire Crew
Hefner, Richard	1	Fire Crew
Lasster, Melvin	1	Fire Crew
Lovell, Dan	0.5	Fire Crew
Mascarenas, Johnny	0.5	Fire Crew
Prugh, Dean	1	Fire Crew
Salazar, Rudy	1	Fire Crew
Sanchez, Raymond	0.5	Fire Crew
Walter, Kay	0.5	Fire Crew
Armenta, Marvin	0.5	Fire Crew
Boswell, Tom	0.5	Fire Crew
Cochran, Bill	0.5	Fire Crew
Eldred, Terry	0.5	Fire Crew
Faverino, Mike	0.5	Fire Crew
Fulton, Arnold	2	Fire Crew
Gammon, Larry	1	Fire Crew
Hamner, Roger	1	Fire Crew
Herman, Frank	0.5	Fire Crew

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

EMERGENCY RESPONSE PERSONNEL

Name	Response Time-hrs	Responsibility
Lucero, Barney	1	Fire Crew
Perry, Bill	0.5	Fire Crew
Allen, Gene	1	Fire Crew
Scribner, Jack	1	Fire Crew
Sullivan, Frank	0.5	Fire Crew
Williamson, Joe	0.5	Fire Crew
Willie, Herbert	0.5	Fire Crew
Martin, Cheryl	1	Fire Crew

Notes:

1. Personnel listed with the responsibility of support are usually not qualified for fire crew duties, although there are some exceptions. They will be involved in duties at the Emergency Control Center.

2. Fire Crew has the same meaning as Response Crew since an emergency may not involve a fire.

3. Last Update: 6/97

1.1.7 Evacuation Plan (Section 1.3.5)

Evacuation procedures are included in Safety Order S-1 (Attachment 1). Routes are noted on the facility diagram.

1.1.8 Immediate Actions (Section 1.7.1)

All spills at GRC are considered serious. All resources identified in this plan (Section 1.3.2 Response Equipment List, and Section 1.3.4 Personnel) are available for mobilization to respond and will be requested immediately if the on-scene Qualified Individual (fire chief) determines the need. The outside contractor will be mobilized if the spill reaches a waterway or if needed onsite. This plan and Safety Order S-1 are the primary plans for spill response. Additional response training is part of the GRC training program, additional contracted help is available and noted in this plan, access to additional response equipment/experts is available and noted in this plan, and the ability to implement the response plans are documented with the training given all GRC employees.

1.1.9 Facility Diagram (Section 1.9)

A diagram to meet the requirements of this section is included in the envelope at the end of this plan.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

1.2 FACILITY INFORMATION

1.2.1 Name of facility: **Giant Refining Company - Bloomfield**

1.2.2 Type of facility: **Onshore Facility - Petroleum Refinery**

1.2.3 Location of facility: **#50 County Road 4990**
Bloomfield, New Mexico 87413

County: **San Juan**

Latitude: **36°41'50"**
Longitude: **107°58'20"**

1.2.4 Mailing address: **Giant Refining Company - Bloomfield**
P.0. Box 159
Bloomfield, NM 87413

1.2.5 Telephone Number: **(505) 632-8013**

1.2.6 Name and address of owner or operator:

Name: **San Juan Refining Company**
Address: **23733 N. Scottsdale Road**
Scottsdale, Arizona 85255

1.2.7 Wellhead Protection Area:

The facility is **not** located in **nor** drains into a wellhead protection area as defined by the Safe Drinking Water Act of 1986.

1.2.8 Date of Oil Storage Start-up: **1959**

1.2.9 Current Operation:

Giant Refining Company (GRC) operates an 18,000 barrel per day (nominal capacity) crude petroleum refinery designated with the Standard Industrial Classification (SIC) code 2911. The facility is engaged in the refining of crude petroleum into a range of petroleum products that include gasoline, kerosene, distillate fuel oils, residual fuel oils, military jet fuel (JP8), butane, and propane. Processing units include crude desalting, crude distillation, catalytic hydrotreating and reforming, fluidized catalytic cracking, catalytic polymerization, diesel hydrodesulfurization, and a sulfur recovery unit.

1.2.10 Qualified Individuals

GRC has a detailed procedure (Safety Order S-1) for responding to any emergency that may occur at the facility. This would include fires, explosions, release of flammable vapor or gas, release of toxic vapor or gas, release of crude oil, intermediates, or products, and bomb threats. The command procedures for an oil spill would be the same as defined in Safety Order S-1. The Operation's Shift Supervisor, generally most available at any time of day or night, would assume initial command of emergency control efforts until arrival of the Safety Manager. The Shift Supervisor will transfer command to the Safety Manager, or, in the absence of the Safety Manager, to the Safety Supervisor.

Work Address	:	Same for all Giant Refining Company #50 County Road 4990 Bloomfield, NM 87413	
Emergency Phone		(505) 632-8013 and/or Home phone numbers	
Name	:	Jim Stiffler	
Position	:	Safety Manager	
Home Address	:	111 Wade Circle Bloomfield, NM	
Emergency Phone	:	(505) 632-1214	
Name	:	Randy Schmaltz	
Position	:	Safety Supervisor	
Home Address	:	3601 Buena Vista Farmington, NM	
Emergency Phone	:	(505) 327-0985	
Name	:	Richard Alexander	Vic McDaniel
Position	:	Shift Supervisor	Shift Supervisor
Home Address	:	404 N. 7th Street Bloomfield, NM	746 CR 4990 Bloomfield, NM
Emergency Phone	:	(505) 632-2730	(505) 632-9408
Name	:	Ed Lohman	Larry Hawkins
Position	:	Shift Supervisor	Shift Supervisor
Home Address	:	2409 E. Blanco Bloomfield, NM	3270 LaPlata Hwy. Farmington, NM
Emergency Phone	:	(505) 632-2435	(505) 326-2823

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

1.2.11 Specific Response Training Experience

Safety Manager (Jim Stiffler)

The safety manager has been involved in safety and emergency response activities since 1970. He has been manager of the safety program since 1979. Training has included attendance at the following:

-Ansul Fire Training School.
-State of New Mexico, SARA Title 3 Hazardous Materials Workshop.
-New Mexico State Fire Marshall Office, Hazardous Materials Transportation Emergencies.
-University of Nevada at Reno, Flammable Liquids Fire Protection (1985, 1986, 1987, 1989)
-National Fire Academy, Initial Company Tactical Operations.
-29 CFR 1910.120 & 40 CFR 264.16/265.16, Hazardous Waste Operations and Emergency Response- "Hazwopper".
-Federal Emergency Management Agency, G300 Hazardous Materials.
-US EPA & Union Pacific Railroad, Hazardous Materials Emergency Response.
-USDOT, Emergency Medical Technician.
-Texas A&M, Industrial Fire Protection.
-New Mexico State Fire Marshall's Office, Incident Command.

Safety Supervisor (Randy Schmaltz)

The safety supervisor has been involved in safety and emergency response activities in a supervisory position since 1980. Training has included the following:

-University of Nevada at Reno, Fire Protection Training Academy (1989, 1990).
-National Fire Academy, Incident Command System.
-New Mexico Fire Marshall's Training, Handling L.P.G. Emergencies & Flammable Liquid Fires.
-J. T. Baker, Hazardous Chemical Safety.
-Scott, Allard & Bohannan, Inc., 24-hr Training for Hazardous Waste Operations.
-Ohmart Technical Training School, Principles & Practices of Radiation Protection & Emergency Procedures.
-Misers Inspection & Training, Inc., Asbestos Training.
-Colorado State Police & Grand Junction, Colorado Fire Department, Instructor for Hazardous Material Field Exercises.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

Shift Supervisors

The five shift supervisors have extensive experience in refinery operations. They are responsible for the day-to-day operations of the refinery equipment and process units. They are most familiar with the equipment that could fail and cause a release. Their experience in the refinery varies in the range from 15 to 20 years with a substantial portion of that experience in a supervisory position.

At least one of the shift supervisors will be at the facility at all times (24 hours per day, 365 days per year) . Their training has included attendance at the following training activities:

-Texas A&M, Industrial Fire Protection.
-University of Nevada at Reno, Flammable Liquids Fire Protection.
-Hazardous Waste Operations & Emergency Response.
-In House Training, Incident Command & Fire Ground Leadership, Fire Company Tactical Operations, and Hazardous Materials Emergency Response.

1.2.12 Dates and Type of Substantial Expansion

Date	Type of Substantial Expansion
Late 1950's	Original construction as a crude topping unit.
1950's-1963	Installed tanks 8, 9, 17, 18, 19, 20, 21, 22, 23, 24, 25, 29, and 30.
1964	Suburban Propane of New Jersey acquired facility.
1966	Increased the crude unit throughput to 4,100 barrels per calendar day (bpcd) and added a 1,850 bpcd reformer and naphtha hydrotreater. Installed tanks 3,4, and 5.
12/1967	Installed tanks 26 and 27.
4/1969	Installed tank 28.
1975	Crude unit expanded to 8,400 bpcd.
8/1977	Installed tank 31.
1979	Crude unit expanded to 18,000 bpcd. Added a 6,000 bpcd fluidized catalytic cracker, an unsaturated gas plant, and a treater unit. Increased the capacity of the reformer/hydrotreater to 2,250 bpcd.
12/1982	Installed tanks 11 and 12.
10/31/84	BRC acquired the facility from Suburban Propane (Plateau)
5/7/87	Upgraded the reformer and increased capacity to 3,600 bpcd
9/1987	Relocated tanks 13 and 14 (originally built in 1959 and 1961) to the BRC facility.
1/16/88	Started up a 2,000 bpcd catalytic polymerization unit and put new tank 32 into service.
1988	Completed a cathodic protection system for the tank farm and underground piping. Rebuilt process area sewer system and added curbed, concrete paving to the unpaved process areas.

Date	Type of Substantial Expansion
1989	Increased reformer throughput to 4,000 bpcd.
11/1989	Installed tank 44.
12/7/89	Put in service new 5-acre (25 acre-feet) double-lined evaporation pond.
9/15/90	Put in service second new 5-acre (25 acre-feet) double-lined evaporation pond.
12/22/93	Put a 3000 bpcd diesel hydrodesulfurization unit and a two ton per day sulfur recovery unit in service.
3/31/94	Retrofitted the south and north oily water ponds with two additional liners in accordance with RCRA minimum technology requirements.
11/30/94	Completed the installation of a Class 1, non-hazardous wastewater injection well.
4/30/95	Expected completion date for the installation of two 55,000 barrel storage tanks (numbers 35 and 36).
10/14/95	Facility purchased by Giant Refining Company.

Date of Last Update: **6/97**

1.3 EMERGENCY RESPONSE INFORMATION

GRC responds to all emergencies in accordance with the Safety Order S-1. All employees may be required to respond to the emergency. The emergency call-out and organizational procedures are detailed in the Safety Order. The Safety Order (see Attachment 1) is considered part of the Oil Spill Response Plan. Information specific to an oil spill response is repeated in this section.

1.3.1 Emergency Notification

1.3.1.1 Emergency Notification Phone List

In the event an emergency results in a crude oil, intermediate, or product discharge to the San Juan River or to Hammond Ditch (a discharge means one which creates a sheen or causes a sludge or emulsion to be deposited beneath the surface or upon adjoining shorelines) an immediate notification is required to the National Response Center (NRC). **The demands of the emergency response take precedence over agency reporting, but reporting must be completed as soon as possible and within 24 hours.**

In addition to the NRC and local emergency responders (those contacted to provide aid in the emergency), several other agencies must be contacted. These include the LEPC, SERC, New Mexico Oil Conservation Division, New Mexico Environment Department, and Federal On-Scene Coordinator. The telephone numbers for these agencies are listed on the Emergency Notification Phone List that follows this page along with the numbers of others that may require immediate contact.

The environmental manager (Lynn Shelton) will be responsible for making the required notifications. If he is not promptly available, the qualified individual (see Section 1.10 of this Plan) will be responsible for making the reports.

1.3.1.2 Spill Response Notification Form

A Spill Response Notification Form (page 1-22) has been prepared to be used by the notifier to aid in making the initial report. The notifier should be prepared to provide as much information as is possible, but should not delay spill reporting to collect missing information. Be as factual as possible and clearly state what information is available.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

EMERGENCY NOTIFICATION PHONE LIST

Priority	Organisation	Phone No.
1	GRC Qualified Individual, Jim Stiffler	632-2140
2	GRC Qualified Individual, Randy Schmaltz	327-0985
3	GRC call-out as per Safety Order S-1 to form Company Response Team	
4	Contract Responder, Tierra Environmental	325-0924
	Phil Nobis	632-1404
5	National Response Center (NRC)	1-800-424-8802
6	Bloomfield Fire Department	911
	Bloomfield Police Department	911
	San Juan County Sheriff	911
	State Police	911
	Ambulance	911
	County Fire Departments	911
7	Hammond Conservancy District	632-3043
8	Local Emergency Planning Committee (LEPC)	
	Don Cooper	326-9700
	County Fire Marshall's Office	334-9481
9	State Emergency Response Commission (SERC)	505-827-9126
10	New Mexico Oil Conservation Division	334--6178
11	New Mexico Environment Department	505-827-0187
12	Federal On-Scene Coordinator, 24-hour	1-214-665-2222
	Don Smith	1-214-665-6489
13	Navajo Reservoir Superintendent	632-3115
14	City of Farmington Water	326-1918
15	San Juan Regional Medical Center	325-5011
16	Radio, KENN	325-3541
	KTRA	326-6553
17	Television, KOBF	326-1141

Date of Last Update: 6/97. See Page 1-28 for additional.

GIANT REFINING COMPANY - BLOOMFIELD

SPILL RESPONSE NOTIFICATION FORM

Reporter's Name: _____, _____ _____; Position: _____
Last, First M.I.
Phone Numbers: Work: (505) 632-8013 ; Home: (_____) _____-_____
Date and Time of This Notification: _____
Notification Made To: _____
Facility & Owner name : Giant Refining Co. (GRC)
Physical Address : #50 County Road 4990 (Sullivan Road)
Mailing Address : P.O. Box 159
Bloomfield, NM 87413
Facility Phone : (505) 632-8013

GRC Identification Numbers: FRP-06-NM-00015; EPA: NMD 089 416 416
Facility Type: Petroleum refinery; SIC Code: 2911

Were Materials Discharged?____ (Y/N) Confidential? N (Y/N)
Meeting Federal Obligation to Report?___(Y/N) Calling for Responsible Party?___(Y/N)

Incident Description: Source and/or Cause of Incident: _____
_____
_____
_____
Date and Time of Incident: _____
Duration of Incident: _____
Incident Address/Location: _____
Medium Affected (air, water, land): _____
Description of Medium: _____
_____
Nearest City: Bloomfield State: NM County: San Juan Zip: 87413
Distance from City: Across River, 500ft. Direction from City: South
Section: 26 & 27; Township: 29 North; Range: 11 West, N.M.P.M.
Facility Latitude: 36° 41' 50" ; Facility Longitude: 107° 58' 20"
Container Type: _____; Tank Oil Storage Capacity: _____ gallons;
Facility Oil Storage Capacity: 32,487,000 gallons
Type of Material Discharge: _____
Total Released: _____ gallons; Amount to Waterway: _____ gallons

Response Actions Taken to Correct, Control or Mitigate Incident:
_____
_____
_____
Impact: Number of Injuries: _____; Number of Deaths: _____
Were there Evacuations? _____ (Y/N); Number Evacuated: _____
Was there any Damage? _____ (Y/N); Damage Estimate: $ _____
Additional Information: _____
_____
Other Notifications: EPA? _____ (Y/N) NMED _____ (Y/N) NMOCD? _____ (Y/N)
Facility Contact for Additional Information: Lynn Shelton

1.3.2 Response Equipment List

GRC has an extensive inventory of emergency response equipment immediately available (see partial list beginning on page 1-24). The equipment is all on refinery property with some placed in strategic locations throughout the refinery for ready access, some located in the refinery warehouse, and some located in the fire truck building. Refinery rolling stock is located in the maintenance yard behind The shop/warehouse building when not in use. Numerous hand tools are available from the tool room. The shift supervisor has access to all storage areas at all times. Enough refinery personnel are available for immediate response to operate any equipment deemed appropriate for response by the qualified individual that has assumed command of the emergency response in accordance with Safety Order S-I. Refinery personnel qualified to operate specific equipment know the location of that equipment.

In addition, there are numerous outside equipment resources (see page I-25) available in the vicinity of GRC that can be called upon for fairly rapid deployment to assist in spill recovery. A professional responder (Tierra Environmental) is also immediately available to GRC to provide additional response capabilities in the event of a spill requiring implementation of the Oil Spill Response Plan.

Tierra Environmental is approved (as evidenced by EPA referrals to companies involved in spills in the area) by EPA Region 6 for emergency response. There are 120 vacuum trucks, each with a capacity of 80 barrels, available in the area to respond for Tierra Environmental or GRC.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

RESPONSE EQUIPMENT LIST

Quantity	Description (Manufacturer, Make, Model)	Location
	Company Rolling Stock	
1	1992 Chevy GM4 Pickup, 058CRG	Maintenance
1	1994 Ford F-150 Pickup	King
1	1990 Ford F-250HD 4X4 Pickup, 269ATK	Terminals
1	1990 Nissan Pickup, 4IIBCK	Warehouse
1	1989 Ford F250 Pickup, 257BTP	Maintenance
1	1988 Cheyy S-1O Pickup, 3O7CNG	Operations
1	1979 MTZ, MCT Utility Trailer	Terminals
1	Massey Ferguson 383 Tractor	Terminals
1	1979 Chevy C30 Fire Truck, 258BTP Twin agent, 450# purple-K, 100 gal foam.	Firehouse
1	1989 Foam Proportioning Trailer, w/1000 gal foam & 2000 gpm foam monitor.	Firehouse
1	JohnDeere 480C Forklift	Warehouse
1	1978 GMC C65 Fuel Truck, 26OBTP	Maintenance
1	1980 Linkbelt 17-ton Crane	Maintenance
1	1980 Allis Chalmers Tractor, Model 5020	Maintenance
1	1975 International Vacuum Truck, 80 Bbl	Maintenance

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

RESPONSE EQUIPMENT LIST

Quantity	Description (Manufacturer, Make, Model)	Location
1	1979 GMC 2-ton Winch Truck, 259BTP	Maintenance
1	John Deere 410B Backhoe	Maintenance
3	Cushman Cart	Maintenance
1	1989 Kawasaki Mule-I000, Model KAF 450-Bi	Maintenance
1	1980 International F-4270 Dump Truck	Maintenance
1	1991 Chevy 1-ton 4x4 (dually) 663ATG	Maintenance
1	1993 Grove AP308 Carrydeck Crane	Maintenance
1	Case Front End Loader, 3-yard Bucket	Maintenance
3	John Deere Carry Alls	Maintenance
	Company Equipment	
2	2000 gpm auto-start diesel fire engines	Pumphouse
1	1000 gpm manual-start diesel fire engine	Pumphouse
15,000	Feet of 6", 8", 10", 12" fire line	Underground
24	Fixed fire monitors	Various
4	Portable fire monitors	Various
38	Fire hydrants	Throughout
101	Hand portable fire extinguishers	Throughout
14	150# Wheeled extinguishers	Throughout
1	Water deluge system	Hydrogen
1	Automatic foam deluge system	Load rack

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

RESPONSE EQUIPMENT LIST

Quantity	Description (Manufacturer, Make, Model)	Location
1	Foam cannons w/ll0 gallon foam	Unload rack
1	Automatic Halon extinguishers	Lab
3200	Gallons of AFFF/ATC foam concentrate	Firehouse
7	Foam systems on tanks 11, 12, 13, 14 31, 35, and 36	Tankfarm
100	Sets of fire fighting bunker equipment assigned to employees, extras in firehouse	Various
1	Water deluge system	Wetgas comp
10	Self-contained breathing apparatus	Various
2	Air line breathing apparatus	Warehouse
3	First aid kits (large standard)	Control Room Maintenance Office
2	First aid kits (trauma)	Firehouse
2	Medical oxygen units	Firehouse
2	Chlorine cylinder patch kit	Control Room
3	Stretchers and rescue blankets	Firehouse
400	Feet of rescue rope & equipment	Control Room
8	Safety showers	Various
7	Fire hose boxes with 400 feet hose, 3 nozzles, and 1 gated wye	Various
600	Feet of 2-1/2" fire hose	Firehouse
800	Feet of 1 1/2" fire hose	Firehouse

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

RESPONSE EQUIPMENT LIST

Quantity	Description (Manufacturer, Make, Model)	Location
18	Nozzles	Firehouse
	Miscellaneous other fire appliances	Firehouse
	Assorted respiratory equipment for specific use	Warehouse
600	Pounds stock Purple-K Extinguisher Chem.	Firehouse
8	Acid resistant slicker suits	Various
1	2000 gpm portable foam monitor	Firehouse
150	Feet of oil skimmer boom, ACME Products, 6" flotation, 8" skirt x 50' sections, x 1/4" chain, flex couplers.	Maintenance
3	Rolls of oil sorbent blanket, Conweed, 3M-PIOO, (3/8^{11}x36"x150' each)	Warehouse
1	Flat bottom boat, small two-man w/oars	Maintenance
	Numerous diaphragm pumps (10 to 300 gpm)	Maintenance
	Portable air compressors	Maintenance
1	1000 gpm portable diesel pump	Maintenance
	Assorted vacuum truck hoses w/attachments	Maintenance
	Numerous hand tools for any job	Tool room
	Communication Equipment	
3	Cellular phones 320-0343 320-0344 320-7074	 Operations Maintenance Warehouse
29	Two-way radios. All operations personnel, maintenance supervisors, safety personnel, and others as needed carry two-way radios. Channel one used by operations during emergency,	Operations Maintenance Safety Supervisors

GIANT
REFINING CO.

BLOOMFIELD REFINERY

Process Safety Management

Policies and Procedures

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Process Hazard Analysis

	YES	NO	IN PROGRESS	COMMENTS
1. Has the priority order for conducting process hazard analyses been determined and documented based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process and operating history of the process?				
2. For processes requiring a hazard analysis, has a schedule been developed for conducting process hazard analyses as soon as possible, but not later than the following schedule? • No less than 25% of the PHA's shall be completed by May 26, 1994				
• No less than 50% of the PHA's shall be completed by May 26, 1995				
• No less than 75% of the PHA's shall be completed by May 26, 1996				
• All initial PHA's shall be completed by May 27, 1997				
REVALIDATION/UPDATING OF PROCESS HAZARD ANALYSES				
3. For process Hazards Analyses conducted subsequent to May 26, 1987, do the updated and/or revalidated PHA's meet all of the requirements of the Process Hazards Analysis per section 1910.119 section (e)?				
4. Are PHA's updated and revalidated at least every five years by a team meeting the requirements in 1910.119 (e) (4) to assure that the PHA is consistent with the current process?				
QUESTIONS PERTAINING TO COMPLETED PROCESS HAZARD ANALYSES				
5. Is one or more of the following methodologies used to determine and evaluate the hazards of the process: • What - if?				
• Checklist?				
• What - if/Checklist?				
• Hazard and Operability Study (HAZOP)?				
• Failure Mode and Effects Analysis (FMEA)?				
• Fault Tree Analysis (FTA) or,				
• An appropriate equivalent methodology?				
6. Does the Process Hazard Analysis address: • Hazards of the process?				
• The identification of any previous incident which had likely potential for catastrophic consequences in the workplace?				
• Engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. (Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors?)				

	YES	NO	IN PROGRESS	COMMENTS
• Consequences of failure of engineering and administrative controls?				
• Facility siting?				
• Human factors? And,				
• A qualitative evaluation of a range of the possible safety and health effects of failure of controls on employees in the workplace (including contractors), on off-site people and on the environment?				
• Changes to materials, technology and equipment?				
7. a. Was the PHA performed by a team with expertise in engineering and process operation?				
b. Did the team include at least one employee who has experience and knowledge specific to the process being evaluated?				
c. Did the team include a person who was knowledgeable in the specific process hazard analysis methodology being used?				
8. Is there a system to: a. Promptly address the team's findings and recommendations?				
b. Assure that the recommendations are resolved in a timely manner and that the resolution is documented?				
c. Document what actions are to be taken?				
d. Complete actions as soon as possible?				
e. Develop a written schedule of when these actions are to be completed?				
f. Communicate the actions to operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions?				
9. Is the following information retained for the life of the process: a. Process hazards analyses and updates or revalidations for each process?				
b. The documented resolution of recommendations described in question 8 above?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Operating Procedures

	YES	NO	IN PROGRESS	COMMENTS
1. Are there written operating procedures developed and implemented that include process and equipment descriptions and flow diagrams that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information?				
2. Do the operating procedures address at least the following elements? a. Steps for each operating phase • Initial Startup?				
• Normal Operations?				
• Temporary Operations?				
• Emergency shutdown including the conditions under which emergency shutdown is required and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner?				
• Emergency Operations?				
• Normal Shutdown?				
• Start-up following a turnaround, or after an emergency shutdown?				
b. Operating Limits? • Consequences of deviation?				
• Steps required to correct or avoid deviation?				
c. Safety and Health Considerations? • Properties of, and hazards presented by the chemicals used in the process?				
• Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment?				
• Control measures to be taken if physical contact or airborne exposure occurs?				
• Quality control for raw materials?				
• Control of hazardous chemical inventory levels? and,				
• Spill and release mitigation?				
• Any special or unique hazards?				
d. Safety systems and their functions?				
3. Are operating procedures readily accessible to employees who work in or maintain a process?				
4. Are operating procedures being reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology and equipment, and changes to facilities?				

	YES	NO	IN PROGRESS	COMMENTS
5. Are operating procedures certified annually as current and accurate?				

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Training

	YES	NO	IN PROGRESS	COMMENTS
INITIAL TRAINING				
1. Has each employee presently involved in operating a process been trained in an overview of the process and in the operating procedures.				
2. a. Is each employee before being involved in operating a newly assigned process, being trained in an overview of the process and in the operating procedures?				
b. Does the training provide emphasis on the specific safety and health hazards, emergency operations including shutdown and safework practices applicable to the employee's job tasks?				
REFRESHER TRAINING				
3. a. Is refresher training being provided at least annually and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process?				
b. Has the appropriate frequency of refresher training been determined in consultation with the employees involved in operating the process?				
TRAINING DOCUMENTATION				
4. Has each employee involved in operating a process received and understood the required training? Specifically, is there a record which contains: • The identity of the employee				
• The date of timing				
• The means used to verify that the employee understood the training?				

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Contractor Safety

		YES	NO	IN PROGRESS	COMMENTS
	EMPLOYER RESPONSIBILITIES				
1.	When selecting a contractor, is information obtained and evaluated regarding the contract employer's safety performance and programs?				
2.	Are contract employers informed of the known potential fire, explosion, or toxic release hazards, related to the contractor's work and the process?				
3.	Are applicable provisions of the emergency action plan explained to contract employees?				
4.	Are safe work practices developed and implemented to control the entrance, presence and exit of contract employers and contract employees in covered process area?				
5.	Is the performance of contract employers periodically evaluated in fulfilling their obligations as specified in 1910.119 (h) (3)?				
6.	Does the employer maintain a contract employee injury illness log related to the contractor's work in process areas?				
	CONTRACT EMPLOYER RESPONSIBILITIES				
1.	Does the contract employer assure that each contract employee is trained in the work practices necessary to safely perform his/her job?				
2.	Does the contract employer assure that each contract employee is instructed in the known potential fire, explosion, or toxic release hazards related to his/her job and the process, and the applicable provisions of the emergency action plan?				
3.	Does the contract employer document that each contract employee has received and understood the training required by 1910.119 (h) (3)?				
	Has the contract employer prepared a record which contains? • The identity of the contract employee?				
	• The date of training?				
	• The means used to verify that the employee understood the training?				
4.	Does the contract employer assure that each contract employee follows the safety rules of the facility including the safe work practices required by the Hot Work Permit and other Safe Work Practices element?				

	YES	NO	IN PROGRESS	COMMENTS
5. Does the contract employer advise the employer of any unique hazards presented by the contract employer's work or of any hazards found by the contract employer's work?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Pre-Startup Safety Review

	YES	NO	IN PROGRESS	COMMENTS
1. Is the pre-startup safety review performed for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information?				
2. Do the pre-startup reviews confirm that prior to the introduction of highly hazardous chemicals to a process: • Construction and equipment is in accordance with design specifications?				
• Safety, operating, maintenance and emergency procedures are in place and are adequate?				
• (For new facilities) A process Hazards analysis has been performed and recommendations have been resolved or implemented before start-up?				
• (For modified facilities) The requirements of 1910.119 (1), i.e., "Management of Change" have been met?				
• Training of each employee involved in operating a process has been completed?				
• Equipment tests and inspections are complete?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Mechanical Integrity

	YES	NO	IN PROGRESS	COMMENTS
NOTE: The mechanical integrity element applies to the following equipment: pressure vessels and storage tanks, piping systems (including piping components such as valves), relief and vent systems and devices, emergency shutdown systems, controls (including monitoring devices and sensors, alarms, and interlocks) and pumps.				
1. Are there written procedures established and implemented to maintain the on-going integrity of process equipment?				
2. Has each employee involved in maintaining the on- going integrity of process equipment been trained in an overview of that process and its hazards and in the employee's job tasks to assure that the employee can perform the job tasks in a safe manner?				
INSPECTIONS & TESTS				
3. Are inspections and tests being performed on Process equipment? Specifically: • Do inspection and testing procedures follow recognized and generally accepted good engineering practices?				
• Is the frequency of inspections and tests consistent with applicable manufacturer's recommendations and good engineering practices, and more frequently if determined to be necessary by prior operating experience?				
• Has each inspection and test been documented that has been performed on process equipment?				
• Does the documentation include: a. Date of the inspection?				
b. Name of the person who performed the inspection or test?				
c. The equipment number or other identifier of the equipment on which the inspection or test was performed?				
d. A description of the inspection or test performed?				
e. The results of the inspection or test?				
EQUIPMENT DEFICIENCIES				
4. Are deficiencies in equipment that are outside acceptable limits (defined by the process safety information element) corrected before further use or in a safe and timely manner when necessary means are taken to assure safe operation?				
5, In the construction of new plants and equipment, are there assurances that equipment as it is fabricated is suitable for the process application for which it will be used?				

	YES	NO	IN PROGRESS	COMMENTS
6. Are appropriate checks and inspections performed to assure that equipment is installed properly and consistent with design specifications and the manufacturer's instructions?				
7. Are there assurance that maintenance materials, spare parts and equipment are suitable for the process application for which they will be used?				

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Hot Work Procedures

	YES	NO	IN PROGRESS	COMMENTS
1. Are hot work permits issued for hot work operations conducted on or near covered processes				
2. Does the permit • Document that the fire prevention and protection requirements in 29 CFR 1910.252 (a) have been implemented prior to beginning the hot work operations?				
• Indicate the date (s) authorized for hot work?				
• Identify the object on which hot work is to be performed?				
3. Is the hot work permit kept on file until completion of the hot work operation?				
4. Are other safe work practices developed and implemented to provide for the control of hazards during operations, maintenance and modification activities such as: a. Lockout/Tagout?				
b. Confined Space Entry?				
c. Opening process equipment or piping?				
d. Control over entrance into a facility by maintenance, contractor, laboratory, or other support personnel?				
e. Hot tap procedure and permit?				
f. Interlock bypass procedure and permit?				
g. Car-seal procedure and checklist for relief valves?				
5. Do the above work practices apply to both site and contract personnel?				

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Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Management of Change

	YES	NO	IN PROGRESS	COMMENTS
1, Are written procedures established and implemented to manage changes (except for "replacements in kind") to process chemicals, technology, equipment and procedures; and changes to facilities that affect a covered process?				
2. Do the procedures assure that the following consideration are addressed and documented prior to any change: • The technical basis for the proposed change?				
• Impact of change on safety, health and environment?				
• Modification to operating procedures?				
• Necessary time period for the change?				
• Authorization requirements for the proposed change?				
3. Are employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process informed of, and trained in, the change prior to start-up of the process or affected part of the process?				
4. If a change covered by this paragraph results in a change in the process safety information documentation, is such information updated accordingly?				
5. If a change covered by this paragraph (1911.119 (l)) results in a change in the operating procedures or safe work practices, are such procedures or practices updated accordingly?				

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Incident Investigation

	YES	NO	IN PROGRESS	COMMENTS
1. Has each incident been investigated which resulted in, or could reasonably result in a catastrophic release of highly hazardous chemicals in the workplace?				
2. Are incident investigations initiated as promptly as possible, but not later than 3 days following the incident?				
3. Are the incident investigation teams established and do they consist of at least one person knowledgeable in the process involved, including a contract employee if the incident involved work of the contractor, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident?				
4. Are reports prepared at the conclusion of the investigation which include at a minimum: • Date of the incident?				
• Date investigation began?				
• A description of the incident?				
• The factors that contributed to the incident?				
• Any recommendations resulting from the incident?				
5. Is there a system to promptly address and resolve the incident report findings and recommendations?				
6. Are incident report resolutions and corrective actions documented?				
7. Are incident reports reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employee where applicable?				
8. Are incident investigation reports retained for five years?				

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Emergency Planning and Response

	YES	NO	IN PROGRESS	COMMENTS
1. Are the following considered in Emergency Planning: • Use of qualitative evaluations of possible safety and health effects of failure of engineering and administrative controls in planning for the prevention, control, mitigation and emergency response to potential catastrophic chemical releases?				
• Determine interaction with local emergency organizations and the community?				
• Mutual Aid agreements?				
• Emergency equipment/contractors to assist during an emergency and cleanup?				
2. Is there an emergency action plan established and implemented for the entire plant in accordance with the provisions of 29 CFR 1910.38 (a) that include the following: A. Detail the actions on-site and off-site persons. • Outline escape and evacuation plans for on-site persons.				
• Procedures for those who remain to operate critical equipment.				
• Provide for accounting of on-site persons.				
• Outline rescue and medical duties of people who are to perform them.				
• Procedures for reporting fires and other emergencies.				
• Names/job titles of those to contact for further information or explanation of duties under the plan.				
• Action plans for specific emergencies.				
• Notification procedures for Company, Public Agencies, and the Community.				
• Applicable provisions of OSHA 1910.120, Emergency Response to Hazardous Substance Releases.				
B. Is there an alarm system that provides warning for emergency action of employees, is audible above ambient noise and visible above normal light levels?				
C. Training • Are on-site personnel trained initially when the plan is developed, when people's responsibilities change and when the plan is changed?				
• Are drills conducted frequently with on-site people and at least once a year with off-site people (local organization)?				

	YES	NO	IN PROGRESS	COMMENTS
3. Does the emergency action plan include procedures for handling small releases?				
4. Has the employer established an Emergency Operations Center?				
5. Has the information been provided to EPA and LPEC as required by SARA Title III?				
6. Are records kept of releases for past five years including size, concentration and duration of releases?				
7. Is documentation maintained as required by governmental agencies and Company policy?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Compliance Audit

	YES	NO	IN PROGRESS	COMMENTS
1. Is there certification that compliance with the provisions of 1910.119 has been evaluated at least every five years to verify that the procedures and practices developed under the standard are adequate and are being followed?				
2. Are compliance audits conducted by at least one person knowledgeable in the process?				
3. Has a report of findings of the audit been developed?				
4. Has appropriate response been promptly determined and documented to each of the findings of the compliance audit?				
5. Is there documentation that deficiencies have been corrected?				
6. Are the two (2) most recent compliance audit reports retained?				

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File - PSM Compliance Safety Audits

PROPOSED ORDER OF "PHA" COMPLETION

HDS UNIT ..... COMPLETE

SULFUR UNIT ..... COMPLETE

POLY UNIT ..... COMPLETE

CRUDE UNIT ..... COMPLETE

FCC ..... ~~Sept 96~~ COMPLETE
(includes reactor, regenerator, flue gas gas cooler, and precipitator)

GAS CON ..... ~~Sept 96~~ COMPLETE
(includes depropanizer section)

REFORMER ..... ~~Nov 96~~
(includes unifiner and reformer)
? - future expansion plans

FUEL GAS SYSTEM ..... Jan 97
(includes only portion not covered under other PHA's. Fuel gas drum and controls)
? include this in another PHA

TREATORS ..... FEB 97

LPG STORAGE FACILITY ..... MAY 97

TANK FARM EXEMPT FROM REGULATIONS (products stored below normal boiling point without aid refrigeration or pressure.) May want to do at later date.

LOADING AND UNLOADING FACILITIES. (see note above)

	PLANT: BLOOMFIELD REFINING		DATE: 6/23/93
TAG	DETAIL	RANK	COMMENTS
C	EMPLOYEE PARTICIPATION		
C1	written plan for employee participation	2	Needs updating and better definition
C2	employees consulted on process hazard analysis	2	Needs updating and better definition
C3	employee access to information required by the act	2	Not located in one central place
D	PROCESS SAFETY INFORMATION		
D1	does the information on process chemicals cover the following		
1	toxicity	4	MSDS Sheets
2	permissible exposure limits	4	MSDS Sheets
3	physical data	4	MSDS Sheets
4	reactivity data	4	MSDS Sheets
5	corrosivity data	4	MSDS Sheets
6	thermal and chemical stability	4	MSDS Sheets
7	inadvertent mixing hazards	2	needs to be addressed
D2	does the information on process technology cover the following		
1	block flow diagrams (pfd)	3	needs updating
2	process chemistry	4	
4	maximum intended inventories	2	need to address process vessels
4	safe limits of flow, temperature & pressure	4	covered in operating procedures
5	consequences of deviation from design conditions	4	covered in operating procedures
D3	does the information on process equipment cover the following		
1	materials of construction	4	in equipment files
2	p&id drawings	3	in maintenance office
3	electrical classification	4	updated 3 months ago
4	relief system design	3	some problems need addressing
5	ventilation system design	1	need to look at control room and lab
6	documentation of design codes and standards used	3	on equipment data sheets
	material and energy balances for post 5/26/92 system	4	diesel hydrotreater and sulferox plants
8	status of safety systems as shown below		
a	document that equipment complies with good engineering practice	3	need to look at FCC
b	need to document that equipment built to codes and standards	3	need to look at FCC
	no longer used is tested and inspected		
E	PROCESS HAZARD ANALYSIS (PHA)		
E1	has a complete compilation of written process safety information been made	4	Hydrotreater What If
E1A	has and initial PHA been conducted	4	Hydrotreater What If
E1B	has a schedule and plan been made to do the initial PHA	4	Hydrotreater What If
E2A	does the selected PHA method meet the requirements	4	Hydrotreater What If
E2B	is at least one team member knowledgeable in the PHA method	0	No outside training
E3	does the PHA method address process hazards	4	
E3A	does the PHA method identify previous serious incidents	4	
E3B	does the PHA method provide for early warning of a release		
	through engineering and administrative controls	4	Written plan in place
E3C	does the PHA method list consequences of failure of		
	engineering and administrative controls	2	Needs updating
E3D	does the PHA method consider facility siting	4	
E3E	does the PHA method consider human factors	4	
E3F	does the PHA method evaluate the effects of failures on safety and health of employees	4	
E4	does the PHA program mandate team make up & include required individuals	2	Needs documentation
E5	does the PHA system address team findings and recommendations	4	
E5A	does the PHA system assure timely response to recommendations and document it	4	
E5B	does the PHA system provide for a written schedule of action dates for		
	resolution of recommendations	2	Needs documentation
E5C	are PHA findings communicated to potentially affected workers	2	Needs documentation
E6	PHA must be repeated every 5 years does the PHA system address this	0	Not addressed yet
E7	PHA records must be retained does the PHA system provide for this	0	Not addresses yet
F	OPERATING PROCEDURES		
F1	are written operating procedures in place covering the following items		

	PLANT: BLOOMFIELD REFINING		DATE: 6/23/93
TAG	DETAIL	RANK	COMMENTS
1	operating phase	4	Covered in operating manuals
a	initial start-up	4	Covered in operating manuals
	normal operations	4	Covered in operating manuals
	temporary operations	0	Not addressed
d	emergency shutdown procedure ESD (and does it cover the following)	1	Needs further documentation
1	definition of when an ESD is required	1	Needs further documentation
2	definition of operator responsibility to carry out an ESD	2	Needs additional section in procedures
e	emergency operations	2	Needs additional section in procedures
f	normal shutdown	3	Needs additional section in procedures
g	startup	3	Needs additional section in procedures
1	after a turnaround	4	Well documented
2	after an ESD	2	Needs updating
F2	are exceeded operating limit written procedures in place	4	Covered in operating manuals
a	consequences of deviation	4	Covered in operating manuals
b	steps for correct or avoid deviation	4	Covered in operating manuals
F3	are written procedures in place for the following safety and health considerations		
a	properties and hazards of the chemicals used	4	Covered in operating manuals
b	exposure prevention measures	4	Covered in operating manuals
c	response to exposure	2	Needs documentation
d	inventory levels and Q.C. controls	3	Needs documentation
e	unique hazards no covered elsewhere	0	None exist
F4	does the safety system fulfill the following functions		
a	procedure accessibility	3	Procedure needs to be written
b	annual certification that procedures are current	2	Needs documentation
c	procedural safety such as lockout, entry and piping modifications	4	Well documented
G	**TRAINING**		
1	are all training requirements in place		
1	initial training	4	Well documented
a	overview of operational, safety and emergency training	4	Well documented
b	certification in lieu of initial training	4	Well documented
2	refresher training every three years	1	Needs to be setup
3	training documentation including identification and verification	3	Needs updating
H	**CONTRACTORS**		
H1	are all employer contractor responsibilities practiced		
1	is the system applied to the appropriate contractors	3	Needs updating
2	are the following employer responsibilities covered		
a	evaluation of contractors safety program and procedures	4	
b	obligation to inform contractor of hazards in the process	4	
c	explain emergency action plans to the contractor	2	Need evacuation plan and drawing
d	restrict entry and exit of the contractor through procedures	4	
e	intermittent compliance checks on the contractor	4	
f	maintenance of a contract employee injury and illness log	4	
H2	are all contractor employee responsibilities practiced		
1	is a procedure in place to monitor the following contractors responsibilities	4	
a	contract employee training done	4	
b	teaching of hazard potential and emergency action plans	4	
c	verification of employee understanding of training	4	
d	employee rule conformance	4	
e	contractor due diligence in reporting discovered hazards	4	Contractor accident investigation report
I	**PRE-STARTUP SAFETY REVIEW**		
	are all prescribed pre-startup safety review procedures in place	2	In progress
1	all new or significantly modified facilities shall have a pre-startup review	2	In progress
2	the review is to cover the following items	2	In progress
a	is construction and equipment per design specifications	2	In progress
b	safety, operating, maintenance and emergency procedures in place	2	In progress
c	PHA including management of change process completed	2	In progress

	PLANT: BLOOMFIELD REFINING		DATE: 6/23/93
TAG	DETAIL	RANK	COMMENTS
d	required training completed	2	In progress
J	**MECHANICAL INTEGRITY**		
J1	is mechanical integrity assured by facility practices		
	is the mechanical integrity system applied to the following items		
a	pressure vessels and storage tanks	3	One vessel needs documentation
b	piping system and components	4	Complete
c	relief and vent systems	3	Only checked during turnaround
d	emergency shutdown systems	1	Not checked on a regular basis
e	control systems	2	Only checked during turnaround
f	pumps	4	Complete
2	written procedures to maintain integrity of equipment	2	Needs documentation (every 3 yrs)
3	training for process maintenance by employer	3	Needs documentation
4	does equipment inspection and testing cover the following areas		
a	performed on process equipment	4	
b	procedures follow general good engineering practice	4	
c	frequency consistent with experience, engineering practice	4	
	and manufacturers recommendations		
d	maintain total documentation of inspection and tests	4	Maintenance area
J2	is quality assurance of sufficient level to insure system integrity		
1	is a tag system in use to prevent the use of deficient equipment	4	
2	is a quality assurance program in place covering the following	4	
a	is the QA suitable for the process application	4	
b	does the QA system insure installation per design specifications	4	
c	is a QA system in place that insures spare parts and materials are correct	4	
K	**HOT WORK PERMITS**		
1	does a hot work permit system exist	4	Fire and Safety Permit
	is a file documenting compliance maintained	4	Maintained for 5 years
L	**MANAGEMENT OF CHANGE**		
L1	are management of change procedures written and available		
1	is a written procedure in place to cover changes is chemicals,		
	technology, equipment and procedures	2	In progress, needs updating
2	does the management of change system address the following items	2	In progress, needs updating
a	technical basis for change	2	In progress, needs updating
b	impact on safety and health	2	In progress, needs updating
c	operating procedure modifications	2	In progress, needs updating
d	time period necessary for change	1	Began work on MOC
e	authorization requirements for change	1	
L2	does the management of change system include the following		
1	requirement to inform and train operations, maintenance and contractors prior to start	2	In progress, needs updating
2	does it require updating of process safety information	2	In progress, needs updating
3	does it require updating of procedures and practices prior to start up	2	In progress, needs updating
M	**INCIDENT INVESTIGATION**		
M1	is an incident investigation system in place covering the following		
1	is investigation of "near miss" incidents required	4	
2	is it required that investigations start asap but not longer than 48 hours after the incide	4	Within 24 hours
3	investigation team must include someone knowledgeable in the process		
	and a contractor if they were involved in the incident	4	Two teams
4	does the final report include the following	4	Contained in report
a	date of incident	4	Contained in report
b	date investigation began	4	Contained in report
	incident description	4	Contained in report
d	contributing factors	4	Contained in report
e	resulting recommendations	4	Contained in report
5	system to resolve findings including documenting corrective actions	4	
6	is the final report reviewed by all personnel	4	
7	are reports retained for five years	4	

	PLANT: BLOOMFIELD REFINING		DATE: 6/23/93
TAG	DETAIL	RANK	COMMENTS
N	EMERGENCY PLANNING AND RESPONSE		
N1	does an emergency action plan for the entire plant, including small releases, exist	3	Need evacuation plan drawing
O	COMPLIANCE AUDITS		
O1	is a compliance audit procedure in place covering the following	0	Needs to be done
1	employer must certify compliance every three years	0	Needs to be done
2	compliance audit must be done by one knowledgeable in the process	0	Needs to be done
3	is the audit report written	0	Needs to be done
4	is the response to the audit prompt with deficiencies corrected and documented	0	Needs to be done
5	is the last audit report always retained	0	Needs to be done
P	TRADE SECRETS		
P1	are the particulars of the secrets rule acknowledged by the facility		
1	access to trade secrets may not be denied to those implementing the act	4	Not required
2	employer can demand signed confidentiality agreements prior to allowing access	4	Not required

PROCESS SAFETY MANAGEMENT COMPLIANCE AUDIT
Giant Refining Company
Bloomfield Refinery

Introduction:

A Process Safety Management Compliance Audit (PSM Audit) was performed at the Bloomfield Refinery July 29 through August 2, 1996. The purpose of the PSM Audit was to assess the current status of the PSM Program at Bloomfield and provide a list of recommendations with a view to bringing the facility into compliance with 29 CFR 1910.119 - the OSHA Process Safety Management Standard.

Rapley Engineering Services, Inc.(RESI) PSM Audit evaluations are based on it's interpretation of the applicable provisions of 29 CFR 1910.119 - Process Safety Management of Highly Hazardous Chemicals, OSHA Instruction CPL 2-2.45A CH-1 - PSM Compliance Guidelines and Enforcement Procedures, OSHA Publication 3132 - Process Safety Management Guidelines for Compliance, applicable OSHA interpretation letters, and published OSHA enforcement proceedings. PSM Audit recommendations represent RESI's professional opinion, but do not represent the opinion or judgement of the regulatory agencies involved, whose opinions or judgement may differ from RESI's. The PSM Audit of the Bloomfield Refinery was performed by RESI's Steve Phillips, Bruce Chrisman, and Mike McKibben.

Scope And Objectives:

The PSM Audit of the Giant Refining Company, Bloomfield Refinery's Process Safety Management Program was performed to assess compliance with 29 CFR 1910.119 - Process Safety Management Of Highly Hazardous Chemicals. The PSM Audit included an evaluation of the structure and effectiveness of the overall PSM Program at Bloomfield and a plant inspection, including employee interviews, to identify the status of PSM Program implementation. The following processes at Bloomfield were identified as covered processes under OSHA 29 CFR 1910.119:

Crude Unit	FCCU	Gas Con
Treating	Reformer/Unifiner	Utilities
Product Tank Farm	Terminal	Diesel Hydrotreater (HDS)
Sulferox (SRU)	CAT Poly	

Prior to the PSM Audit, a list of critical documentation to have available was sent to Bloomfield so that the evaluation of the Bloomfield PSM Program could be performed expeditiously and with minimal disruption. This list is included in this report as Appendix A.

A PSM Audit Checklist was created to expedite the review of the PSM Program in order to address all requirements of the PSM standard. This checklist, included in Appendix B as Table B-1, addresses the details of each element of the PSM standard, line by line, just as they appear in 29 CFR 1910.119. The checklist allows the audit team to rank the relative level of compliance of each line item. Guidelines for ranking each PSM element are included as Appendix C. The structure of the PSM Audit Checklist also allows for identification and a description of the PSM elements that require further evaluation and/or action.

The PSM Audit at Bloomfield included, but was not limited to, a review of the existing Bloomfield PSM Program Documentation, Process Safety Information, Process Hazard Analyses, Operating Procedures, Safe Work Procedures, Training Documentation, Maintenance and Equipment Files, Management Of Change Records, and interviews with several levels of plant personnel.

Audit Results And Recommendations:

The Safety Manager and the other employees at Bloomfield have put together a good basic PSM Program. The PSM Program at Bloomfield is strong in several areas. These areas include a comprehensive Operator Training Program, a good Hot Work system, a well designed Management Of Change Program, and comprehensive Incident Investigations. A large majority of the other PSM Program elements, such as Process Hazard Analyses, Operating Procedures, Contractor Safety, and Mechanical Integrity have been well implemented and will only require some "fine tuning" to become fully compliant. One strong feature of the Bloomfield PSM Program is the fact that the PSM Program at Bloomfield is not just a written collection of policies and procedures. The personnel at Bloomfield have followed through and implemented many of the PSM Program elements.

In addition to emphasizing the good parts of the Bloomfield PSM Program, an important part of a comprehensive PSM Compliance Audit is identification of deficiencies in the PSM Program and documentation of the areas that require corrective action. Identification and correction of PSM Program deficiencies is on-going and is important for the continual improvement of the Bloomfield PSM Program.

Deficiencies observed in the PSM Program at Bloomfield and/or corresponding corrective actions include the following:

1. Employee Participation

   1.1 In 29 CFR 1910.119 (The PSM Standard), OSHA states that "Employers shall develop a written plan of action regarding the implementation of the employee participation ...".

   The existing one-half page Employee Participation section in Tab C of the Bloomfield PSM Manual needs to be expanded to provide a more detailed written plan of action. Bloomfield may want to address each element with a separate paragraph.

   Bloomfield employees need to stay updated on the location of PHA reports and other PSM information. The monthly staff safety meetings at the refinery appear to be an effective means of communicating PSM information to Bloomfield employees.

   1.2 Bloomfield needs to update the plant PSM Manual and make additional copies for the Control Room, Maintenance Shop and other locations where appropriate. The front of the manuals should include a registration number and revision sheet to ensure that the manuals contain the latest revisions. The manuals need to be updated to include reference to the Diesel Hydrotreater (HDS) and the Sulferox. The manuals also need to be updated to reflect the change in ownership from Bloomfield Refining Company to Giant Refining Company.

   Bloomfield may want to consider compiling a PSM Index (see Appendix E).

2. Process Safety Information - Refer To Appendix B, Table B-2

2.1 Comprehensive process flow diagrams (PFDs) need to be created and/or updated for all of the refinery process units. The PFDs for the main process units should contain information about the process chemistry and contain mass and energy balances to comply with other PSM requirements and minimize duplication of effort. The PFDs for the Product Tank Farm and Loadout areas can be more simplified, block style PFDs. The PFDs should represent up-to-date process conditions and process equipment information. Any change in the process should be included in the Bloomfield Management Of Change Program. Much of the information required for the PFDs is available from process unit test runs and the daily summaries.

2.2 Maximum intended inventories exist for the tank farm only. A summary of maximum intended inventories for all of the process equipment needs to be compiled and included in the refinery PSM Manuals.

2.3 Information on the process technology, including safe limits of flow, temperature, etc. and consequences of deviations needs to be compiled and included in all of the Operating Procedures. This can be done easily and effectively by adding alarm response table (ARTs) to the operating procedures (see Appendix E) 1910.119 states that information concerning the technology of the process shall include an evaluation of the consequences of deviations in the process. This is best evaluated during Process Hazards Analyses and included, as also required by 1910.119 (f)(ii)(A) and (B), in the Operating Procedures (see item 4.1 below).

2.4 Materials of construction information is available for some of the process equipment. Line lists and corresponding piping specifications provide material of construction information for process piping. Very little of this piping information is available.

Equipment data sheets, equipment shop drawings and ASME U-1A and U-2 Forms, in data books and Bloomfield equipment files, provide material of construction information for vessels, tanks, and rotating equipment. OSHA considers U-1A Forms and material test reports critical for verification of actual materials of construction. Where U-1A or material test reports are not available, Bloomfield must use test equipment to provide positive material identification (PMI) or use the lowest allowable stress values in suitability for service, t_{min}, and other calculations. Most of the U-1As are available for the HDS, Sulferox, and CAT Poly units, but need to be compiled for the other process units.

Experience has shown that material of construction information for equipment is easier to keep current in individual equipment files than in plant data books. Plant data books have to be taken apart for updating, and several copies are usually spread throughout the refinery and difficult to control. A random survey of the equipment files at Bloomfield indicated that the files in the newer units, HDS, Sulferox, and CAT Poly, were somewhat complete, but the equipment files for the other units lack important equipment information. All of the equipment files need to be checked for completeness, updated, and maintained. Where appropriate, critical equipment information needs to be copied from the plant data books and included in the equipment files.

2.5 Up-to-date line lists are essential for maintaining current material of construction information of piping systems. Bloomfield should review the existing line lists to make sure that they are current and create line lists for the process units where they don't exist. Line lists can usually be easily created in conjunction with P&ID updates. Bloomfield might consider compiling all of the unit line lists, along with the piping specifications that they refer to, in notebooks, which makes them readily available and easily updated. Accurate line list information is important for the Management Of Change Program.

2.6 Up-to-date P&IDs are one of the basic building blocks of a good PSM Program. P&IDs are easily the most used PSM documents in the refinery and require the most resources to revise to an "as-is" condition and to keep current. A concentrated effort has been underway at Bloomfield to update the refinery P&IDs. A survey was made of the status of all of the P&IDs and other process safety information at Bloomfield. The results of the survey are shown in Appendix B in Table B-2.

The P&IDs for most of the process units have been updated. Bloomfield must be sure that these P&IDs have not only been thoroughly field verified, updated, and are as accurate as possible, but that all current and future changes get updated on the P&IDs via the Management of Change Program. The P&IDs for the Tank Farm and Terminal need to be field verified and updated or created.

2.7 Accurate Electrical Classification Drawings are critical when specifying electrical, instrumentation and control equipment in hazardous areas of the refinery. Any Electrical Classification Drawings created should conform to the latest edition of ANSI/API Std 500, "Recommended Practice for Classification of Locations for Electrical Installation at Petroleum Facilities".

Electrical Classification Drawings have been created for all of the refinery units as shown on Table B-2. The revision dates for the majority of Bloomfield electrical classification drawings are either April 1991, or September 1992. These drawings should be reviewed to ensure that they are up-to-date. Tanks No. 35 and 36 need to be added to electrical classification drawing D-000-600-011 Rev. 0.

The electrical classification drawings don't appear to have the level of detail required by ANSI/API Std. 500. Some Class I - Division 1 sources may not be shown on the drawings. The current electrical classification drawings only show a plan view of the hazardous locations in the refinery. Bloomfield may want to consider adding detail sheets to show the elevation view of these hazardous locations also.

Bloomfield should consider distinguishing areas where hydrogen is present (Class I, Division 2, Groups B, C, and D) from other Class I, Division 2, Groups C and D areas. Electrical equipment for Groups C and D (no hydrogen) is generally cheaper and more readily available, see example in Appendix E.

For most of the process units, the whole unit is classified Class I, Division 2, as a block. Bloomfield may want to look at the units, using API Std 500 radiuses, in case there is equipment in hazardous locations, such as MCCs, that are not rated for such.

2.8 Some electrical Single Line Diagrams exist. Single Line Diagrams for process units need to be updated and/or created. As with the P&IDs, and other process safety information, OSHA 1910.119 states that the Single Line Diagrams need to be updated as required to support the PHA schedule.

2.9 Instrument loop diagrams exist for many of the process units. Loop diagrams need to be created for some of the Utilities, the Tank Farm, Terminal, and the Sulferox. Existing loop diagrams need to be reviewed for accuracy. OSHA has indicated that the information, including loop diagrams, should be available to employees. If the information isn't included in loop diagrams, it needs to be shown on P&IDs, described in control strategy descriptions, and included as detailed instrument information available in instrument data sheets and calibration records.

2.10 A comprehensive, flare and relief system analysis was found in Tab F of the Bloomfield PSM Manual. The analysis appears to have followed the recommendations of ANSI/API Std.520 Sizing, Selection, and Installation of Pressure-Relieving Devices in Refineries and Std.521, Guide for Pressure-Relieving and Depressuring Systems. The outstanding action items identified in the relief evaluation need to be addressed and documented as soon as possible. This has been documented in several memos including the latest, dated July 18, 1995.

2.11 There is no information on ventilation system design at Bloomfield. OSHA 1910.119 (d)(3)(I)(E) requires that the ventilation system design be available where applicable. The ventilation system design of the Control Room, Sulferox Buildings, and other similar areas needs to be reviewed, compared with NFPA and API standards and a brief summary prepared and included in the Bloomfield PSM Manual.

2.12 A brief narrative identifying the design basis, including codes and standards used, needs to be prepared and included in the Bloomfield PSM Manual. Where new and used equipment at Bloomfield was built to codes and standards no longer used, Bloomfield must certify that, with a good PSM program in place, the equipment is designed, operated, tested, inspected and maintained in a safe manner.

2.13 A Master Equipment Plot Plan exists of the refinery. Plot Plans also exist for many of the process units at Bloomfield. These plot plans need to be reviewed to ensure that they are up-to-date.

2.14 OSHA requires that facilities document information pertaining to safety systems, including interlocks, detection and suppression systems. This is usually done using alarm and shutdown schematics and alarm/shutdown matrices. Experience has shown that alarm/shutdown matrices, similar to the SAFE Charts of API-14C, are the most effective method of presenting safety system information for whole process units. An example of an alarm/shutdown matrix is included in Appendix E.

Most of the alarm and safety system documentation found at Bloomfield was in the training manuals and was not complete. In addition to adding alarm response tables to the Operating Procedures (see 2.3 above), Bloomfield should consider creating brief, alarm/shutdown matrices for each of the process units. The alarm/shutdown matrices can then be included in the Operating Procedures and included in Operator Training.

3. Process Hazard Analysis (PHA)

3.1 The PSM Standard requires that Bloomfield determine and document the priority order for conducting PHAs, based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process. Bloomfield has documented the priority order in Tab G of the PSM Manual, however, there was no formal documentation of how the priority order was determined, including criteria which addressed, as a minimum, the OSHA considerations listed above. Bloomfield needs to document the prioritization scheme used and be sure that the scheme includes at least the four criteria listed above. This could be effectively accomplished by creating a formal PHA policy which not only addresses PHA priority order, but also schedule, team makeup, methods used, and how PHA recommendation items will be addressed.

3.2 Bloomfield has documented the schedule for performing PHAs in Tab G, however, the refinery is behind schedule. The schedule should be changed to reflect the current PHA effort, including completion of the FCCU, Gas Con, and Reformer PHAs later this calender year. The What-If/Checklist method used in the past Bloomfield PHAs appears to be lacking in detail and depth. If continuing to use the What-If/Checklist PHA methodology, Bloomfield may want to consider custom what-if question development, prior to the PHA, or alternatively, consider using the HAZOP method to ensure more detail in the PHAs.

3.3 Identification of any previous incidents which had a likely potential for catastrophic consequences in the process must be included in every PHA. Bloomfield appears to review previous incidents prior to the PHA, however, this must be documented with the PHA, and if no previous incidents apply, document that in the PHA records. Bloomfield also needs to place more emphasis on facility siting and human factors in the PHAs and make sure that there is documentation that these were addressed even when they doesn't apply.

3.4 Need to ensure that formal PHA policy (see 3.1 above) mandates employees with maintenance skills as part of PHA team makeup.

3.5 More emphasis needs to be placed on resolution of PHA action items. Bloomfield may want to consider using PHA recommendation follow-up forms, 1 per action item, as a better way to document action item closeout (see Appendix E). Bloomfield should also consider assigning each action item to a specific individual and assign a due date to each action item during the PHA since OSHA requires that employers provide a "written schedule of when these actions are to be completed". Bloomfield should then begin issuing "past due" reports if necessary to aid in the closeout of action items.

3.6 Bloomfield should allow the PHA Team the opportunity to review/comment on "actions taken" to improve communication of concerns and recommendations identified in the PHA meeting.

3.7 Increased emphasis needs to be placed on communication of the results of PHAs. The location of copies of all PHA reports should be communicated to all Bloomfield employees. Employees should continue to be notified of PHA reports and PHA action items using the monthly group safety meetings, etc.

4. Operating Procedures

4.1 Overall the Operating Procedures at Bloomfield are good. The procedures are laid out well and are comprehensive. PSM requirements not adequately addressed in the Operating Procedures are the consequences of deviation from the normal operating limits and identification of steps required to correct or avoid deviations. OSHA has focused on these requirements as indicated by recent PSM fine activity and specific instructions to address these topics included in OSHA Instruction CPL 2-2.45A CH-1, PSM Compliance Guidelines and Enforcement Procedures.

There are several ways to include consequences of deviation for each process variable and identification of steps required to correct or avoid these deviations into the Operating Procedures. Our experience in this area with many facilities has shown that this can be done most efficiently and cost effectively by including a section in the Operating Procedure with alarm response tables (ARTs) which includes process variables, alarm points, system responses to deviations, and suggested Operator responses to correct the deviations (see 2.3 above). An example of one of these is included in Appendix E. Alarm set points need to be included in the Operating Procedures, typically in the ARTs. We recommend that the alarm/shutdown matrices referred to in item 2.14 also be included in the Operating Procedures.

4.2 Bloomfield should place more emphasis in the temporary operations, emergency operations, and normal shutdown steps of the Operating Procedures.

4.3 Many of the Operating Procedures have been created with whatever P&IDs were available at the time. These Operating Procedures need to be revised when the P&IDs are updated.

4.4 OSHA requires that facilities "develop and implement safe work practices to provide for the control of hazards during operations such as ... control over entrance into a facility by, maintenance, contractor, laboratory, or other support personnel" and "develop and implement safe work practices ... to control the entrance, presence, and exit of contract employers and contract employees in covered process areas".

Bloomfield needs to develop a site entry control procedure and enforce it. The policy should address what is expected of Operators on various shifts, weekends, etc. It also needs to address how a head count is conducted after an evacuation, etc.

5. Training

5.1 A good, well documented, Operator Training and Certification Program is in place at Bloomfield and documented in Tab J of the Bloomfield PSM Manual. OSHA 29 CFR 1910.119 states that "Refresher training shall be provided at least every 3 years, and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current Operating Procedures of the process". Bloomfield addresses refresher training through the three step annual review process.

6. Contractor Safety

6.1 Bloomfield has a Contractor Safety Regulations and Procedures Manual as included in Tab K of the Bloomfield PSM Manual.

There needs to be more emphasis placed on contractor orientations and contractor site control (see 4.4 above). All applicable contractors need to go through an orientation which includes informing the contractors of the hazards of the processes, safe work practices, and the Bloomfield Emergency Response Plan. The RESI PSM Audit Team was not given a comprehensive contractor orientation.

6.2 Bloomfield needs to perform and formally document safety audits of Contractors to verify that Contractors comply with Bloomfield Safe Work Procedures and 29 CFR 1910.119 (h)(3) Contract Employer Responsibilities. These periodic safety audits are now being performed informally with no documentation. Some of the contract personnel attend Bloomfield group safety meetings.

7. Prestartup Safety Review

7.1 Bloomfield needs to make sure that a prestartup safety review is performed for a new or significantly modified process and a change startup safety checklist is completed prior to startup.

We also recommend that Bloomfield maintain a copy of all prestartup safety information in a predefined location where it is easily accessible.

8. Mechanical Integrity

8.1 Bloomfield currently has a Mechanical Integrity Program in place. Many of the Mechanical Integrity elements are in place at Bloomfield, but they need to be revised and enhanced to assure compliance with 29 CFR 1910.119.

We recommend that Bloomfield put together a Mechanical Integrity (MI) Program Manual, similar to the Ciniza MI Manual, which describes the overall MI Program at Bloomfield. The MI Manual should include a list of covered process equipment and instrumentation, prioritized to indicate which pieces of equipment require closer scrutiny than others. The prioritization scheme should be risk based in nature, with piping prioritized based on API-570.

8.2 Bloomfield needs to include all process equipment in its Mechanical Integrity Program. This includes, but is not limited to: pressure vessels, storage tanks, process piping, heat exchangers, relief valves, rupture disks and flares, ESD systems, monitoring devices, sensors, alarms, pumps and compressors.

Storage tanks need to integrated into the Bloomfield MI Program.

8.3 Bloomfield needs to establish and implement written maintenance procedures to maintain the integrity of process equipment. Many of these maintenance and instrument calibration procedures can be derived directly from manufacturer's information. In some cases where the maintenance procedures are extremely large, such as for compressors, Bloomfield may want to use the procedure to provide a general summary of the maintenance tasks and refer to the manufacturer's procedure for the specifics.

Other Mechanical Integrity procedures such as inspection, testing and welding procedures also need to be addressed.

8.4 Bloomfield has a good Maintenance Dept. Apprenticeship Training Program in place. Once the maintenance procedures described in item 8.3 above are in place, 1910.119 (j)(3) requires that Bloomfield train Maintenance Personnel on these procedures.

8.5 Included in the Mechanical Integrity Program documentation should be a description of the Bloomfield Inspection and Testing Program required in 1910.119 (j)(4). This should be a part of the MI Manual (see 8.1 above). We recommend that the Quality Assurance requirements of 1910.119 (j)(6) be combined with the Inspection and Testing Program.

The current Bloomfield inspection and testing program is based on performing inspections of piping, relief valves, and other process equipment during turnarounds, based on a three year cycle. If equipment is within 10% of its retirement limit, the inspection frequency is changed to every year, and if its within 5% of its retirement limit, the inspection frequency is changed to every six months. Boilers undergo an annual inspection, and LPG storage is inspected every five years.

The frequency of inspections need to be checked with industry standards such as ANSI/API Std 510, Pressure Vessel Inspection Code, ANSI/API Std 570, Piping Inspection Code, and modified if required.

8.6 The documentation system that Bloomfield is currently using to document piping, vessel and relief valve testing is good. The MMS system documents preventive maintenance activities. Some inspection isometrics exist. Bloomfield should review the inspection and testing documentation for completeness and compile missing information where applicable.

Bloomfield needs to review the equipment files and make sure all required equipment information is included (see 2.4 above).

8.7 Industry standards such as API Std 510, the Pressure Vessel Inspection Code, now require that only qualified NDE inspectors, inspection procedures, welders, and welding procedures are used. Bloomfield needs to include these considerations in the Mechanical Integrity Program and require welding and inspection certifications.

8.8 The Bloomfield work order system meets the PSM requirements for a program to correct deficiencies in equipment that are outside of acceptable limits.

9. Hot Work - No action required.

10. Management of Change

10.1 Bloomfield has a good Management of Change (MOC) Program in place. The MOC Program is described in Tab L of the Bloomfield PSM Manual.

There doesn't appear to be a formal system in place to perform a periodic review of the status of outstanding MOCs. Bloomfield should put together a group to periodically review the status of outstanding MOCs. A weekly status review seems to work the best.

10.2 The MOC Change Startup Safety Checklist should be completed prior to startup.

11. Incident Investigation

11.1 Bloomfield has a good Incident Investigation system in place. More emphasis should be placed on starting the incident investigation not later than 48 hours following the incident and future incident investigations need to be modified to include information on when the investigation began.

12. Emergency Planning and Response

12.1 Bloomfield appears to have a good Emergency Response Plan, Safety Order S-1, in place. The Emergency Response Plan needs to be periodically reviewed to make sure that all of the information in the plan is correct.

Bloomfield may want to review the new Integrated Contingency Plan Guidance and combine the various EPA and OSHA emergency response plans into a single plan.

13. PSM Compliance Audits

13.1 Documentation of the previous July 9, 1993, Bloomfield Refinery PSM Audit Report, is poor. Bloomfield needs to provide complete documentation of the PSM Audit Recommendation Items included in Table D-1 of this report. The PSM Audit Recommendation Items need to be addressed in a timely manner, as required by 29 CFR 1910.119.

14. Trade Secrets - No Action Required

I. PURPOSE

OSHA regulation 1910.119 requires changes and modifications that could affect process safety to be managed in a way to eliminate or reduce as much as possible the hazards created by such changes. BRC's goals are to protect its employees, the community, the environment, and its assets. Because of this commitment to safety, the environment and product quality, the "Management of Change (MOC)" process was developed. Managing change means:

- Adequately reviewing proposed changes to ensure that unacceptable risk is not introduced.
- Documenting the changes in operations manuals, maintenance procedures, process flow diagrams, piping and instrument diagrams, training materials, etc.
- Updating procedures or developing new procedures as the result of change.
- Informing and/or training employees that are affected by the changes.
- All changes must go through the defined MOC process for authorization and documentation requirements.
- After a change to a process is made a pre-startup safety audit must be performed before introduction of hazardous or flammable materials.

II. APPLICATION

Change is defined as any not-in-kind modifications to any facility equipment, process chemical, operating or maintenance procedures, or operating conditions. MOC must be applied to all types of change:

III. DEFINITIONS

Replacement in Kind (RIK) - replacement of existing process equipment including piping, valves, etc. with identical equipment or equipment that meets original design specifications and has documented evidence of qualification by an authorized individual. Piping, valves, etc. that meet the design specification shown on the Mechanical Flow Diagram (MFD) will be considered RIK regardless of the vendor. Under no circumstances can changes to equipment, process control, process, or facilities be considered RIK.

Baseline Documentation -Baseline documentation information includes the following and will be maintained by the department listed.

1. MSDS on file (safety)
2. Material and energy balances (tech. svcs.)
3. Process block diagram or flow sheets (operations)
4. Process chemistry (tech svcs)
5. Maximum intended product inventory (operations)
6. Safe upper and lower operating limits (operations)
7. Materials of construction (maintenance)

8. One Lines, Loops and Wiring Diagrams (maintenance)
9. Electrical area classification (maintenance)
10. Relief system design and basis (tech. svcs.)
11. Ventilation system design (maintenance)
12. Design codes and standards (maintenance)
13. Safety systems (safety)
14. Environmental Permits (environmental)
15. Equipment specifications (maintenance)
16. Operation procedures (operations)
17. Maintenance procedures (maintenance)

Work Order Request - the form that describes the proposed work to be performed and facilitates judgement of whether work is a Change or RIK.

MOC Control Sheet - A change request form that facilitates control and trackability of the requirements of OSHA 1910.119 (Appendix II)

Change Startup Checklist - A form that must be completed prior to start-up or implementation of a change. (Appendix III)

Normal Operating Changes - day to day operating adjustments within the scope of unit original design such as pressures, temperatures, liquid levels, etc. These changes do not fall within the guidelines of MOC.

IV. REQUIREMENTS

1. The following considerations must be addressed prior to any change.
   a) the technical basis for the proposed change
   b) impact of change on safety and health
   c) modifications to operating procedures
   d) necessary time period for the change
   e) authorization requirements for the proposed change
   f) the effect of change on product quality or quantity
   g) the possible adverse effects the change could have on the environment.

2. Employees involved in operating a process, and maintenance and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start up of the process or affected part of the process by their respective departments.

3. Baseline documentation (Process Safety Information) must be updated as required by the changes in a timely manner. It is the responsibility of each Department Manager to ensure that baseline data that they affect or are responsible for maintaining shows current conditions and is accessible.

4. Any change in procedures or practices needed as a result of a change must be updated in a timely manner.

V. PROCEDURES

There are three classifications that are considered change. They are:
Equipment change
Chemical, Technology, and Procedure change
Plant Project change

Each of these has its own approval procedures.

Equipment Change Procedure

(1) All requests for work will be through the Work Order System using the Work Order Request Form. If the work is determined to be Replacement in Kind, by the Technical Services Manager the MOC process will not be required.

(2) If the work is determined to be a change, the Technical Services Manager will indicate on the Work Order - "Process Change Required", assign a "Project Originator" and forward the Work Order to Maintenance Planning where the Work Order will be logged into the system; a MOC Control Sheet (appendix II) will be attached; and sent to the "Project Originator" for project development.

After project development by the Project Originator is complete, the MOC Control Sheet with all necessary attachments and drawings will be circulated (in order as indicated on the bottom of the sheet). After each individual review, the package is to be passed on to the next on the list and the log sheet (maintained at the mail boxes) dated to indicate review is complete and passed on.

(3) Approval. Each Work Order Request Form, MOC Control Sheet, and project information must be reviewed and approved as listed below. Any change may be deferred to a higher level for approval.

a) Level I Approval - A change approval for minor changes or substitutions where the operating process is basically unaffected, can be made by the planner and operation supervisor without further review. -Items under this level include; gasket material, lubrication requirements, control configurations, piping re-routing or size changes etc.

b) Level II Approval - A change that requires a joint approval by each department within the Refinery most often the department head. -Items under this level include; all changes to the process, equipment, and or chemical which do not fall under the Level I criteria and are not Replacement in Kind.

Chemicals, Technology, and Procedure Changes

Work procedures such as Safety and Health Standards operating procedures, maintenance procedures, chemical changes that are not initiated through the Work Order System will meet the following guidelines:

1) Each department will develop a system to define and control procedures applicable to their department.

2) Each change to a procedure or work process must be reviewed through a departmental Change process defined by each department.

3) All chemical changes initiated by any department must be reviewed and approved by the Safety and Environmental Departments.

Plant Projects

All Management of Change requirements must be met on Plant Projects as a Level II Change.

Plant projects will also include a P&ID review by Refinery Management and a Process Hazard Analysis prior to job completion, and a Pre-Startup Safety Audit before any new unit is brought on line.

Temporary Changes

All changes must go through MOC. Temporary changes must meet all MOC requirements, and MOC requirements must be met when a temporary change is being returned to original state.

See Appendix I (MOC Decision Chart) for additional information on MOC authorizations.

VI. GUIDELINES FOR DOCUMENTATION

After a Work Order and MOC Control Sheet are approved, the assigned "Project Originator" will address all comments, then forward it to Planning so the Work Order can be issued. It is the responsibility of Maintenance Department to keep "trackable" files on all changes initiated through the Work Order system. These files should be kept by "Unit". Every Work Order Form and MOC Control sheet must be kept until the next Hazard Analysis has been completed and P&ID's updated.

All baseline documentation must be updated to reflect the changes made. Refer to "baseline documentation" in the definition section of this document.

VII. PRE-STARTUP OF CHANGED OR NEW PROCESS

After all work has been complete to change an existing process or construction of a new process is finished a "Pre-Startup" audit must be performed and the Checklist (appendix III) completed. One member from the Operations, Maintenance, Engineering, and Safety Departments will perform this audit.

APPENDIX II

MANAGEMENT OF CHANGE CONTROL SHEET

Project Title:_____ W.O. # _____
AFE # _____
Originator: _____ Date: _____

Project Description:(attach sketch, P&ID, Iso's etc.)

_____
_____
_____

Change to: Equipment ____ Chemical ____ Technology ____
Technical Basis or Reason:_____
_____
_____

Required completion date:_____

Design Reviewed: (___- MANDATORY REVIEW _____- OPTIONAL REVIEW)

	OPER	MAIN	T.SVC	SFTY
PROCESS FLOW				
PRESSURES				
TEMPERATURES				
EQUIPMENT LOCATION				
EQUIPMENT NUMBERING				
FOUNDATIONS				
INSTRUMENTS				
VESSELS				
EXCHANGERS				
PUMPS				
PIPING				
BLEEDERS, VENTS, & DRAINS				
RELIEF VALVE PROTECTION				
FIRE PROTECTION				
FIRE PROOFING				
STRUCTURAL				
LIGHTING				
ELECTRICAL POWER				
ELECTRICAL CLASSIFICATION				
SAFETY FACILITIES				
EMPLOYEE ACCESS				
SEWERS				
HEAT TRACING				
THERMAL INSULATION				
PERSONNEL INSULATION				
FUGITIVE EMISSIONS				_ENV_
SPILL CONTAINMENT				_ENV_

COMMENTS:

_____
_____
_____

DESIGN REVIEW APPROVAL:(in order)

1_____	2_____	3_____	4_____
TECH. SVC. MGR	OPER. MGR.	OPER. SUPER.	TRAINING
5_____	6_____	7_____	8_____
MAINT. MGR.	PLANNING	I&E SUPER.	GM SUPER.
9_____	10_____	11_____	12_____
SAFETY	ENVIRONMENTAL	REFINERY MGR.	ORIGINATOR

APPENDIX III

CHANGE STARTUP SAFETY CHECKLIST

Project Title:_____ W.O. # _____
AFE # _____
Originator: _____ Date: _____

(mark each item: C-complete NC-not complete NR-not required)

Procedures & Documentation:

___ Process description
___ Process flowsheet
___ Startup procedures
___ Normal operation procedures
___ Emergency operating procedure
___ Emergency shutdown procedures
___ Operating limits defined
___ Operators trained
___ MSDS for new chemicals
___ Flammability defined
___ Chemical hazards defined
___ Chemical training
___ Environmental Permits
___ PHA complete
___ PHA recommendations addressed
___ Maintenance procedures

Facilities and Equipment:

___ Safety equipment available
___ Pressure vessels reviewed
___ Relief valves in place & open
___ Equipment installed to spec.
___ Equipment labels in place
___ Dikes and drainage
___ Piping vents and drains
___ Piping supported properly
___ Cleanup provisions
___ Fireproofing complete
___ Spare parts addressed
___ Equipment files in place
___ Guards in place
___ Adequate ventilation
___ Emergency exits
___ Proper lighting
___ Housekeeping prior to startup
___ Signs and instructions posted

Instrument and Electrical:

___ Equipment grounded
___ Electrical inspected
___ Electrical equipment labled
___ One lines updated
___ Elec. classification verified
___ Critical instruments defined
___ Control valves fail position checked before installation
___ Set points defined
___ Instruments calibrated
___ Alarms labled

Comments:

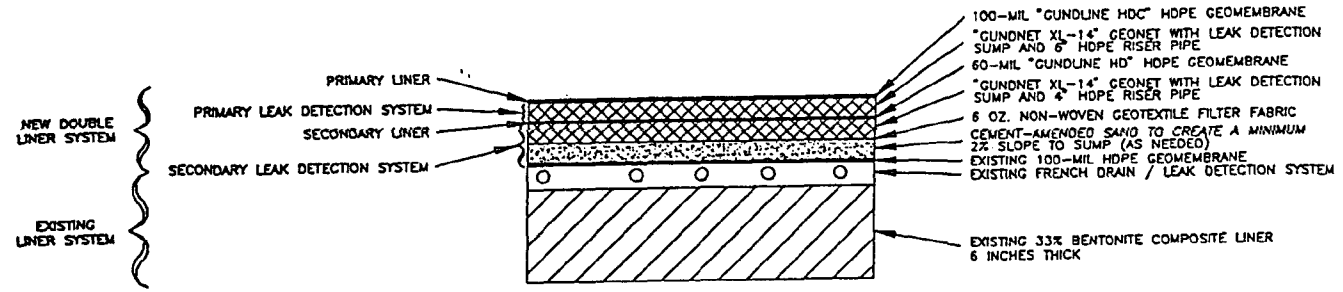
_____
_____
_____
_____
_____

Maintenance: _____ Operations: _____

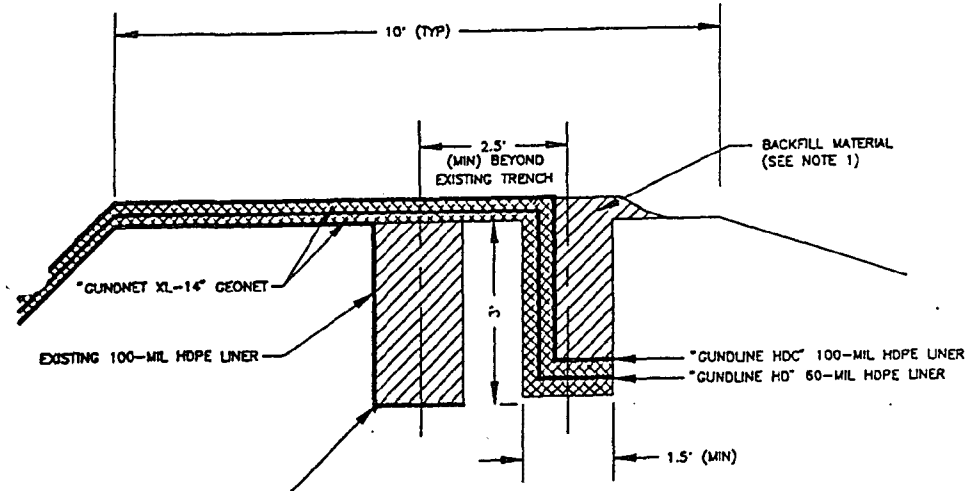
Engineering: _____ Safety: _____

APPENDIX D

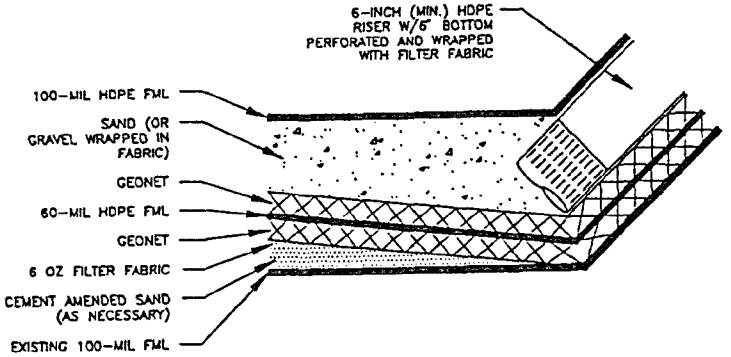
NOTES
1) USE SUITABLE GRANULAR BACKFILL MATERIAL COMPACT BACKFILL TO MINIMUM 90% STANDARD PROCTOR DENSITY AT ± 3% OF OPTIMUM MOISTURE CONTENT.



LINER DETAIL
DETAIL A (TYP)
(N.T.S.)



ANCHOR TRENCH DETAIL
DETAIL B (TYP)
(N.T.S.)



PRIMARY LEAK DETECTION SUMP DETAIL
DETAIL C (TYP)
(N.T.S.)

CONCEPTUAL
NOT FOR CONSTRUCTION

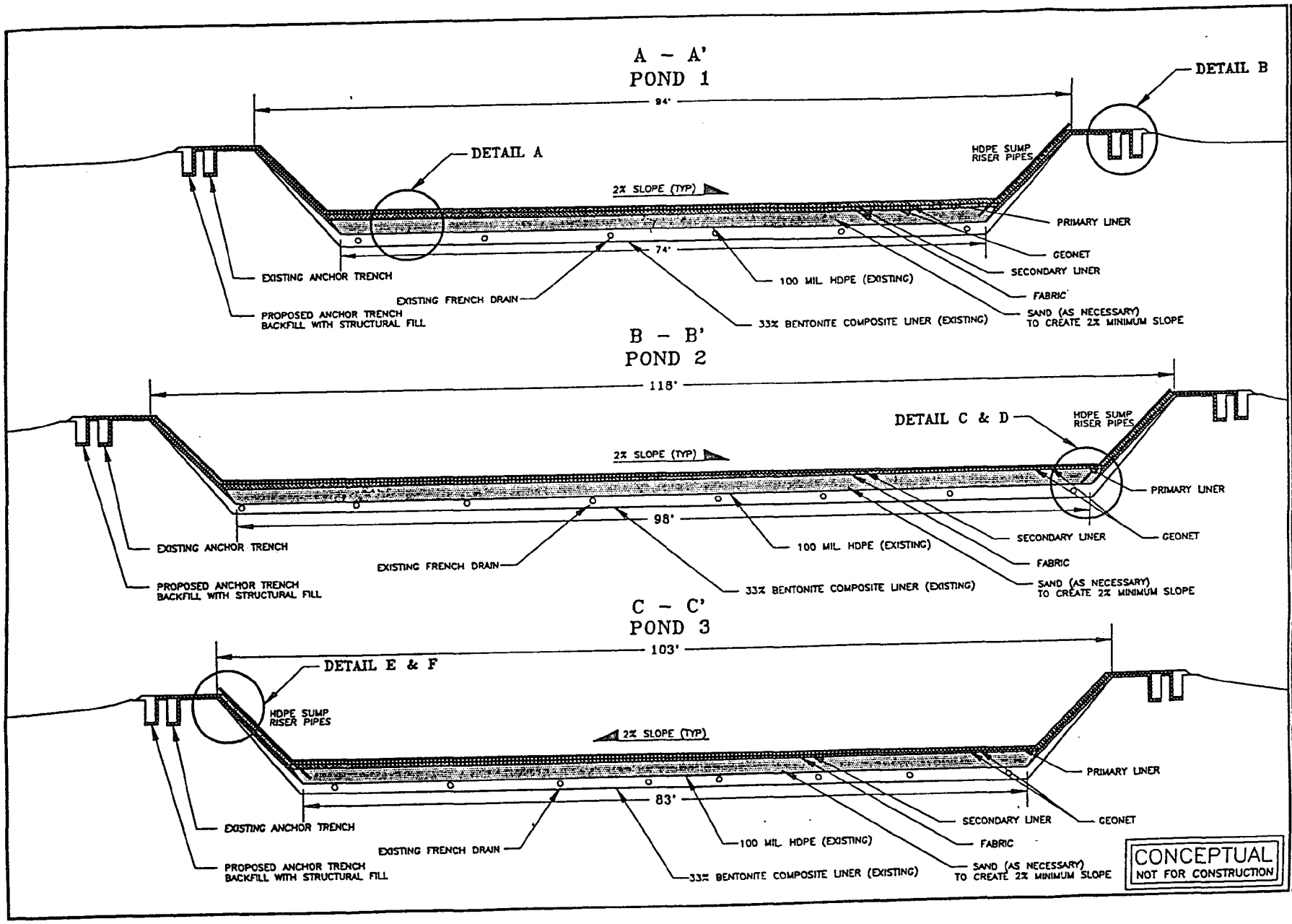
ERM-Rocky Mountain, Inc.
5950 South Willow Drive
Suite 200
Greenwood Village, Colorado 80111
(303) 741-5050

BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO 87413

SURFACE IMPOUNDMENT RETROFIT
SYSTEM DETAILS

DESIGNED	EAG
DRAWN	SRL
CHECKED	
DATE	02/10/94
JOB NO	931044.0
FILENAME	FIG-3

FIGURE 9



ERM-Rocky Mountain, Inc.
5950 South Willow Drive
Suite 200
Greenwood Village, Colorado 80111
(303) 741-5050
ERM

BLOOMFIELD REFINING COMPANY
BLOOMFIELD, NEW MEXICO 87413

CROSS SECTIONAL VIEW OF SURFACE IMPOUNDMENTS

DESIGNED	EAG
DRAWN	SRL
CHECKED	
DATE	02/11/94
JOB NO	931044.0
FILENAME	FIG-2

FIGURE 8

BLOOMFIELD REFINING COMPANY

SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN

WITH EMERGENCY PLAN AND STORMWATER POLLUTION PREVENTION PLAN

Prepared By:

Bloomfield Refining Company
P.O. Box 159
Bloomfield, New Mexico 87413

June, 1999

SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN

1.0 GENERAL INFORMATION

1.1 Name of facility: **Giant Refining Company - Bloomfield**

1.2 Type of facility: **Onshore Facility - Petroleum Refinery**

1.3 Location of facility: **#50 County Road 4990**
Bloomfield, New Mexico 87413

Near latitude: 36°41'50"
longitude: 107° 58'20"

1.4 Name and address of operator:

Name : **Giant Refining Company - Bloomfield**
Address: **P.O. Box 159**
Bloomfield, New Mexico 87413

1.5 Designated person accountable for oil spill prevention at the facility:

Name and title: **Lynn Shelton, Environmental Manager**

1.6 Reportable oil spill event during last five years: **None**

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described.

Signature: _____

Name: **John Stokes**
Title: **Refinery Manager**

CERTIFICATION

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC Plan has been prepared in accordance with good engineering practices.

Chad King
Printed Name of Registered Professional Engineer

(Seal)

Signature of Registered Professional Engineer

Date_____ Registration No._____ State_____

PART 1 GENERAL INFORMATION

1.7 Potential Spills - Prediction & Control

NO.	SOURCE	MAJOR TYPE OF FAILURE	TOTAL QUANTITY (BBLS)	RATE (BBLS /HR)	DIR. OF FLOW	SECONDARY CONTAINMENT
	PRODUCT TANKS					
3	JP-8	RUPTURE	10,000	SEE 1	SEE	EARTHEN DIKES
4	JP-8	"	10,000	"	DWGS	"
5	HI-REFORMATE	"	10,000	"	"	"
8	CRUDE SLOP	"	500	"	"	CONCRETE ENCLOSURE
9	CRUDE SLOP	"	500	"	"	"
11	REFORMATE	"	55,000	"	"	EARTHEN DIKES
12	POLY/CAT MIX	"	55,000	"	"	"
13	NOLEAD SALES	"	30,000	"	"	"
14	NOLEAD SALES	"	30,000	"	"	"
17	REDUCED CRUDE	"	40,000	"	"	"
18	#1 DIESEL	"	55,000	"	"	"
19	#2 DIESEL	"	36,000	"	"	"
20	FCC SLOP	"	5,000	"	"	"
21	FCC SLOP	"	3,000	"	"	"
22	GASOLINE SLOP	"	1,500	"	"	"
23	BASE GASOLINE	"	40,000	"	"	"
24	REFORMER FEED	"	10,000	"	"	"
25	REFORMER FEED	"	10,000	"	"	"
26	JET A SALES	"	4,000	"	"	"
27	HVY BURNER FUEL	"	10,000	"	"	"
28	CRUDE	"	80,000	"	"	"
29	#2 DIESEL SALES	"	17,000	"	"	"
30	PREMIUM BLEND	"	17,000	"	"	"
31	CRUDE	"	110,000	"	"	"
32	PREMIUM GASOLINE	"	20,000	"	"	"
35	REFORMER FEED	[illegible]	55,000	[illegible]	[illegible]	[illegible]
36	POLY/CAT MIX	[illegible]	55,000	[illegible]	[illegible]	[illegible]
44	ETHANOL	"	2,000	"	"	"
	PRESSURE TANKS					
B-01	LPG SLOP	"	286	"	"	"
B-02	LPG SLOP	"	430	"	"	"
B-12	LT NATURAL	"	692	"	"	"
B-13	BUTANE	"	500	"	"	"
B-14	BUTANE	"	500	"	"	"
B-15	PROPANE	"	714	"	"	"
B-16	PROPANE	"	714	"	"	"
B-17	POLY FEED	"	714	"	"	"
B-18	POLY FEED	"	714	"	"	"
B-19	POLY FEED	"	714	"	"	"
B-20	BUTANE	"	714	"	"	"
B-21	BUTANE	"	714	"	"	"
B-22	SATURATE LPG	"	714	"	"	"
B-23	SATURATE LPG	"	714	"	"	"
PROCESSES						
	FCC UNIT	"		"	"	PROCESS AREAS ARE
	CRUDE UNIT	"		"	"	EQUIPPED WITH
	REFORMER UNIT	"		"	"	CONCRETE PADS &
	CAT/POLY UNIT	"		"	"	CURBS THROUGHOUT.
	LOADING AREA	OVERFLOW		250	"	" CNCRT PADS & CURBS.

Note: Rate extremely variable, depending upon nature and extent of failure. Tank 11 is used to calculate worst case scenario (see Response Plan section).

1.8 Containment or diversionary structures or equipment to prevent oil from reaching navigable waters are practicable.

Yes, secondary containment is provided for all oil release sources. In addition, an arroyo that is located to the north, central part of the refinery (see drawings) that normally would drain to the San Juan River, is equipped with dikes that would act as tertiary containment.

1.9 Inspections and Records

A. The required inspections follow written procedures. Yes

B. The written procedures and a record of inspections, signed by the appropriate supervisor or inspector, are attached. Some

Discussion: The refinery is manned on a 24-hour basis. Each area of the facility has assigned personnel responsible for continuous monitoring of the facility systems. Process equipment is monitored in accordance with appropriate API Standards. Tanks are inspected in accordance with API Standard 653, Tank Inspection, Repair, Alteration, and Reconstruction.

1.10 Personnel Training and Spill Prevention Procedures

A. Personnel are properly instructed in the following:

(1) operations and maintenance of equipment to prevent oil discharges, and Yes

(2) applicable pollution control laws, rules, and regulations. Yes

Describe procedures employed for instruction:

Operations personnel complete an operator certification program that includes pollution prevention techniques. New personnel are given on-the-job training by experienced personnel and supervisors of all aspects of the job. Hazardous materials training is provided to all employees. Emergency response training is provided at least annually. Fire training, which includes techniques applicable to overall ability to prevent oil releases, is provided annually.

B. Scheduled prevention briefings for the operating personnel are conducted frequently enough to assure adequate understanding of the SPCC Plan. Yes

Describe briefing program: New employees are given extensive initial training. Monthly safety training, to include spill prevention, is conducted by plant supervision. Spill incident reports are prepared for all spills that occur within the refinery. Supervision discusses the incident with the responsible party and determines a course of action to avoid future occurrences. Small incidences are considered serious.

SPCC PLAN, BLOOMFIELD REFINING COMPANY
PART 2, ALTERNATE A, DESIGN AND OPERATING INFORMATION

A. Facility Drainage

1. Drainage from diked storage areas is controlled as follows (include operating description of valves, pumps, ejectors, etc.): Diked areas are not directly drained. Any spills within diked storage areas will be removed by the use of portable pumps (a large diesel operated pump is maintained by the refinery) or mobile vacuum units. The refinery owns one vacuum truck and others can be quickly obtained from local contractors.

2. Drainage from undiked areas is controlled as follows (include description of ponds, lagoons, or catchment basins and methods of retaining and returning oil to facility):
Drainage in the process areas is controlled by oily/water sewers routed to the API separator which removes oil. The refinery does not operate a separate storm water system. The water effluent from the separator (and oil carryover in the event of an overloading incident) goes to a series of three lined ponds and then selectively to four possible evaporation ponds. Any oil carried over would be skimmed utilizing booms and vacuum trucks and returned to the API separator for oil recovery.

3. The procedure for supervising the drainage of rain water from secondary containment into a storm drain or an open watercourse is as follows (include description of (a) inspection for pollutants, and (b) method of valving security). The refinery is located in a relatively arid region with average rainfall of about 9 inches. Rainwater is not normally removed from secondary containment. Secondary containment is not equipped with direct draining equipment. If removal of rain water is required, it would be removed utilizing pumps or vacuum trucks. Any removed rain water will be emptied into the refinery waste water system, routed first through the API separator. The refinery is a zero discharge facility. No stormwater is directly discharged to any storm drains or open watercourses. Waste water is currently disposed by evaporation.

SPCC PLAN, BLOOMFIELD REFINING COMPANY
PART 2, ALTERNATE A, DESIGN AND OPERATING INFORMATION

B. Bulk Storage Tanks

1. Describe tank design, materials of construction, fail-safe engineering features, and if needed, corrosion protection: Tanks are all of circular steel construction. Tanks 20, 21, 24, and 25 are bolted construction. The rest are welded construction. Tanks 11, 12, 13, 14, 32, and 44 are built on a concrete tank ring and sand cushion; tanks 8 and 9 are built on concrete pads with concrete retaining walls; and all others are constructed on sand pads only. All tanks are painted for external corrosion control. The tank floors and under ground piping are protected with an active electrical cathodic protection system.

2. Describe secondary containment design, construction materials, and volume: Secondary containment consists of earthen dikes (minimum). Volume is adequate for most tanks, but will be evaluated during 1993 inspection.

3. Describe tank inspection methods, procedures, and record keeping: Tanks throughout the refinery are manually gaged each day. The gauger is on the alert for any leaks or tank disorders. Daily inventory logs are checked and balanced to determine disorders or losses. Tanks are scheduled for periodic cleaning, depending on age, during which complete internal inspections are done. Repairs are made before putting the tank back in service. Tanks are inspected in accordance with API Standard 653. Records include detailed individual tank files, computerized inspection histories, and API 653 inspection results.

4. Internal heating coil leakage is controlled by one or more of the following control factors:

(a) Monitoring the steam return or exhaust lines for oil. Yes

Describe monitoring procedure: Daily product sampling and continuous lookout for oil in the steam return lines.

(b) Passing the steam return or exhaust lines through a settling tank, skimmer, or other separation system. Yes

(c) Installing external heating systems. N/A

5. Disposal facilities for plant effluent discharged into navigable waters are observed frequently for indication of possible upsets which may cause an oil spill event. N/A

C. Facility Transfer Operations, Pumping, and In-plant Process

1. Corrosion protection for buried pipelines:

(a) Pipelines are wrapped and coated to reduce corrosion. Yes

(b) Cathodic protection is provided for pipelines if determined necessary by electrolytic testing Yes

(c) When a pipeline section is exposed, it is examined and corrective action taken as necessary: Yes

2. Pipeline terminal connections are capped or blank-flanged and marked if the pipeline is not in service or on standby service for extended. Yes

Describe criteria for determining when to cap or blank-flange: Buried lines containing oil or oil products have been eliminated except where absolutely necessary such as road or dike crossings. All abandoned lines are plugged or capped.

3. Pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contraction. Yes

Describe pipe support design: Supports are steel and concrete structures of various shapes. Shoes are provided on process piping. Fireproofing has been applied to some critical, vertical steel members.

4. Describe procedures for regularly examining all above-ground valves and pipelines (including flange joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces): Daily visual inspections are done by plant personnel.

5. Describe procedures for warning vehicles entering the facility to avoid damaging above-ground piping: A rigid permitting procedure is followed to authorize vehicles in the refinery. Where possible, roads cross over pipes. Overhead piperacks in traffic areas are very high to allow clearance for all types of vehicles. Contractors are given careful safety instructions before they are allowed in the refinery.

SPCC PLAN, BLOOMFIELD REFINING COMPANY
PART 2, ALTERNATE A, DESIGN AND OPERATING INFORMATION

D. Facility Tank Car & Tank Truck Loading/Unloading Rack

Tank car and tank truck loading/unloading occurs at the facility. (If YES, complete 1 through 5 below.) Yes

1. Loading/unloading procedures meet the minimum requirements and regulations of the Department of Transportation. Yes

2. The unloading area has a quick drainage system. Yes

3. The containment system will hold the maximum capacity of any single compartment of a tank truck loaded/unloaded in the plant. Yes

Describe containment system design, construction materials, and volume: The truck product loading area controls spills with a concrete slab and curbing. The slab is designed to drain spills to a sump which is then pumped to Tank 22 from which the material is blended back into leaded gasoline or other appropriate product. The truck crude unloading area controls spills with a concrete slab and curbing. The slab is designed to drain spills to a sump which can then be pumped to the crude treating tanks or the API separator. Both areas have secondary containment (earthen dikes) in the event of sump overfilling. Overflow, automatic shutoffs are required on trucks.

4. An interlocked warning light, a physical barrier system, or, warning signs are provided in loading/unloading areas to prevent vehicular departure before disconnect of transfer lines. Yes

Describe methods, procedures, and/or equipment used to prevent premature vehicular departure: Warning and instruction signs are provided in the area. New drivers are trained in the proper operation of the loading/unloading equipment. Company personnel (other than truck drivers) are present in the area to provide assistance when needed.

5. Drains and outlets on tank trucks and tank cars are checked for leakage before loading/unloading or departure. Yes

The facility does not have any rail operations.

SPCC, BLOOMFIELD REFINING COMPANY
PART 2, ALTERNATE A, DESIGN AND OPERATING INFORMATION

F. Security

1. Plants handling, processing, or storing oil are fenced.
Yes

2. Entrance gates are locked and/or guarded when the plant is unattended or not in production. Yes

3. Any valves which permit direct outward flow of a tank's contents are locked closed when in non-operating or standby status.
No

4. Starter controls on all oil pumps in non-operating or standby status are:
(a) locked in the off position; No
(b) located at site accessible only to authorized personnel.
Yes

5. Discussion of items 1 through 4 as appropriate: The refinery is operated on a 24-hour basis with all valves operated by trained, authorized personnel. The valves associated with the piping between process areas and tankage are part of a closed piping system. Water draw-off piping is routed to tank sumps. The valves for water draw-offs are operated only by authorized personnel and are attended constantly when in operation. These valves are also located inside the tank secondary containment. If piping is disconnected for maintenance reasons, blind flanges are bolted to the valves.

6. Discussion of the lighting around the facility: The refinery is equipped with extensive lighting, adequate for a 24 hour per day operation. The tankfarm is not lighted in many areas but emergency mobil lighting is available.

GIANT REFINING COMPAWY - BLOOMFIELD
OIL SPILL RESPONSE PLAN

1.1 EMERGENCY RESPONSE ACTION PLAN

This section of the Oil Spill Response Plan is co-located to the front of this plan for easy access by response personnel during an actual emergency. Additional details may be available in the sections that follow this section.

1.1.1 Qualified Individual Information (Section 1.2)

GRC has a detailed procedure (Attachment 1, Safety Order S-1) for responding to any emergency that may occur at the facility. This would include fires, explosions, release of flammable vapor or gas, release of toxic vapor or gas, release of crude oil, intermediates, or products, and bomb threats. The command procedures for an oil spill would be the same as defined in Safety Order S-1. The Operation's Shift Supervisor, generally most available at any time of day or night, would assume initial command of emergency control efforts until arrival of the Safety Manager. The Shift Supervisor will transfer command to the Safety Manager, or, in the absence of the Safety Manager, to the Safety Supervisor.

Emergency Phone		(505 632-8013 and/or Home phone numbers)		
Name	:	Jim Stiffler		
Position	:	Safety Manager		
Home Address	:	111 Wade Circle Bloomfield, NM		
Emergency Phone	:		(505) 632-1214	
Name	:	Randy Schmaltz		
Position	:	Safety Supervisor		
Home Address	:	3601 Buena Vista Farmington, NM		
Emergency Phone	:		(505) 327-0985	
Name	:	Richard Alexander	Vic McDaniel	
Position	:	Shift Supervisor	Shift Supervisor	
Home Address	:	404 N. 7th Street Bloomfield, NM	746 CR 4990 Bloomfield, NM	
Emergency Phone	:		(505) 632-2730	(505) 632-9408
Name	:	Ed Lohman	Larry Hawkins	
Position	:	Shift Supervisor	Shift Supervisor	
Home Address	:	2409 E. Blanco	3270 LaPlata Hwy.	
	:	Bloomfield, NM	Farmington, NM	
Emergency Phone		:(505) 632-2435	(505) 326-2823	

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

LIST OF ATTACHMENTS

GIANT REFINING COMPANY - BLOOMFIELD
OIL SPILL RESPONSE PLAN
TABLE OF CONTENTS

If spill did not enter or threaten to enter a waterway, report the spill to the New Mexico Oil Conservation Division and other State offices as appropriate.

Did spill enter or threaten ground water? If yes, immediately call above State offices and

New Mexico Ground Water Bureau.....(505) 827-2900

Since crude is potentially a hazardous waste, also call

New Mexico Hazardous Waste Bureau.....(505) 827-4358

If spill is to Hammond Ditch, notification should also be made to the Hammond Ditch operator

Hammond Conservancy District.....(505) 632-3043

If spill is on Navajo Nation land, also notify

Navajo Nation Fire & Rescue Services.....(602) 871-6111

If spill is on public land, also notify

United States Bureau of Land Management.....(505) 327-5344

INFORMATION SUMMARY

Name of Pipeline Operator: Bloomfield Refining Company
P. O. Box 159
Bloomfield, NM 87413

Comments: Bloomfield Refining Company operates the pipeline as an associated activity to the refining operations. Although specific individuals are assigned to the pipeline operation, Bloomfield Refining Company will commit resources as necessary to assist in a pipeline emergency response. The response plan written specific to the refining operations (included elsewhere in this submittal) should be considered applicable to the pipeline response where appropriate.

Name of Response Zone: San Juan Pipeline, San Juan County, New Mexico

Name, Address, and Telephone Numbers of Qualified Individual:

Ron Weaver
P. O. Box 159
Bloomfield, New Mexico 87413

Business: (505) 632-8013 (24-hr)
(505) 632-3377

Home: (505) 632-5971

Description of Response Zone: San Juan County, New Mexico
6 5/8" M/L.

San Juan Pipeline Emergency Notification Requirements

Almost any emergency resulting in the release or potential release of oil into the environment will require some sort of notification to Federal and/or State governmental agencies. In most cases an initial verbal notification needs to be made as soon as possible (as soon as the responsible person can free himself from the demands of the emergency but no later than 24 hours).

Be prepared to report your name, address, telephone number; identity, location, and nature of spill; identity of pipeline; nature of injuries or property damage; other relevant circumstances; and correction actions taken.

There is never a penalty for unnecessarily reporting a spill.

Did spill enter or threaten to enter waterway (San Juan River, Hammond Ditch)? If yes, immediately call

National Response Center
(800) 424-8802

and

New Mexico Oil Conservation Division, Aztec.....(505) 334-6178
New Mexico Oil Conservation Division, Santa Fe.....(505) 827-5885
New Mexico Surface Water Bureau.....(505) 827-2793

the API separator for subsequent treatment in the wastewater treatment system. Refinery berms and tank dikes will contain any other on-site flood water.

The active portion of the refinery is situated approximately 100 feet above the elevation of the San Juan River; therefore, flooding of the River will not affect the facility.

Vulnerable Waterways

The San Juan River, a tributary of the Colorado River, is located to the immediate north of the refinery. The River provides recreational use, irrigation water, drinking water, and wildlife habitat both upstream and downstream. It is known to contain certain endangered species, most notably the Colorado squawfish (Ptychocheilus lucius) and the razorback sucker (Xyrauchen texanus). In addition to its status as a navigable waterway, the New Mexico Oil Conservation Division has proposed that the river channel be considered a "vulnerable area". It is obvious that a spill affecting the San Juan River, Hammond Ditch, and the shorelines of those waterways should be avoided by all practical means. Bloomfield Refining Company does not see the need to further define the vulnerability of the San Juan River. Additional information about these waterways can be obtained from the United States Department of the Interior, Bureau of Reclamation, Upper Colorado Region, Durango Projects Office, 835 E. Second Avenue, P. O. Box 640, Durango, Colorado 81302-0640.

Potential Contaminants

Petroleum and petroleum products are complex mixtures of hydrocarbons that vary over a wide weight range. Common names of the potential contaminants are identified in the SPCC plan. Potential contamination could consist of dissolved toxic components, floating components, or sinking components of the hydrocarbon mixtures that reach the waterway. Special hazards such as fire and explosion potential are identified in the facility Emergency Plan.

Release Potential

Although Bloomfield Refining Company has taken significant measures to eliminate the possibility of a reportable spill, the proximity of the refinery to the San Juan River requires that a worst case scenario be considered possible.

Worst Case Spill Volume

The worst case is assumed that tank 11 (55,000 barrel capacity) and its secondary containment would catastrophically fail while full. The worst case volume is calculated at 2,541,000 gallons (110% of the tank capacity). The facility's Emergency Plan that follows is designed to respond to that and any other emergency.

Spill History

Bloomfield Refining Company has not had a reportable spill.

appears to indicate that the Pleistocene cobble bed occurs underneath the entire refinery site.

The climate in the vicinity of the Bloomfield Refinery is characterized by dry, cool winters with some snow cover, and warm somewhat dry summers. There is considerable sunshine, and the average precipitation and relative humidity are low. The annual average precipitation for the site is approximately 9.2 inches and the annual evaporation rate is approximately 58.16 inches. Temperatures vary significantly in the vicinity of the refinery, from -10 degrees F during the winter to 100 degrees F in the summer. The yearly average maximum temperature is approximately 66 degrees F, while the average minimum temperature is close to 38 degrees F.

Surface Waters, Drainage Patterns and Controls

The San Juan River is the only perennial stream in the vicinity of the refinery. The River is neither a gaining nor losing stream along its reach near the facility. Its alluvium-filled channel is incised into the impermeable clay of the Nacimiento Formation. The flow of the San Juan River at Bloomfield is regulated by the Navajo Dam which minimizes the possibility of flooding by the River. The flow of the River is regulated betweem a minimum of 500 cfs and a maximum of 5000 cfs. Access for booms and vacuum trucks in the vicinity of Bloomfield Refining Company can be found along most of the northern bank. Access to the southern bank is more limited, with the first location at the river terrace immediately north of the refinery and the second near highway 44.

In addition to the San Juan River, the Hammond Irrigation Ditch passes through the refinery property from east to west, between the refinery and the San Juan River. The ditch is about 27 miles long with about half of its length downstream of the refinery. The capacity of the canal varies from 90 cubic feet per second at the headworks to 5 cfs at at the terminus. The ditch flows through an inverted siphon beneath Sullivan Road on the east side of the property. The section of ditch through the refinery is clay lined (the lining is not in good shape and the Bureau of Reclamation is currently planning a lining project) and is excavated into the Quaternary Jackson Lake Terrace deposits. The course of the ditch through the refinery property is shown on the topographic map provided behind the drawings tab.

The Hammond Ditch conveys water only during the irrigation season from mid-April to mid-October. Seepage from the ditch and into the cobble bed is significant. This is evidenced by the fact that trees, bulrushes, marsh grass and other vegetation choke the valleys of the majority of intermittent stream channels descending from the Jackson Lake Terrace south of the San Juan River. A dirt road borders the ditch to the north so access for booming and vacuum trucks is easily available.

Flood Plain

The 100-year 24-hour rainfall is only 2.6 inches, therefore, surface run-off and run-on are managed as part of the facility's zero discharge plan. Concrete pads with curbs collect stormwater falling directly into process area units. The process units are equipped with peripheral stormwater drains that collect stormwater falling outside the curbed areas. This water is routed to

GIANT REFINING COMPANY - BLOOMFIELD

SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN

EMERGENCY PLAN

THREAT ASSESSMENT

Nature of Business Activity

Giant Refining Company - Bloomfield operates a 16,800 barrel per day crude petroleum refinery designated with the Standard Industrial Classification (SIC) code 2911. The facility is engaged in the refining of crude petroleum into a range of petroleum products that include gasoline, kerosene, distillate fuel oils, residual fuel oils, military jet fuel (JP4), butane, and propane. Processing units include crude desalting, crude distillation, catalytic hydrotreating and reforming, fluidized catalytic cracking, and catalytic polymerization.

Facility Location

The Bloomfield Refinery facility is located near latitude $36^{O}41'50"$ and longitude $107^{O}58'20"$. The facility is situated such that approximately 30.76 undeveloped acres of the plant property lie north of the center line of the San Juan River. The remainder of the facility property, 256.17 acres including the refinery, is located south of the San Juan River on a terrace approximately 120 feet above the present river level.

Immediately north of the San Juan River is Bloomfield, New Mexico, a small town of about 5,500 people. Federal property managed by the Bureau of Land Management borders the facility to the south. Undeveloped private and public lands in addition to several gravel pits border the property to the east, and private undeveloped land lies to the west to Highway 44. The majority of undeveloped land in the vicinity of the refinery is used for oil and gas production and, in some instances, grazing.

The nearest residences include two homes located about 400 feet south of the property line, south of the product terminals. Additional residences are located just north of the undeveloped refinery property across the San Juan River in the town of Bloomfield (about 1400 feet north of the active refinery site).

Site Environment and Climate

The Bloomfield Refinery is located on the Jackson Lake Terrace of the San Juan River approximately 120 feet above the present river level and 500 feet south of the river's edge. The Terrace was formed during the Pleistocene by downcutting of a former valley floor which had been aggraded with cobble and gravel deposits during the last glacial advance. The terrace deposits on which the refinery is situated are comprised of approximately 15 feet of cobble and gravel deposits overlying the Nacimiento Formation of Tertiary Age. The cobble bed is overlain by approximately 20 feet of fine-grained, wind-blown silt and sand. South of the refinery, the cobble wedges out leaving only loess in overlying contact with the Nacimiento Formation. Existing data

GIANT REFININC COMPANY - BLOOMFIELD
OIL SPILL RESPONSE PLAN

1.1.2 Emergency Notification Phone List (Section 1.3.1)

Priority	Organization	Phone No.
1	GRC Qualified Individual, Jim Stiffler	632-2140
2	GRC Qualified Individual, Randy Schmaltz	327-0985
3	GRC call-out as per Safety Order S-1 to form Company Response Team	
4	Contract Responder, Tierra Environmental	325-0924
	Phil Nobis	632-1404
5	National Response Center (NRC)	1-800-424-8802
6	Bloomfield Fire Department	911
	Bloomfield Police Department	911
	San Juan County Sheriff	911
	State Police	911
	Ambulance	911
	County Fire Departments	911
7	Hammond Conservancy District	632-3043
8	Local Emergency Planning Committee (LEPC)	
	Don Cooper	334-6156
	County Fire Marshall's Office	334-9481
9	State Emergency Response Commission (SERC)	505-827-9126
10	New Mexico Oil Conservation Division..	334--6178
11	New Mexico Environment Department	505-827-0187
12	Federal On-Scene Coordinator, 24-hour....	1-214-665-2222
	Don Smith	1-214-665-6489
13	Navajo Reservoir Superintendent	632-3115
14	City of Farmington Water	326-1918
15	San Juan Regional Medical Center	325-5011
16	Radio, KENN	325-3541
	KTRA	326-6553
17	Television, KOBF	326-1141

1.1.3 Spill Response Notification Form (Section 1.3.1)

A Spill Response Notification Form (in this section and page 1-22) has been prepared to be used by the notifier to aid in making the initial report. The notifier should be prepared to provide as much information as is possible, but should not delay spill reporting to collect missing information. Be as factual as possible and clearly state what information is available.

1.1.4 Response Equipment List & Location (Section 1.3.2)

GRC has an extensive inventory of emergency response equipment immediately available (see partial list beginning on page 1-5). The equipment is all on refinery property with some placed in strategic locations throughout the refinery for ready access, some located in the refinery warehouse, and some located in the fire truck building. Refinery rolling stock is located in the maintenance yard behind the shop/warehouse building when not in use. Numerous hand tools are available from the tool room. The shift supervisor has access to all storage areas at all times. Enough refinery personnel are available for immediate response to operate any equipment deemed appropriate for response by the qualified individual that has assumed command of the emergency response in accordance with Safety Order S-I. Refinery personnel qualified to operate specific equipment know the location of that equipment

In addition, there are numerous outside equipment resources (see page 1-28) available in the vicinity of GRC that can be called upon for fairly rapid deployment to assist in spill recovery. A professional responder (Tierra Environmental) is also immediately available to GRC to provide additional response capabilities in the event of a spill requiring implementation of the Oil Spill Response Plan.

SPILL RESPONSE NOTIFICATION FORM

Reporter's Name: _____, _____ _____; Position: _____
Last, First M.I.

Phone Numbers: Work: (505) 632-8013 ; Home: (_____) _____-_____

Date and Time of This Notification:

_____

Notification Made To:

_____

Facility & Owner name : Giant Refining Co.
Physical Address : #50 County Road 4990 (Sullivan Road)
Mailing Address : P.O. Box 159
Bloomfield, NM 87413
Facility Phone : (505) 632-8013

GRC Identification Numbers: FRP-06-NM-00015; EPA: NMD 089 416 416
Facility Type: Petroleum refinery; SIC Code: 2911

Were Materials Discharged?____ (Y/N) Confidential? N (Y/N)
Meeting Federal Obligation to Report?___ (Y/N) Calling for Responsible Party?___ (Y/N)

Incident Description: Source and/or Cause of Incident: _____

_____

_____

_____

_____

_____

Date and Time of Incident:

_____

Duration of Incident:

_____

Incident Address/Location:

_____

Medium Affected (air, water, land): _____
Description of Medium:

_____

_____

_____

Nearest City: Bloomfield State: NM County: San Juan Zip: 87413
Distance from City: Across River, 500ft. Direction from City: South
Section: 26 & 27; Township: 29 North; Range: 11 West, N.M.P.M.
Facility Latitude: 36° 41' 50" ; Facility Longitude: 107° 58' 20"
Container Type: _____; Tank Oil Storage Capacity: _____ gallons;
Facility Oil Storage Capacity: 32,487,000 gallons

Type of Material Discharge:

_____

Total Released: _____ gallons; Amount to Waterway: _____ gallons

Response Actions Taken to Correct, Control or Mitigate Incident:

_____

_____

_____

_____

_____

Impact: Number of Injuries: _____; Number of Deaths: _____

Were there Evacuations? _____ (Y/N); Number Evacuated: _____ (Y/N)

Was there any Damage? _____ (Y/N); Damage Estimate: $ _____

Additional Information:

_____

_____

_____

_____

Other Notifications: EPA? _____ (Y/N) NMED _____ (Y/N)
NMOCD? _____ (Y/N)

Facility Contact for Additional Information: Lynn Shelton

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

RESPONSE EQUIPMENT LIST

Quantity	Description (Manufacturer, Make, Model)	Location
	Company Rolling Stock	
1	1992 Chevy GM4 Pickup, 058CRG	Maintenance
1	1994 Ford F-150 Pickup	King
1	1990 Ford F-250HD 4X4 Pickup, 269ATK	Terminals
1	1990 Nissan Pickup, 4IIBCK	Warehouse
1	1989 Ford F250 Pickup, 257BTP	Maintenance
1	1988 Cheyy S-1O Pickup, 3O7CNG	Operations
1	1979 MTZ, MCT Utility Trailer	Terminals
1	Massey Ferguson 383 Tractor	Terminals
1	1979 Chevy C30 Fire Truck, 258BTP Twin agent, 450# purple-K, 100 gal foam.	Firehouse
1	1989 Foam Proportioning Trailer, w/1000 gal foam & 2000 gpm foam monitor.	Firehouse
1	JohnDeere 480C Forklift	Warehouse
1	1978 GMC C65 Fuel Truck, 26OBTP	Maintenance
1	1980 Linkbelt 17-ton Crane	Maintenance
1	1980 Allis Chalmers Tractor, Model 5020	Maintenance
1	1975 International Vacuum Truck, 80 Bbl	Maintenance
1	1979 GMC 2-ton Winch Truck, 259BTP	Maintenance
1	John Deere 410B Backhoe	Maintenance

3	Cushman Cart	Maintenance
1	1989 Kawasaki Mule-l000, Model KAF 450-Bi	Maintenance
1	1980 International F-4270 Dump Truck	Maintenance
1	1991 Chevy 1-ton 4x4 (dually) 663ATG	Maintenance
1	1993 Grove AP308 Carrydeck Crane	Maintenance
1	Case Front End Loader, 3-yard Bucket	Maintenance
3	John Deere Carry Alls	Maintenance
	Company Equipment	
2	2000 gpm auto-start diesel fire engines	Pumphouse
1	1000 gpm manual-start diesel fire engine	Pumphouse
15,000	Feet of 6", 8", 10", 12" fire line	Underground
24	Fixed fire monitors	Various
4	Portable fire monitors	Various
38	Fire hydrants	Throughout
101	Hand portable fire extinguishers	Throughout
14	150# Wheeled extinguishers	Throughout
1	Water deluge system	Hydrogen Comp.
1	Automatic foam deluge system	Load rack
2	Foam cannons w/ll0 gallon foam	Unload rack
1	Automatic Halon extinguishers	Lab
3200	Gallons of AFFF/ATC foam concentrate	Firehouse
7	Foam systems on tanks 11, 12, 13, 14 31, 35, and 36	Tankfarm
100	Sets of fire fighting bunker equipment assigned to employees, extras in firehouse	Various

1	Water deluge system	Wetgas comp
10	Self-contained breathing apparatus	Various
2	Air line breathing apparatus	Warehouse
3	First aid kits (large standard)	Control Room/ Maintenance/ Office
2	First aid kits (trauma)	Firehouse
2	Medical oxygen units	Firehouse
2	Chlorine cylinder patch kit	Control Room
3	Stretchers and rescue blankets	Firehouse
400	Feet of rescue rope & equipment	Control Room
8	Safety showers	Various
7	Fire hose boxes with 400 feet hose, 3 nozzles, and 1 gated wye	Various
600	Feet of 2-1/2" fire hose	Firehouse
800	Feet of 1 1/2" fire hose	Firehouse
18	Nozzles	Firehouse
	Miscellaneous other fire appliances	Firehouse
	Assorted respiratory equipment for specific use	Warehouse
600	Pounds stock Purple-K Extinguisher Chem.	Firehouse
8	Acid resistant slicker suits	Various
1	2000 gpm portable foam monitor	Firehouse
150	Feet of oil skimmer boom, ACME Products, 6" flotation, 8" skirt x 50' sections, x 1/4" chain, flex couplers.	Maintenance
3	Rolls of oil sorbent blanket,	

	Conweed, 3M-PIOO, (3/8[11]x36"x150' each)	Warehouse
1	Flat bottom boat, small two-man w/oars	Maintenance
	Numerous diaphragm pumps (10 to 300 gpm)	Maintenance
	Portable air compressors	Maintenance
1	1000 gpm portable diesel pump	Maintenance
	Assorted vacuum truck hoses w/attachments	Maintenance
	Numerous hand tools for any job	Tool room

Quantity	Description (Manufacturer, Make, Model)	Location
	Communication Equipment	
3	Cellular phones 320-0343 320-0344 320-7074	 Operations Maintenance Warehouse
29	Two-way radios. All operations personnel, maintenance supervisors, safety personnel, and others as needed carry two-way radios. Channel one used by operations during emergency, Channel two used to direct emergency.	Operations Maintenance Safety Supervisors

1.1.5 Response Equipment Testing and Deployment (Section 1.3.3)

Response and safety equipment are inspected on a monthly basis by personnel responsible for the location where that equipment is stored. Inspection logs are returned to the safety department for review and filing. Since these inspection requirements are integral to the operating procedures of the refinery and are very comprehensive, they are not repeated in this plan. Their existence is certified in accordance with this plan.

Rolling stock of the refinery is inspected, at a minimum, in accordance with manufacturer's recommendations. An inspection log is maintained for each. For critical equipment, an inspection checklist is done every time the equipment is used. Inspection logs are maintained by the maintenance department. They are not repeated in this plan, but their existence is certified in accordance with this plan.

Major safety training exercises are done at least twice per year. During this time, safety equipment is deployed. Other rolling stock is used frequently for other purposes, essentially verified on a daily basis that it is ready to be deployed.

1.1.6 Facility Response Team (Section 1.3.4)

GRC has a detailed procedure (Safety Order S-1) for responding to any emergency that may occur at the facility. The facility is operated 24 hours per day, 365 days per year. A call out procedure with phone numbers is maintained in the control room. Response teams are dynamic; based on presence at the facility, normal refining duties, specialised training, and as assigned by the fire chief (qualified individual in charge of the emergency) With the exception of some of the office staff, all personnel at the refinery receive the same training. An Emergency Response Personnel list (from which a response team is created in accordance with Safety Order S-I) is included on the next page.

Phone numbers of all personnel are not included in this plan to avoid giving them out without authorization. They are maintained by qualified personnel in the refinery control room for immediate use in accordance with call-out guidance.

Response training records are extensive and are maintained in the records of the Safety Manager.

Response contractors immediately available to GRC are listed on page 1-33.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

EMERGENCY RESPONSE PERSONNEL

Name	Response Time-hours	Responsibility
Stiffler, Jim	0.5	Fire Chief, Qualified Individual
Schmaltz, Randy	1	Fire Scene Command, Qualified Ind.
Alexander, Richard	0.5	Fire Crew Leader, Qualified Ind.
Lohman, Ed	0.5	Fire Crew Leader, Qualified Ind.
McDaniel, Vic	0.5	Fire Crew Leader, Qualified Ind.
Hawkins, Larry	1	Fire Crew Leader, Qualified Ind.
Belt, Mike	1	Support
Brown, Dale	0.5	Fire Crew
Buczinski, Ron	0.5	Operations Supervisor, Fire Crew
Castor, Vicki	0.5	Fire Crew Leader, Supplies & Equip.
Cunningham, Cecil	0.5	Fire Crew Leader
Davis, Matt	1.5	Fire Crew, Technical Support
Evans, Nancy	0.5	Support
Garcia, Connie	0.5	Support
Garcia, Steve	1	Fire Crew, Supplies & Equip.
Hamlow, Hal	1	Fire Crew
Hampton, Maria	1	Support
Hovland, Avis	0.5	Support
Hunter, John	1	Fire Crew
Jess, Carl	1	Fire Crew, Technical Support
King, Chad	2	Operations Support, Fire Crew
Mackey, Janet	0.5	Support
Markle, June	1	Support
Meldrum, Craig	1	Fire Crew, Technical Support
McDaniel, Rob	0.5	Fire Crew
Perry, Hines	0.5	Fire Crew Leader, Maint. Suprv.
Runyon, Becky	0.5	Support
Shelton, Lynn	1	Fire Crew, Reporting, Environmental
Stokes, John	1	Refinery Manager, Fire Crew
Tristano, Tony	1	Fire Crew
Walters, Diane	1	Support
Wimsatt, Don	1	Fire Crew Leader, Maint. Manager
Charley, Mike	0.5	Fire Crew
Gibson, Bill	0.5	Fire Crew
Montoya, Rick	0.5	Fire Crew
Todacheene, Larry	0.5	Fire Crew

BLOOMFIELD REFINING COMPANY

OIL SPILL RESPONSE PLAN

EMERGENCY RESPONSE PERSONNEL

Name	Time-hrs	Responsibility
Nolan, Al	0.5	Fire Crew
Salazar, Alex	0.5	Fire Crew
Weaver, Ron	0.5	Fire Crew Leader, Terminal Suprv.
Clark, Michal	0.5	Support
Hart, Korbi	0.5	Fire Crew, Envr. Response
Poore, Roger	0.5	Support
Adams, Bill	0.5	Fire Crew
Armenta, Bengie	0.5	Fire Crew
Ashley, Irvin	2	Fire Crew
Begay, Hanley	1	Fire Crew
Bia, Nelson	2	Fire Crew
Bozarth, Leroy	0.5	Fire Crew
Brown, Todd	0.5	Fire Crew
Delaney, Mike	2	Fire Crew
DeLeon, Richard	0.5	Fire Crew
Durden, Clyde	1	Fire Crew
Ervin, Emile	1	Fire Crew
Garlington, Jerry	0.5	Fire Crew
Hartle, Jim	1	Fire Crew
Hefner, Richard	1	Fire Crew
Lasster, Melvin	1	Fire Crew
Lovell, Dan	0.5	Fire Crew
Mascarenas, Johnny	0.5	Fire Crew
Prugh, Dean	1	Fire Crew
Salazar, Rudy	1	Fire Crew
Sanchez, Raymond	0.5	Fire Crew
Walter, Kay	0.5	Fire Crew
Armenta, Marvin	0.5	Fire Crew
Boswell, Tom	0.5	Fire Crew
Cochran, Bill	0.5	Fire Crew
Eldred, Terry	0.5	Fire Crew
Faverino, Mike	0.5	Fire Crew
Fulton, Arnold	2	Fire Crew
Gammon, Larry	1	Fire Crew
Hamner, Roger	1	Fire Crew
Herman, Frank	0.5	Fire Crew

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

EMERGENCY RESPONSE PERSONNEL

Name	Response Time-hrs	Responsibility
Lucero, Barney	1	Fire Crew
Perry, Bill	0.5	Fire Crew
Allen, Gene	1	Fire Crew
Scribner, Jack	1	Fire Crew
Sullivan, Frank	0.5	Fire Crew
Williamson, Joe	0.5	Fire Crew
Willie, Herbert	0.5	Fire Crew
Martin, Cheryl	1	Fire Crew

Notes:

1. Personnel listed with the responsibility of support are usually not qualified for fire crew duties, although there are some exceptions. They will be involved in duties at the Emergency Control Center.

2. Fire Crew has the same meaning as Response Crew since an emergency may not involve a fire.

3. Last Update: 6/97

1.1.7 Evacuation Plan (Section 1.3.5)

Evacuation procedures are included in Safety Order S-1 (Attachment 1). Routes are noted on the facility diagram.

1.1.8 Immediate Actions (Section 1.7.1)

All spills at GRC are considered serious. All resources identified in this plan (Section 1.3.2 Response Equipment List, and Section 1.3.4 Personnel) are available for mobilization to respond and will be requested immediately if the on-scene Qualified Individual (fire chief) determines the need. The outside contractor will be mobilized if the spill reaches a waterway or if needed onsite. This plan and Safety Order S-1 are the primary plans for spill response. Additional response training is part of the GRC training program, additional contracted help is available and noted in this plan, access to additional response equipment/experts is available and noted in this plan, and the ability to implement the response plans are documented with the training given all GRC employees.

1.1.9 Facility Diagram (Section 1.9)

A diagram to meet the requirements of this section is included in the envelope at the end of this plan.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

1.2 FACILITY INFORMATION

1.2.1 Name of facility: **Giant Refining Company - Bloomfield**

1.2.2 Type of facility: **Onshore Facility - Petroleum Refinery**

1.2.3 Location of facility: **#50 County Road 4990**
Bloomfield, New Mexico 87413

County: **San Juan**

Latitude: **36°41'50"**
Longitude: **107°58'20"**

1.2.4 Mailing address: **Giant Refining Company - Bloomfield**
P.0. Box 159
Bloomfield, NM 87413

1.2.5 Telephone Number: **(505) 632-8013**

1.2.6 Name and address of owner or operator:

Name: **San Juan Refining Company**
Address: **23733 N. Scottsdale Road**
Scottsdale, Arizona 85255

1.2.7 Wellhead Protection Area:

The facility is **not** located in **nor** drains into a wellhead protection area as defined by the Safe Drinking Water Act of 1986.

1.2.8 Date of Oil Storage Start-up: **1959**

1.2.9 Current Operation:

Giant Refining Company (GRC) operates an 18,000 barrel per day (nominal capacity) crude petroleum refinery designated with the Standard Industrial Classification (SIC) code 2911. The facility is engaged in the refining of crude petroleum into a range of petroleum products that include gasoline, kerosene, distillate fuel oils, residual fuel oils, military jet fuel (JP8), butane, and propane. Processing units include crude desalting, crude distillation, catalytic hydrotreating and reforming, fluidized catalytic cracking, catalytic polymerization, diesel hydrodesulfurization, and a sulfur recovery unit.

1.2.10 Qualified Individuals

GRC has a detailed procedure (Safety Order S-1) for responding to any emergency that may occur at the facility. This would include fires, explosions, release of flammable vapor or gas, release of toxic vapor or gas, release of crude oil, intermediates, or products, and bomb threats. The command procedures for an oil spill would be the same as defined in Safety Order S-1. The Operation's Shift Supervisor, generally most available at any time of day or night, would assume initial command of emergency control efforts until arrival of the Safety Manager. The Shift Supervisor will transfer command to the Safety Manager, or, in the absence of the Safety Manager, to the Safety Supervisor.

Work Address	:	Same for all Giant Refining Company #50 County Road 4990 Bloomfield, NM 87413	
Emergency Phone		(505) 632-8013 and/or Home phone numbers	
Name	:	Jim Stiffler	
Position	:	Safety Manager	
Home Address	:	111 Wade Circle Bloomfield, NM	
Emergency Phone	:	(505) 632-1214	
Name	:	Randy Schmaltz	
Position	:	Safety Supervisor	
Home Address	:	3601 Buena Vista Farmington, NM	
Emergency Phone	:	(505) 327-0985	
Name	:	Richard Alexander	Vic McDaniel
Position	:	Shift Supervisor	Shift Supervisor
Home Address	:	404 N. 7th Street Bloomfield, NM	746 CR 4990 Bloomfield, NM
Emergency Phone	:	(505) 632-2730	(505) 632-9408
Name	:	Ed Lohman	Larry Hawkins
Position	:	Shift Supervisor	Shift Supervisor
Home Address	:	2409 E. Blanco Bloomfield, NM	3270 LaPlata Hwy. Farmington, NM
Emergency Phone	:	(505) 632-2435	(505) 326-2823

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

1.2.11 Specific Response Training Experience

Safety Manager (Jim Stiffler)

The safety manager has been involved in safety and emergency response activities since 1970. He has been manager of the safety program since 1979. Training has included attendance at the following:

-Ansul Fire Training School.
-State of New Mexico, SARA Title 3 Hazardous Materials Workshop.
-New Mexico State Fire Marshall Office, Hazardous Materials Transportation Emergencies.
-University of Nevada at Reno, Flammable Liquids Fire Protection (1985, 1986, 1987, 1989)
-National Fire Academy, Initial Company Tactical Operations.
-29 CFR 1910.120 & 40 CFR 264.16/265.16, Hazardous Waste Operations and Emergency Response- "Hazwopper".
-Federal Emergency Management Agency, G300 Hazardous Materials.
-US EPA & Union Pacific Railroad, Hazardous Materials Emergency Response.
-USDOT, Emergency Medical Technician.
-Texas A&M, Industrial Fire Protection.
-New Mexico State Fire Marshall's Office, Incident Command.

Safety Supervisor (Randy Schmaltz)

The safety supervisor has been involved in safety and emergency response activities in a supervisory position since 1980. Training has included the following:

-University of Nevada at Reno, Fire Protection Training Academy (1989, 1990).
-National Fire Academy, Incident Command System.
-New Mexico Fire Marshall's Training, Handling L.P.G. Emergencies & Flammable Liquid Fires.
-J. T. Baker, Hazardous Chemical Safety.
-Scott, Allard & Bohannan, Inc., 24-hr Training for Hazardous Waste Operations.
-Ohmart Technical Training School, Principles & Practices of Radiation Protection & Emergency Procedures.
-Misers Inspection & Training, Inc., Asbestos Training.
-Colorado State Police & Grand Junction, Colorado Fire Department, Instructor for Hazardous Material Field Exercises.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

Shift Supervisors

The five shift supervisors have extensive experience in refinery operations. They are responsible for the day-to-day operations of the refinery equipment and process units. They are most familiar with the equipment that could fail and cause a release. Their experience in the refinery varies in the range from 15 to 20 years with a substantial portion of that experience in a supervisory position.

At least one of the shift supervisors will be at the facility at all times (24 hours per day, 365 days per year) . Their training has included attendance at the following training activities:

-Texas A&M, Industrial Fire Protection.
-University of Nevada at Reno, Flammable Liquids Fire Protection.
-Hazardous Waste Operations & Emergency Response.
-In House Training, Incident Command & Fire Ground Leadership, Fire Company Tactical Operations, and Hazardous Materials Emergency Response.

1.2.12 Dates and Type of Substantial Expansion

Date	Type of Substantial Expansion
Late 1950's	Original construction as a crude topping unit.
1950's-1963	Installed tanks 8, 9, 17, 18, 19, 20, 21, 22, 23, 24, 25, 29, and 30.
1964	Suburban Propane of New Jersey acquired facility.
1966	Increased the crude unit throughput to 4,100 barrels per calendar day (bpcd) and added a 1,850 bpcd reformer and naphtha hydrotreater. Installed tanks 3,4, and 5.
12/1967	Installed tanks 26 and 27.
4/1969	Installed tank 28.
1975	Crude unit expanded to 8,400 bpcd.
8/1977	Installed tank 31.
1979	Crude unit expanded to 18,000 bpcd. Added a 6,000 bpcd fluidized catalytic cracker, an unsaturated gas plant, and a treater unit. Increased the capacity of the reformer/hydrotreater to 2,250 bpcd.
12/1982	Installed tanks 11 and 12.
10/31/84	BRC acquired the facility from Suburban Propane (Plateau)
5/7/87	Upgraded the reformer and increased capacity to 3,600 bpcd
9/1987	Relocated tanks 13 and 14 (originally built in 1959 and 1961) to the BRC facility.
1/16/88	Started up a 2,000 bpcd catalytic polymerization unit and put new tank 32 into service.
1988	Completed a cathodic protection system for the tank farm and underground piping. Rebuilt process area sewer system and added curbed, concrete paving to the unpaved process areas.

Date	Type of Substantial Expansion
1989	Increased reformer throughput to 4,000 bpcd.
11/1989	Installed tank 44.
12/7/89	Put in service new 5-acre (25 acre-feet) double-lined evaporation pond.
9/15/90	Put in service second new 5-acre (25 acre-feet) double-lined evaporation pond.
12/22/93	Put a 3000 bpcd diesel hydrodesulfurization unit and a two ton per day sulfur recovery unit in service.
3/31/94	Retrofitted the south and north oily water ponds with two additional liners in accordance with RCRA minimum technology requirements.
11/30/94	Completed the installation of a Class 1, non-hazardous wastewater injection well.
4/30/95	Expected completion date for the installation of two 55,000 barrel storage tanks (numbers 35 and 36).
10/14/95	Facility purchased by Giant Refining Company.

Date of Last Update: **6/97**

1.3 EMERGENCY RESPONSE INFORMATION

GRC responds to all emergencies in accordance with the Safety Order S-1. All employees may be required to respond to the emergency. The emergency call-out and organizational procedures are detailed in the Safety Order. The Safety Order (see Attachment 1) is considered part of the Oil Spill Response Plan. Information specific to an oil spill response is repeated in this section.

1.3.1 Emergency Notification

1.3.1.1 Emergency Notification Phone List

In the event an emergency results in a crude oil, intermediate, or product discharge to the San Juan River or to Hammond Ditch (a discharge means one which creates a sheen or causes a sludge or emulsion to be deposited beneath the surface or upon adjoining shorelines) an immediate notification is required to the National Response Center (NRC). **The demands of the emergency response take precedence over agency reporting, but reporting must be completed as soon as possible and within 24 hours.**

In addition to the NRC and local emergency responders (those contacted to provide aid in the emergency), several other agencies must be contacted. These include the LEPC, SERC, New Mexico Oil Conservation Division, New Mexico Environment Department, and Federal On-Scene Coordinator. The telephone numbers for these agencies are listed on the Emergency Notification Phone List that follows this page along with the numbers of others that may require immediate contact.

The environmental manager (Lynn Shelton) will be responsible for making the required notifications. If he is not promptly available, the qualified individual (see Section 1.10 of this Plan) will be responsible for making the reports.

1.3.1.2 Spill Response Notification Form

A Spill Response Notification Form (page 1-22) has been prepared to be used by the notifier to aid in making the initial report. The notifier should be prepared to provide as much information as is possible, but should not delay spill reporting to collect missing information. Be as factual as possible and clearly state what information is available.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

EMERGENCY NOTIFICATION PHONE LIST

Priority	Organisation	Phone No.
1	GRC Qualified Individual, Jim Stiffler	632-2140
2	GRC Qualified Individual, Randy Schmaltz	327-0985
3	GRC call-out as per Safety Order S-1 to form Company Response Team	
4	Contract Responder, Tierra Environmental	325-0924
	Phil Nobis	632-1404
5	National Response Center (NRC)	1-800-424-8802
6	Bloomfield Fire Department	911
	Bloomfield Police Department	911
	San Juan County Sheriff	911
	State Police	911
	Ambulance	911
	County Fire Departments	911
7	Hammond Conservancy District	632-3043
8	Local Emergency Planning Committee (LEPC)	
	Don Cooper	326-9700
	County Fire Marshall's Office	334-9481
9	State Emergency Response Commission (SERC)	505-827-9126
10	New Mexico Oil Conservation Division	334--6178
11	New Mexico Environment Department	505-827-0187
12	Federal On-Scene Coordinator, 24-hour	1-214-665-2222
	Don Smith	1-214-665-6489
13	Navajo Reservoir Superintendent	632-3115
14	City of Farmington Water	326-1918
15	San Juan Regional Medical Center	325-5011
16	Radio, KENN	325-3541
	KTRA	326-6553
17	Television, KOBF	326-1141

Date of Last Update: 6/97. See Page 1-28 for additional.

GIANT REFINING COMPANY - BLOOMFIELD

SPILL RESPONSE NOTIFICATION FORM

Reporter's Name: _____, _____ _____; Position: _____
Last, First M.I.
Phone Numbers: Work: (505) 632-8013 ; Home: (_____) _____-_____
Date and Time of This Notification: _____
Notification Made To: _____
Facility & Owner name : Giant Refining Co. (GRC)
Physical Address : #50 County Road 4990 (Sullivan Road)
Mailing Address : P.O. Box 159
Bloomfield, NM 87413
Facility Phone : (505) 632-8013

GRC Identification Numbers: FRP-06-NM-00015; EPA: NMD 089 416 416
Facility Type: Petroleum refinery; SIC Code: 2911

Were Materials Discharged?____ (Y/N) Confidential? N (Y/N)
Meeting Federal Obligation to Report?___(Y/N) Calling for Responsible Party?___(Y/N)

Incident Description: Source and/or Cause of Incident: _____
_____
_____
_____
Date and Time of Incident: _____
Duration of Incident: _____
Incident Address/Location: _____
Medium Affected (air, water, land): _____
Description of Medium: _____
_____
Nearest City: Bloomfield State: NM County: San Juan Zip: 87413
Distance from City: Across River, 500ft. Direction from City: South
Section: 26 & 27; Township: 29 North; Range: 11 West, N.M.P.M.
Facility Latitude: 36° 41' 50" ; Facility Longitude: 107° 58' 20"
Container Type: _____; Tank Oil Storage Capacity: _____ gallons;
Facility Oil Storage Capacity: 32,487,000 gallons
Type of Material Discharge: _____
Total Released: _____ gallons; Amount to Waterway: _____ gallons

Response Actions Taken to Correct, Control or Mitigate Incident:
_____
_____
_____
Impact: Number of Injuries: _____; Number of Deaths: _____
Were there Evacuations? _____ (Y/N); Number Evacuated: _____
Was there any Damage? _____ (Y/N); Damage Estimate: $ _____
Additional Information: _____
_____
Other Notifications: EPA? _____ (Y/N) NMED _____ (Y/N) NMOCD? _____ (Y/N)
Facility Contact for Additional Information: Lynn Shelton

1.3.2 Response Equipment List

GRC has an extensive inventory of emergency response equipment immediately available (see partial list beginning on page 1-24). The equipment is all on refinery property with some placed in strategic locations throughout the refinery for ready access, some located in the refinery warehouse, and some located in the fire truck building. Refinery rolling stock is located in the maintenance yard behind The shop/warehouse building when not in use. Numerous hand tools are available from the tool room. The shift supervisor has access to all storage areas at all times. Enough refinery personnel are available for immediate response to operate any equipment deemed appropriate for response by the qualified individual that has assumed command of the emergency response in accordance with Safety Order S-I. Refinery personnel qualified to operate specific equipment know the location of that equipment.

In addition, there are numerous outside equipment resources (see page I-25) available in the vicinity of GRC that can be called upon for fairly rapid deployment to assist in spill recovery. A professional responder (Tierra Environmental) is also immediately available to GRC to provide additional response capabilities in the event of a spill requiring implementation of the Oil Spill Response Plan.

Tierra Environmental is approved (as evidenced by EPA referrals to companies involved in spills in the area) by EPA Region 6 for emergency response. There are 120 vacuum trucks, each with a capacity of 80 barrels, available in the area to respond for Tierra Environmental or GRC.

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

RESPONSE EQUIPMENT LIST

Quantity	Description (Manufacturer, Make, Model)	Location
	Company Rolling Stock	
1	1992 Chevy GM4 Pickup, 058CRG	Maintenance
1	1994 Ford F-150 Pickup	King
1	1990 Ford F-250HD 4X4 Pickup, 269ATK	Terminals
1	1990 Nissan Pickup, 4llBCK	Warehouse
1	1989 Ford F250 Pickup, 257BTP	Maintenance
1	1988 Cheyy S-1O Pickup, 3O7CNG	Operations
1	1979 MTZ, MCT Utility Trailer	Terminals
1	Massey Ferguson 383 Tractor	Terminals
1	1979 Chevy C30 Fire Truck, 258BTP Twin agent, 450# purple-K, 100 gal foam.	Firehouse
1	1989 Foam Proportioning Trailer, w/1000 gal foam & 2000 gpm foam monitor.	Firehouse
1	JohnDeere 480C Forklift	Warehouse
1	1978 GMC C65 Fuel Truck, 26OBTP	Maintenance
1	1980 Linkbelt 17-ton Crane	Maintenance
1	1980 Allis Chalmers Tractor, Model 5020	Maintenance
1	1975 International Vacuum Truck, 80 Bbl	Maintenance

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

RESPONSE EQUIPMENT LIST

Quantity	Description (Manufacturer, Make, Model)	Location
1	1979 GMC 2-ton Winch Truck, 259BTP	Maintenance
1	John Deere 410B Backhoe	Maintenance
3	Cushman Cart	Maintenance
1	1989 Kawasaki Mule-l000, Model KAF 450-Bi	Maintenance
1	1980 International F-4270 Dump Truck	Maintenance
1	1991 Chevy 1-ton 4x4 (dually) 663ATG	Maintenance
1	1993 Grove AP308 Carrydeck Crane	Maintenance
1	Case Front End Loader, 3-yard Bucket	Maintenance
3	John Deere Carry Alls	Maintenance
	Company Equipment	
2	2000 gpm auto-start diesel fire engines	Pumphouse
1	1000 gpm manual-start diesel fire engine	Pumphouse
15,000	Feet of 6", 8", 10", 12" fire line	Underground
24	Fixed fire monitors	Various
4	Portable fire monitors	Various
38	Fire hydrants	Throughout
101	Hand portable fire extinguishers	Throughout
14	150# Wheeled extinguishers	Throughout
1	Water deluge system	Hydrogen
1	Automatic foam deluge system	Load rack

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

RESPONSE EQUIPMENT LIST

Quantity	Description (Manufacturer, Make, Model)	Location
1	Foam cannons w/110 gallon foam	Unload rack
1	Automatic Halon extinguishers	Lab
3200	Gallons of AFFF/ATC foam concentrate	Firehouse
7	Foam systems on tanks 11, 12, 13, 14 31, 35, and 36	Tankfarm
100	Sets of fire fighting bunker equipment assigned to employees, extras in firehouse	Various
1	Water deluge system	Wetgas comp
10	Self-contained breathing apparatus	Various
2	Air line breathing apparatus	Warehouse
3	First aid kits (large standard)	Control Room Maintenance Office
2	First aid kits (trauma)	Firehouse
2	Medical oxygen units	Firehouse
2	Chlorine cylinder patch kit	Control Room
3	Stretchers and rescue blankets	Firehouse
400	Feet of rescue rope & equipment	Control Room
8	Safety showers	Various
7	Fire hose boxes with 400 feet hose, 3 nozzles, and 1 gated wye	Various
600	Feet of 2-1/2" fire hose	Firehouse
800	Feet of 1 1/2" fire hose	Firehouse

GIANT REFINING COMPANY - BLOOMFIELD

OIL SPILL RESPONSE PLAN

RESPONSE EQUIPMENT LIST

Quantity	Description (Manufacturer, Make, Model)	Location
18	Nozzles	Firehouse
	Miscellaneous other fire appliances	Firehouse
	Assorted respiratory equipment for specific use	Warehouse
600	Pounds stock Purple-K Extinguisher Chem.	Firehouse
8	Acid resistant slicker suits	Various
1	2000 gpm portable foam monitor	Firehouse
150	Feet of oil skimmer boom, ACME Products, 6" flotation, 8" skirt x 50' sections, x 1/4" chain, flex couplers.	Maintenance
3	Rolls of oil sorbent blanket, Conweed, 3M-PIOO, (3/8[11]x36"x150' each)	Warehouse
1	Flat bottom boat, small two-man w/oars	Maintenance
	Numerous diaphragm pumps (10 to 300 gpm)	Maintenance
	Portable air compressors	Maintenance
1	1000 gpm portable diesel pump	Maintenance
	Assorted vacuum truck hoses w/attachments	Maintenance
	Numerous hand tools for any job	Tool room
	Communication Equipment	
3	Cellular phones 320-0343 320-0344 320-7074	 Operations Maintenance Warehouse
29	Two-way radios. All operations personnel, maintenance supervisors, safety personnel, and others as needed carry two-way radios. Channel one used by operations during emergency,	Operations Maintenance Safety Supervisors

GIANT
REFINING CO.

BLOOMFIELD REFINERY

Process Safety Management

Policies and Procedures

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Process Hazard Analysis

	YES	NO	IN PROGRESS	COMMENTS
1. Has the priority order for conducting process hazard analyses been determined and documented based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process and operating history of the process?				
2. For processes requiring a hazard analysis, has a schedule been developed for conducting process hazard analyses as soon as possible, but not later than the following schedule? • No less than 25% of the PHA's shall be completed by May 26, 1994				
• No less than 50% of the PHA's shall be completed by May 26, 1995				
• No less than 75% of the PHA's shall be completed by May 26, 1996				
• All initial PHA's shall be completed by May 27, 1997				
REVALIDATION/UPDATING OF PROCESS HAZARD ANALYSES				
3. For process Hazards Analyses conducted subsequent to May 26, 1987, do the updated and/or revalidated PHA's meet all of the requirements of the Process Hazards Analysis per section 1910.119 section (e)?				
4. Are PHA's updated and revalidated at least every five years by a team meeting the requirements in 1910.119 (e) (4) to assure that the PHA is consistent with the current process?				
QUESTIONS PERTAINING TO COMPLETED PROCESS HAZARD ANALYSES				
5. Is one or more of the following methodologies used to determine and evaluate the hazards of the process: • What - if?				
• Checklist?				
• What - if/Checklist?				
• Hazard and Operability Study (HAZOP)?				
• Failure Mode and Effects Analysis (FMEA)?				
• Fault Tree Analysis (FTA) or,				
• An appropriate equivalent methodology?				
6. Does the Process Hazard Analysis address: • Hazards of the process?				
• The identification of any previous incident which had likely potential for catastrophic consequences in the workplace?				
• Engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. (Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors?)				

	YES	NO	IN PROGRESS	COMMENTS
• Consequences of failure of engineering and administrative controls?				
• Facility siting?				
• Human factors? And,				
• A qualitative evaluation of a range of the possible safety and health effects of failure of controls on employees in the workplace (including contractors), on off-site people and on the environment?				
• Changes to materials, technology and equipment?				
7. a. Was the PHA performed by a team with expertise in engineering and process operation?				
b. Did the team include at least one employee who has experience and knowledge specific to the process being evaluated?				
c. Did the team include a person who was knowledgeable in the specific process hazard analysis methodology being used?				
8. Is there a system to: a. Promptly address the team's findings and recommendations?				
b. Assure that the recommendations are resolved in a timely manner and that the resolution is documented?				
c. Document what actions are to be taken?				
d. Complete actions as soon as possible?				
e. Develop a written schedule of when these actions are to be completed?				
f. Communicate the actions to operating, maintenance and other employees whose work assignments are in the process and who may be affected by the recommendations or actions?				
9. Is the following information retained for the life of the process: a. Process hazards analyses and updates or revalidations for each process?				
b. The documented resolution of recommendations described in question 8 above?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Operating Procedures

	YES	NO	IN PROGRESS	COMMENTS
1. Are there written operating procedures developed and implemented that include process and equipment descriptions and flow diagrams that provide clear instructions for safely conducting activities involved in each covered process consistent with the process safety information?				
2. Do the operating procedures address at least the following elements? a. Steps for each operating phase • Initial Startup?				
• Normal Operations?				
• Temporary Operations?				
• Emergency shutdown including the conditions under which emergency shutdown is required and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner?				
• Emergency Operations?				
• Normal Shutdown?				
• Start-up following a turnaround, or after an emergency shutdown?				
b. Operating Limits? • Consequences of deviation?				
• Steps required to correct or avoid deviation?				
c. Safety and Health Considerations? • Properties of, and hazards presented by the chemicals used in the process?				
• Precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment?				
• Control measures to be taken if physical contact or airborne exposure occurs?				
• Quality control for raw materials?				
• Control of hazardous chemical inventory levels? and,				
• Spill and release mitigation?				
• Any special or unique hazards?				
d. Safety systems and their functions?				
3. Are operating procedures readily accessible to employees who work in or maintain a process?				
4. Are operating procedures being reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology and equipment, and changes to facilities?				

	YES	NO	IN PROGRESS	COMMENTS
5. Are operating procedures certified annually as current and accurate?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Training

		YES	NO	IN PROGRESS	COMMENTS
	INITIAL TRAINING				
1.	Has each employee presently involved in operating a process been trained in an overview of the process and in the operating procedures.				
2.	a. Is each employee before being involved in operating a newly assigned process, being trained in an overview of the process and in the operating procedures?				
	b. Does the training provide emphasis on the specific safety and health hazards, emergency operations including shutdown and safework practices applicable to the employee's job tasks?				
	REFRESHER TRAINING				
3.	a. Is refresher training being provided at least **annually** and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process?				
	b. Has the appropriate frequency of refresher training been determined in consultation with the employees involved in operating the process?				
	TRAINING DOCUMENTATION				
4.	Has each employee involved in operating a process received and understood the required training? Specifically, is there a record which contains: • The identity of the employee				
	• The date of timing				
	• The means used to verify that the employee understood the training?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Contractor Safety

		YES	NO	IN PROGRESS	COMMENTS
	EMPLOYER RESPONSIBILITIES				
1.	When selecting a contractor, is information obtained and evaluated regarding the contract employer's safety performance and programs?				
2.	Are contract employers informed of the known potential fire, explosion, or toxic release hazards, related to the contractor's work and the process?				
3.	Are applicable provisions of the emergency action plan explained to contract employees?				
4.	Are safe work practices developed and implemented to control the entrance, presence and exit of contract employers and contract employees in covered process area?				
5.	Is the performance of contract employers periodically evaluated in fulfilling their obligations as specified in 1910.119 (h) (3)?				
6.	Does the employer maintain a contract employee injury illness log related to the contractor's work in process areas?				
	CONTRACT EMPLOYER RESPONSIBILITIES				
1.	Does the contract employer assure that each contract employee is trained in the work practices necessary to safely perform his/her job?				
2.	Does the contract employer assure that each contract employee is instructed in the known potential fire, explosion, or toxic release hazards related to his/her job and the process, and the applicable provisions of the emergency action plan?				
3.	Does the contract employer document that each contract employee has received and understood the training required by 1910.119 (h) (3)?				
	Has the contract employer prepared a record which contains? • The identity of the contract employee?				
	• The date of training?				
	• The means used to verify that the employee understood the training?				
4.	Does the contract employer assure that each contract employee follows the safety rules of the facility including the safe work practices required by the Hot Work Permit and other Safe Work Practices element?				

	YES	NO	IN PROGRESS	COMMENTS
5. Does the contract employer advise the employer of any unique hazards presented by the contract employer's work or of any hazards found by the contract employer's work?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Pre-Startup Safety Review

	YES	NO	IN PROGRESS	COMMENTS
1. Is the pre-startup safety review performed for new facilities and for modified facilities when the modification is significant enough to require a change in the process safety information?				
2. Do the pre-startup reviews confirm that prior to the introduction of highly hazardous chemicals to a process: • Construction and equipment is in accordance with design specifications?				
• Safety, operating, maintenance and emergency procedures are in place and are adequate?				
• (For new facilities) A process Hazards analysis has been performed and recommendations have been resolved or implemented before start-up?				
• (For modified facilities) The requirements of 1910.119 (1), i.e., "Management of Change" have been met?				
• Training of each employee involved in operating a process has been completed?				
• Equipment tests and inspections are complete?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Mechanical Integrity

	YES	NO	IN PROGRESS	COMMENTS
NOTE: The mechanical integrity element applies to the following equipment: pressure vessels and storage tanks, piping systems (including piping components such as valves), relief and vent systems and devices, emergency shutdown systems, controls (including monitoring devices and sensors, alarms, and interlocks) and pumps.				
1. Are there written procedures established and implemented to maintain the on-going integrity of process equipment?				
2. Has each employee involved in maintaining the on- going integrity of process equipment been trained in an overview of that process and its hazards and in the employee's job tasks to assure that the employee can perform the job tasks in a safe manner?				
INSPECTIONS & TESTS				
3. Are inspections and tests being performed on Process equipment? Specifically: • Do inspection and testing procedures follow recognized and generally accepted good engineering practices?				
• Is the frequency of inspections and tests consistent with applicable manufacturer's recommendations and good engineering practices, and more frequently if determined to be necessary by prior operating experience?				
• Has each inspection and test been documented that has been performed on process equipment?				
• Does the documentation include: a. Date of the inspection?				
b. Name of the person who performed the inspection or test?				
c. The equipment number or other identifier of the equipment on which the inspection or test was performed?				
d. A description of the inspection or test performed?				
e. The results of the inspection or test?				
EQUIPMENT DEFICIENCIES				
4. Are deficiencies in equipment that are outside acceptable limits (defined by the process safety information element) corrected before further use or in a safe and timely manner when necessary means are taken to assure safe operation?				
5. In the construction of new plants and equipment, are there assurances that equipment as it is fabricated is suitable for the process application for which it will be used?				

	YES	NO	IN PROGRESS	COMMENTS
6. Are appropriate checks and inspections performed to assure that equipment is installed properly and consistent with design specifications and the manufacturer's instructions?				
7. Are there assurance that maintenance materials, spare parts and equipment are suitable for the process application for which they will be used?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Hot Work Procedures

	YES	NO	IN PROGRESS	COMMENTS
1. Are hot work permits issued for hot work operations conducted on or near covered processes				
2. Does the permit • Document that the fire prevention and protection requirements in 29 CFR 1910.252 (a) have been implemented prior to beginning the hot work operations?				
• Indicate the date (s) authorized for hot work?				
• Identify the object on which hot work is to be performed?				
3. Is the hot work permit kept on file until completion of the hot work operation?				
4. Are other safe work practices developed and implemented to provide for the control of hazards during operations, maintenance and modification activities such as: a. Lockout/Tagout?				
b. Confined Space Entry?				
c. Opening process equipment or piping?				
d. Control over entrance into a facility by maintenance, contractor, laboratory, or other support personnel?				
e. Hot tap procedure and permit?				
f. Interlock bypass procedure and permit?				
g. Car-seal procedure and checklist for relief valves?				
5. Do the above work practices apply to both site and contract personnel?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Management of Change

	YES	NO	IN PROGRESS	COMMENTS
1, Are written procedures established and implemented to manage changes (except for "replacements in kind") to process chemicals, technology, equipment and procedures; and changes to facilities that affect a covered process?				
2. Do the procedures assure that the following consideration are addressed and documented prior to any change: • The technical basis for the proposed change?				
• Impact of change on safety, health and environment?				
• Modification to operating procedures?				
• Necessary time period for the change?				
• Authorization requirements for the proposed change?				
3. Are employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process informed of, and trained in, the change prior to start-up of the process or affected part of the process?				
4. If a change covered by this paragraph results in a change in the process safety information documentation, is such information updated accordingly?				
5. If a change covered by this paragraph (1911.119 (l)) results in a change in the operating procedures or safe work practices, are such procedures or practices updated accordingly?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Incident Investigation

	YES	NO	IN PROGRESS	COMMENTS
1. Has each incident been investigated which resulted in, or could reasonably result in a catastrophic release of highly hazardous chemicals in the workplace?				
2. Are incident investigations initiated as promptly as possible, but not later than 3 days following the incident?				
3. Are the incident investigation teams established and do they consist of at least one person knowledgeable in the process involved, including a contract employee if the incident involved work of the contractor, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident?				
4. Are reports prepared at the conclusion of the investigation which include at a minimum: • Date of the incident?				
• Date investigation began?				
• A description of the incident?				
• The factors that contributed to the incident?				
• Any recommendations resulting from the incident?				
5. Is there a system to promptly address and resolve the incident report findings and recommendations?				
6. Are incident report resolutions and corrective actions documented?				
7. Are incident reports reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employee where applicable?				
8. Are incident investigation reports retained for five years?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Emergency Planning and Response

	YES	NO	IN PROGRESS	COMMENTS
1. Are the following considered in Emergency Planning: • Use of qualitative evaluations of possible safety and health effects of failure of engineering and administrative controls in planning for the prevention, control, mitigation and emergency response to potential catastrophic chemical releases?				
• Determine interaction with local emergency organizations and the community?				
• Mutual Aid agreements?				
• Emergency equipment/contractors to assist during an emergency and cleanup?				
2. Is there an emergency action plan established and implemented for the entire plant in accordance with the provisions of 29 CFR 1910.38 (a) that include the following: A. Detail the actions on-site and off-site persons. • Outline escape and evacuation plans for on-site persons.				
• Procedures for those who remain to operate critical equipment.				
• Provide for accounting of on-site persons.				
• Outline rescue and medical duties of people who are to perform them.				
• Procedures for reporting fires and other emergencies.				
• Names/job titles of those to contact for further information or explanation of duties under the plan.				
• Action plans for specific emergencies.				
• Notification procedures for Company, Public Agencies, and the Community.				
• Applicable provisions of OSHA 1910.120, Emergency Response to Hazardous Substance Releases.				
B. Is there an alarm system that provides warning for emergency action of employees, is audible above ambient noise and visible above normal light levels?				
C. Training • Are on-site personnel trained initially when the plan is developed, when people's responsibilities change and when the plan is changed?				
• Are drills conducted frequently with on-site people and at least once a year with off-site people (local organization)?				

	YES	NO	IN PROGRESS	COMMENTS
3. Does the emergency action plan include procedures for handling small releases?				
4. Has the employer established an Emergency Operations Center?				
5. Has the information been provided to EPA and LPEC as required by SARA Title III?				
6. Are records kept of releases for past five years including size, concentration and duration of releases?				
7. Is documentation maintained as required by governmental agencies and Company policy?				

Facility_____ Auditor(s) _____ Date_____

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File - PSM Compliance Safety Audits

Giant Refining Company
Process Safety Management
Compliance Audit Checklist - Compliance Audit

	YES	NO	IN PROGRESS	COMMENTS
1. Is there certification that compliance with the provisions of 1910.119 has been evaluated at least every five years to verify that the procedures and practices developed under the standard are adequate and are being followed?				
2. Are compliance audits conducted by at least one person knowledgeable in the process?				
3. Has a report of findings of the audit been developed?				
4. Has appropriate response been promptly determined and documented to each of the findings of the compliance audit?				
5. Is there documentation that deficiencies have been corrected?				
6. Are the two (2) most recent compliance audit reports retained?				

Facility_____ Auditor(s) _____ Date_____

_____
_____
_____
_____
_____
_____

File - PSM Compliance Safety Audits

PROPOSED ORDER OF "PHA" COMPLETION

HDS UNIT ..... COMPLETE

SULFUR UNIT ..... COMPLETE

POLY UNIT ..... COMPLETE

CRUDE UNIT ..... COMPLETE

FCC ..... ~~Sept 96~~ Complete
(includes reactor, regenerator, flue gas gas cooler, and precipitator)

GAS CON ..... ~~Sept 96~~ Complete
(includes depropanizer section)

REFORMER ..... ~~Nov 96~~
(includes unifiner and reformer)
? - future expansion plans

FUEL GAS SYSTEM ..... Jan 97
(includes only portion not covered under other PHA's. Fuel gas drum and controls)
? include this in another PHA

TREATORS ..... FEB 97

LPG STORAGE FACILITY ..... MAY 97

TANK FARM EXEMPT FROM REGULATIONS (products stored below normal boiling point without aid refrigeration or pressure.) May want to do at later date.

LOADING AND UNLOADING FACILITIES. (see note above)

	PLANT: BLOOMFIELD REFINING		DATE: 6/23/93
TAG	DETAIL	RANK	COMMENTS
C	EMPLOYEE PARTICIPATION		
C1	written plan for employee participation	2	Needs updating and better definition
C2	employees consulted on process hazard analysis	2	Needs updating and better definition
C3	employee access to information required by the act	2	Not located in one central place
D	PROCESS SAFETY INFORMATION		
D1	does the information on process chemicals cover the following		
1	toxicity	4	MSDS Sheets
2	permissible exposure limits	4	MSDS Sheets
3	physical data	4	MSDS Sheets
4	reactivity data	4	MSDS Sheets
5	corrosivity data	4	MSDS Sheets
6	thermal and chemical stability	4	MSDS Sheets
7	inadvertent mixing hazards	2	needs to be addressed
D2	does the information on process technology cover the following		
1	block flow diagrams (pfd)	3	needs updating
2	process chemistry	4	
4	maximum intended inventories	2	need to address process vessels
4	safe limits of flow, temperature & pressure	4	covered in operating procedures
5	consequences of deviation from design conditions	4	covered in operating procedures
D3	does the information on process equipment cover the following		
1	materials of construction	4	in equipment files
2	p&id drawings	3	in maintenance office
3	electrical classification	4	updated 3 months ago
4	relief system design	3	some problems need addressing
5	ventilation system design	1	need to look at control room and lab
6	documentation of design codes and standards used	3	on equipment data sheets
	material and energy balances for post 5/26/92 system	4	diesel hydrotreater and sulferox plants
8	status of safety systems as shown below		
a	document that equipment complies with good engineering practice	3	need to look at FCC
b	need to document that equipment built to codes and standards	3	need to look at FCC
	no longer used is tested and inspected		
E	PROCESS HAZARD ANALYSIS (PHA)		
E1	has a complete compilation of written process safety information been made	4	Hydrotreater What If
E1A	has and initial PHA been conducted	4	Hydrotreater What If
E1B	has a schedule and plan been made to do the initial PHA	4	Hydrotreater What If
E2A	does the selected PHA method meet the requirements	4	Hydrotreater What If
E2B	is at least one team member knowledgeable in the PHA method	0	No outside training
E3	does the PHA method address process hazards	4	
E3A	does the PHA method identify previous serious incidents	4	
E3B	does the PHA method provide for early warning of a release		
	through engineering and administrative controls	4	Written plan in place
E3C	does the PHA method list consequences of failure of		
	engineering and administrative controls	2	Needs updating
E3D	does the PHA method consider facility siting	4	
E3E	does the PHA method consider human factors	4	
E3F	does the PHA method evaluate the effects of failures on safety and health of employees	4	
E4	does the PHA program mandate team make up & include required individuals	2	Needs documentation
E5	does the PHA system address team findings and recommendations	4	
E5A	does the PHA system assure timely response to recommendations and document it	4	
E5B	does the PHA system provide for a written schedule of action dates for		
	resolution of recommendations	2	Needs documentation
E5C	are PHA findings communicated to potentially affected workers	2	Needs documentation
E6	PHA must be repeated every 5 years does the PHA system address this	0	Not addressed yet
E7	PHA records must be retained does the PHA system provide for this	0	Not addresses yet
F	OPERATING PROCEDURES		
F1	are written operating procedures in place covering the following items		

	PLANT: BLOOMFIELD REFINING		DATE: 6/23/93
TAG	DETAIL	RANK	COMMENTS
1	operating phase	4	Covered in operating manuals
a	initial start-up	4	Covered in operating manuals
.	normal operations	4	Covered in operating manuals
.	temporary operations	0	Not addressed
d	emergency shutdown procedure ESD (and does it cover the following)	1	Needs further documentation
1	definition of when an ESD is required	1	Needs further documentation
2	definition of operator responsibility to carry out an ESD	2	Needs additional section in procedures
e	emergency operations	2	Needs additional section in procedures
f	normal shutdown	3	Needs additional section in procedures
g	startup	3	Needs additional section in procedures
1	after a turnaround	4	Well documented
2	after an ESD	2	Needs updating
F2	are exceeded operating limit written procedures in place	4	Covered in operating manuals
a	consequences of deviation	4	Covered in operating manuals
b	steps for correct or avoid deviation	4	Covered in operating manuals
F3	are written procedures in place for the following safety and health considerations		
a	properties and hazards of the chemicals used	4	Covered in operating manuals
b	exposure prevention measures	4	Covered in operating manuals
c	response to exposure	2	Needs documentation
d	inventory levels and Q.C. controls	3	Needs documentation
e	unique hazards no covered elsewhere	0	None exist
F4	does the safety system fulfill the following functions		
a	procedure accessibility	3	Procedure needs to be written
b	annual certification that procedures are current	2	Needs documentation
c	procedural safety such as lockout, entry and piping modifications	4	Well documented
G	**TRAINING**		
1	are all training requirements in place		
I	initial training	4	Well documented
a	overview of operational, safety and emergency training	4	Well documented
b	certification in lieu of initial training	4	Well documented
2	refresher training every three years	1	Needs to be setup
3	training documentation including identification and verification	3	Needs updating
H	**CONTRACTORS**		
H1	are all employer contractor responsibilities practiced		
1	is the system applied to the appropriate contractors	3	Needs updating
2	are the following employer responsibilities covered		
a	evaluation of contractors safety program and procedures	4	
b	obligation to inform contractor of hazards in the process	4	
c	explain emergency action plans to the contractor	2	Need evacuation plan and drawing
d	restrict entry and exit of the contractor through procedures	4	
e	intermittent compliance checks on the contractor	4	
f	maintenance of a contract employee injury and illness log	4	
H2	are all contractor employee responsibilities practiced		
1	is a procedure in place to monitor the following contractors responsibilities	4	
a	contract employee training done	4	
b	teaching of hazard potential and emergency action plans	4	
c	verification of employee understanding of training	4	
d	employee rule conformance	4	
e	contractor due diligence in reporting discovered hazards	4	Contractor accident investigation report
I	**PRE-STARTUP SAFETY REVIEW**		
.	are all prescribed pre-startup safety review procedures in place	2	In progress
1	all new or significantly modified facilities shall have a pre-startup review	2	In progress
2	the review is to cover the following items	2	In progress
a	is construction and equipment per design specifications	2	In progress
b	safety, operating, maintenance and emergency procedures in place	2	In progress
c	PHA including management of change process completed	2	In progress

	PLANT: BLOOMFIELD REFINING		DATE: 6/23/93
TAG	DETAIL	RANK	COMMENTS
d	required training completed	2	In progress
J	**MECHANICAL INTEGRITY**		
1	is mechanical integrity assured by facility practices		
	is the mechanical integrity system applied to the following items		
a	pressure vessels and storage tanks	3	One vessel needs documentation
b	piping system and components	4	Complete
c	relief and vent systems	3	Only checked during turnaround
d	emergency shutdown systems	1	Not checked on a regular basis
e	control systems	2	Only checked during turnaround
f	pumps	4	Complete
2	written procedures to maintain integrity of equipment	2	Needs documentation (every 3 yrs)
3	training for process maintenance by employer	3	Needs documentation
4	does equipment inspection and testing cover the following areas		
a	performed on process equipment	4	
b	procedures follow general good engineering practice	4	
c	frequency consistent with experience, engineering practice	4	
	and manufacturers recommendations		
d	maintain total documentation of inspection and tests	4	Maintenance area
J2	is quality assurance of sufficient level to insure system integrity		
1	is a tag system in use to prevent the use of deficient equipment	4	
2	is a quality assurance program in place covering the following	4	
a	is the QA suitable for the process application	4	
b	does the QA system insure installation per design specifications	4	
c	is a QA system in place that insures spare parts and materials are correct	4	
K	**HOT WORK PERMITS**		
1	does a hot work permit system exist	4	Fire and Safety Permit
	is a file documenting compliance maintained	4	Maintained for 5 years
L	**MANAGEMENT OF CHANGE**		
L1	are management of change procedures written and available		
1	is a written procedure in place to cover changes is chemicals,		
	technology, equipment and procedures	2	In progress, needs updating
2	does the management of change system address the following items	2	In progress, needs updating
a	technical basis for change	2	In progress, needs updating
b	impact on safety and health	2	In progress, needs updating
c	operating procedure modifications	2	In progress, needs updating
d	time period necessary for change	1	Began work on MOC
e	authorization requirements for change	1	
L2	does the management of change system include the following		
1	requirement to inform and train operations, maintenance and contractors prior to start	2	In progress, needs updating
2	does it require updating of process safety information	2	In progress, needs updating
3	does it require updating of procedures and practices prior to start up	2	In progress, needs updating
M	**INCIDENT INVESTIGATION**		
M1	is an incident investigation system in place covering the following		
1	is investigation of "near miss" incidents required	4	
2	is it required that investigations start asap but not longer than 48 hours after the incide	4	Within 24 hours
3	investigation team must include someone knowledgeable in the process		
	and a contractor if they were involved in the incident	4	Two teams
4	does the final report include the following	4	Contained in report
a	date of incident	4	Contained in report
b	date investigation began	4	Contained in report
	incident description	4	Contained in report
d	contributing factors	4	Contained in report
e	resulting recommendations	4	Contained in report
5	system to resolve findings including documenting corrective actions	4	
6	is the final report reviewed by all personnel	4	
7	are reports retained for five years	4	

	PLANT: BLOOMFIELD REFINING		DATE: 6/23/93
TAG	DETAIL	RANK	COMMENTS
N	EMERGENCY PLANNING AND RESPONSE		
N1	does an emergency action plan for the entire plant, including small releases, exist	3	Need evacuation plan drawing
O	COMPLIANCE AUDITS		
O1	is a compliance audit procedure in place covering the following	0	Needs to be done
1	employer must certify compliance every three years	0	Needs to be done
2	compliance audit must be done by one knowledgeable in the process	0	Needs to be done
3	is the audit report written	0	Needs to be done
4	is the response to the audit prompt with deficiencies corrected and documented	0	Needs to be done
5	is the last audit report always retained	0	Needs to be done
P	TRADE SECRETS		
P1	are the particulars of the secrets rule acknowledged by the facility		
1	access to trade secrets may not be denied to those implementing the act	4	Not required
2	employer can demand signed confidentiality agreements prior to allowing access	4	Not required

PROCESS SAFETY MANAGEMENT COMPLIANCE AUDIT
Giant Refining Company
Bloomfield Refinery

Introduction:

A Process Safety Management Compliance Audit (PSM Audit) was performed at the Bloomfield Refinery July 29 through August 2, 1996. The purpose of the PSM Audit was to assess the current status of the PSM Program at Bloomfield and provide a list of recommendations with a view to bringing the facility into compliance with 29 CFR 1910.119 - the OSHA Process Safety Management Standard.

Rapley Engineering Services, Inc.(RESI) PSM Audit evaluations are based on it's interpretation of the applicable provisions of 29 CFR 1910.119 - Process Safety Management of Highly Hazardous Chemicals, OSHA Instruction CPL 2-2.45A CH-1 - PSM Compliance Guidelines and Enforcement Procedures, OSHA Publication 3132 - Process Safety Management Guidelines for Compliance, applicable OSHA interpretation letters, and published OSHA enforcement proceedings. PSM Audit recommendations represent RESI's professional opinion, but do not represent the opinion or judgement of the regulatory agencies involved, whose opinions or judgement may differ from RESI's. The PSM Audit of the Bloomfield Refinery was performed by RESI's Steve Phillips, Bruce Chrisman, and Mike McKibben.

Scope And Objectives:

The PSM Audit of the Giant Refining Company, Bloomfield Refinery's Process Safety Management Program was performed to assess compliance with 29 CFR 1910.119 - Process Safety Management Of Highly Hazardous Chemicals. The PSM Audit included an evaluation of the structure and effectiveness of the overall PSM Program at Bloomfield and a plant inspection, including employee interviews, to identify the status of PSM Program implementation. The following processes at Bloomfield were identified as covered processes under OSHA 29 CFR 1910.119:

Crude Unit	FCCU	Gas Con
Treating	Reformer/Unifiner	Utilities
Product Tank Farm	Terminal	Diesel Hydrotreater (HDS)
Sulferox (SRU)	CAT Poly	

Prior to the PSM Audit, a list of critical documentation to have available was sent to Bloomfield so that the evaluation of the Bloomfield PSM Program could be performed expeditiously and with minimal disruption. This list is included in this report as Appendix A.

A PSM Audit Checklist was created to expedite the review of the PSM Program in order to address all requirements of the PSM standard. This checklist, included in Appendix B as Table B-1, addresses the details of each element of the PSM standard, line by line, just as they appear in 29 CFR 1910.119. The checklist allows the audit team to rank the relative level of compliance of each line item. Guidelines for ranking each PSM element are included as Appendix C. The structure of the PSM Audit Checklist also allows for identification and a description of the PSM elements that require further evaluation and/or action.

The PSM Audit at Bloomfield included, but was not limited to, a review of the existing Bloomfield PSM Program Documentation, Process Safety Information, Process Hazard Analyses, Operating Procedures, Safe Work Procedures, Training Documentation, Maintenance and Equipment Files, Management Of Change Records, and interviews with several levels of plant personnel.

Audit Results And Recommendations:

The Safety Manager and the other employees at Bloomfield have put together a good basic PSM Program. The PSM Program at Bloomfield is strong in several areas. These areas include a comprehensive Operator Training Program, a good Hot Work system, a well designed Management Of Change Program, and comprehensive Incident Investigations. A large majority of the other PSM Program elements, such as Process Hazard Analyses, Operating Procedures, Contractor Safety, and Mechanical Integrity have been well implemented and will only require some "fine tuning" to become fully compliant. One strong feature of the Bloomfield PSM Program is the fact that the PSM Program at Bloomfield is not just a written collection of policies and procedures. The personnel at Bloomfield have followed through and implemented many of the PSM Program elements.

In addition to emphasizing the good parts of the Bloomfield PSM Program, an important part of a comprehensive PSM Compliance Audit is identification of deficiencies in the PSM Program and documentation of the areas that require corrective action. Identification and correction of PSM Program deficiencies is on-going and is important for the continual improvement of the Bloomfield PSM Program.

Deficiencies observed in the PSM Program at Bloomfield and/or corresponding corrective actions include the following:

1. Employee Participation

   1.1 In 29 CFR 1910.119 (The PSM Standard), OSHA states that "Employers shall develop a written plan of action regarding the implementation of the employee participation ...".

   The existing one-half page Employee Participation section in Tab C of the Bloomfield PSM Manual needs to be expanded to provide a more detailed written plan of action. Bloomfield may want to address each element with a separate paragraph.

   Bloomfield employees need to stay updated on the location of PHA reports and other PSM information. The monthly staff safety meetings at the refinery appear to be an effective means of communicating PSM information to Bloomfield employees.

   1.2 Bloomfield needs to update the plant PSM Manual and make additional copies for the Control Room, Maintenance Shop and other locations where appropriate. The front of the manuals should include a registration number and revision sheet to ensure that the manuals contain the latest revisions. The manuals need to be updated to include reference to the Diesel Hydrotreater (HDS) and the Sulferox. The manuals also need to be updated to reflect the change in ownership from Bloomfield Refining Company to Giant Refining Company.

   Bloomfield may want to consider compiling a PSM Index (see Appendix E).

2. Process Safety Information - Refer To Appendix B, Table B-2

2.1 Comprehensive process flow diagrams (PFDs) need to be created and/or updated for all of the refinery process units. The PFDs for the main process units should contain information about the process chemistry and contain mass and energy balances to comply with other PSM requirements and minimize duplication of effort. The PFDs for the Product Tank Farm and Loadout areas can be more simplified, block style PFDs. The PFDs should represent up-to-date process conditions and process equipment information. Any change in the process should be included in the Bloomfield Management Of Change Program. Much of the information required for the PFDs is available from process unit test runs and the daily summaries.

2.2 Maximum intended inventories exist for the tank farm only. A summary of maximum intended inventories for all of the process equipment needs to be compiled and included in the refinery PSM Manuals.

2.3 Information on the process technology, including safe limits of flow, temperature, etc. and consequences of deviations needs to be compiled and included in all of the Operating Procedures. This can be done easily and effectively by adding alarm response table (ARTs) to the operating procedures (see Appendix E) 1910.119 states that information concerning the technology of the process shall include an evaluation of the consequences of deviations in the process. This is best evaluated during Process Hazards Analyses and included, as also required by 1910.119 (f)(ii)(A) and (B), in the Operating Procedures (see item 4.1 below).

2.4 Materials of construction information is available for some of the process equipment. Line lists and corresponding piping specifications provide material of construction information for process piping. Very little of this piping information is available.

Equipment data sheets, equipment shop drawings and ASME U-1A and U-2 Forms, in data books and Bloomfield equipment files, provide material of construction information for vessels, tanks, and rotating equipment. OSHA considers U-1A Forms and material test reports critical for verification of actual materials of construction. Where U-1A or material test reports are not available, Bloomfield must use test equipment to provide positive material identification (PMI) or use the lowest allowable stress values in suitability for service, t_{min}, and other calculations. Most of the U-1As are available for the HDS, Sulferox, and CAT Poly units, but need to be compiled for the other process units.

Experience has shown that material of construction information for equipment is easier to keep current in individual equipment files than in plant data books. Plant data books have to be taken apart for updating, and several copies are usually spread throughout the refinery and difficult to control. A random survey of the equipment files at Bloomfield indicated that the files in the newer units, HDS, Sulferox, and CAT Poly, were somewhat complete, but the equipment files for the other units lack important equipment information. All of the equipment files need to be checked for completeness, updated, and maintained. Where appropriate, critical equipment information needs to be copied from the plant data books and included in the equipment files.

2.5 Up-to-date line lists are essential for maintaining current material of construction information of piping systems. Bloomfield should review the existing line lists to make sure that they are current and create line lists for the process units where they don't exist. Line lists can usually be easily created in conjunction with P&ID updates. Bloomfield might consider compiling all of the unit line lists, along with the piping specifications that they refer to, in notebooks, which makes them readily available and easily updated. Accurate line list information is important for the Management Of Change Program.

2.6 Up-to-date P&IDs are one of the basic building blocks of a good PSM Program. P&IDs are easily the most used PSM documents in the refinery and require the most resources to revise to an "as-is" condition and to keep current. A concentrated effort has been underway at Bloomfield to update the refinery P&IDs. A survey was made of the status of all of the P&IDs and other process safety information at Bloomfield. The results of the survey are shown in Appendix B in Table B-2.

The P&IDs for most of the process units have been updated. Bloomfield must be sure that these P&IDs have not only been thoroughly field verified, updated, and are as accurate as possible, but that all current and future changes get updated on the P&IDs via the Management of Change Program. The P&IDs for the Tank Farm and Terminal need to be field verified and updated or created.

2.7 Accurate Electrical Classification Drawings are critical when specifying electrical, instrumentation and control equipment in hazardous areas of the refinery. Any Electrical Classification Drawings created should conform to the latest edition of ANSI/API Std 500, "Recommended Practice for Classification of Locations for Electrical Installation at Petroleum Facilities".

Electrical Classification Drawings have been created for all of the refinery units as shown on Table B-2. The revision dates for the majority of Bloomfield electrical classification drawings are either April 1991, or September 1992. These drawings should be reviewed to ensure that they are up-to-date. Tanks No. 35 and 36 need to be added to electrical classification drawing D-000-600-011 Rev. 0.

The electrical classification drawings don't appear to have the level of detail required by ANSI/API Std. 500. Some Class I - Division 1 sources may not be shown on the drawings. The current electrical classification drawings only show a plan view of the hazardous locations in the refinery. Bloomfield may want to consider adding detail sheets to show the elevation view of these hazardous locations also.

Bloomfield should consider distinguishing areas where hydrogen is present (Class I, Division 2, Groups B, C, and D) from other Class I, Division 2, Groups C and D areas. Electrical equipment for Groups C and D (no hydrogen) is generally cheaper and more readily available, see example in Appendix E.

For most of the process units, the whole unit is classified Class I, Division 2, as a block. Bloomfield may want to look at the units, using API Std 500 radiuses, in case there is equipment in hazardous locations, such as MCCs, that are not rated for such.

2.8 Some electrical Single Line Diagrams exist. Single Line Diagrams for process units need to be updated and/or created. As with the P&IDs, and other process safety information, OSHA 1910.119 states that the Single Line Diagrams need to be updated as required to support the PHA schedule.

2.9 Instrument loop diagrams exist for many of the process units. Loop diagrams need to be created for some of the Utilities, the Tank Farm, Terminal, and the Sulferox. Existing loop diagrams need to be reviewed for accuracy. OSHA has indicated that the information, including loop diagrams, should be available to employees. If the information isn't included in loop diagrams, it needs to be shown on P&IDs, described in control strategy descriptions, and included as detailed instrument information available in instrument data sheets and calibration records.

2.10 A comprehensive, flare and relief system analysis was found in Tab F of the Bloomfield PSM Manual. The analysis appears to have followed the recommendations of ANSI/API Std.520 Sizing, Selection, and Installation of Pressure-Relieving Devices in Refineries and Std.521, Guide for Pressure-Relieving and Depressuring Systems. The outstanding action items identified in the relief evaluation need to be addressed and documented as soon as possible. This has been documented in several memos including the latest, dated July 18, 1995.

2.11 There is no information on ventilation system design at Bloomfield. OSHA 1910.119 (d)(3)(I)(E) requires that the ventilation system design be available where applicable. The ventilation system design of the Control Room, Sulferox Buildings, and other similar areas needs to be reviewed, compared with NFPA and API standards and a brief summary prepared and included in the Bloomfield PSM Manual.

2.12 A brief narrative identifying the design basis, including codes and standards used, needs to be prepared and included in the Bloomfield PSM Manual. Where new and used equipment at Bloomfield was built to codes and standards no longer used, Bloomfield must certify that, with a good PSM program in place, the equipment is designed, operated, tested, inspected and maintained in a safe manner.

2.13 A Master Equipment Plot Plan exists of the refinery. Plot Plans also exist for many of the process units at Bloomfield. These plot plans need to be reviewed to ensure that they are up-to-date.

2.14 OSHA requires that facilities document information pertaining to safety systems, including interlocks, detection and suppression systems. This is usually done using alarm and shutdown schematics and alarm/shutdown matrices. Experience has shown that alarm/shutdown matrices, similar to the SAFE Charts of API-14C, are the most effective method of presenting safety system information for whole process units. An example of an alarm/shutdown matrix is included in Appendix E.

Most of the alarm and safety system documentation found at Bloomfield was in the training manuals and was not complete. In addition to adding alarm response tables to the Operating Procedures (see 2.3 above), Bloomfield should consider creating brief, alarm/shutdown matrices for each of the process units. The alarm/shutdown matrices can then be included in the Operating Procedures and included in Operator Training.

3. Process Hazard Analysis (PHA)

3.1 The PSM Standard requires that Bloomfield determine and document the priority order for conducting PHAs, based on a rationale which includes such considerations as extent of the process hazards, number of potentially affected employees, age of the process, and operating history of the process. Bloomfield has documented the priority order in Tab G of the PSM Manual, however, there was no formal documentation of how the priority order was determined, including criteria which addressed, as a minimum, the OSHA considerations listed above. Bloomfield needs to document the prioritization scheme used and be sure that the scheme includes at least the four criteria listed above. This could be effectively accomplished by creating a formal PHA policy which not only addresses PHA priority order, but also schedule, team makeup, methods used, and how PHA recommendation items will be addressed.

3.2 Bloomfield has documented the schedule for performing PHAs in Tab G, however, the refinery is behind schedule. The schedule should be changed to reflect the current PHA effort, including completion of the FCCU, Gas Con, and Reformer PHAs later this calender year. The What-If/Checklist method used in the past Bloomfield PHAs appears to be lacking in detail and depth. If continuing to use the What-If/Checklist PHA methodology, Bloomfield may want to consider custom what-if question development, prior to the PHA, or alternatively, consider using the HAZOP method to ensure more detail in the PHAs.

3.3 Identification of any previous incidents which had a likely potential for catastrophic consequences in the process must be included in every PHA. Bloomfield appears to review previous incidents prior to the PHA, however, this must be documented with the PHA, and if no previous incidents apply, document that in the PHA records. Bloomfield also needs to place more emphasis on facility siting and human factors in the PHAs and make sure that there is documentation that these were addressed even when they doesn't apply.

3.4 Need to ensure that formal PHA policy (see 3.1 above) mandates employees with maintenance skills as part of PHA team makeup.

3.5 More emphasis needs to be placed on resolution of PHA action items. Bloomfield may want to consider using PHA recommendation follow-up forms, 1 per action item, as a better way to document action item closeout (see Appendix E). Bloomfield should also consider assigning each action item to a specific individual and assign a due date to each action item during the PHA since OSHA requires that employers provide a "written schedule of when these actions are to be completed". Bloomfield should then begin issuing "past due" reports if necessary to aid in the closeout of action items.

3.6 Bloomfield should allow the PHA Team the opportunity to review/comment on "actions taken" to improve communication of concerns and recommendations identified in the PHA meeting.

3.7 Increased emphasis needs to be placed on communication of the results of PHAs. The location of copies of all PHA reports should be communicated to all Bloomfield employees. Employees should continue to be notified of PHA reports and PHA action items using the monthly group safety meetings, etc.

4. Operating Procedures

4.1 Overall the Operating Procedures at Bloomfield are good. The procedures are laid out well and are comprehensive. PSM requirements not adequately addressed in the Operating Procedures are the consequences of deviation from the normal operating limits and identification of steps required to correct or avoid deviations. OSHA has focused on these requirements as indicated by recent PSM fine activity and specific instructions to address these topics included in OSHA Instruction CPL 2-2.45A CH-1, PSM Compliance Guidelines and Enforcement Procedures.

There are several ways to include consequences of deviation for each process variable and identification of steps required to correct or avoid these deviations into the Operating Procedures. Our experience in this area with many facilities has shown that this can be done most efficiently and cost effectively by including a section in the Operating Procedure with alarm response tables (ARTs) which includes process variables, alarm points, system responses to deviations, and suggested Operator responses to correct the deviations (see 2.3 above). An example of one of these is included in Appendix E. Alarm set points need to be included in the Operating Procedures, typically in the ARTs. We recommend that the alarm/shutdown matrices referred to in item 2.14 also be included in the Operating Procedures.

4.2 Bloomfield should place more emphasis in the temporary operations, emergency operations, and normal shutdown steps of the Operating Procedures.

4.3 Many of the Operating Procedures have been created with whatever P&IDs were available at the time. These Operating Procedures need to be revised when the P&IDs are updated.

4.4 OSHA requires that facilities "develop and implement safe work practices to provide for the control of hazards during operations such as ... control over entrance into a facility by, maintenance, contractor, laboratory, or other support personnel" and "develop and implement safe work practices ... to control the entrance, presence, and exit of contract employers and contract employees in covered process areas".

Bloomfield needs to develop a site entry control procedure and enforce it. The policy should address what is expected of Operators on various shifts, weekends, etc. It also needs to address how a head count is conducted after an evacuation, etc.

5. Training

5.1 A good, well documented, Operator Training and Certification Program is in place at Bloomfield and documented in Tab J of the Bloomfield PSM Manual. OSHA 29 CFR 1910.119 states that "Refresher training shall be provided at least every 3 years, and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current Operating Procedures of the process". Bloomfield addresses refresher training through the three step annual review process.

6. Contractor Safety

6.1 Bloomfield has a Contractor Safety Regulations and Procedures Manual as included in Tab K of the Bloomfield PSM Manual.

There needs to be more emphasis placed on contractor orientations and contractor site control (see 4.4 above). All applicable contractors need to go through an orientation which includes informing the contractors of the hazards of the processes, safe work practices, and the Bloomfield Emergency Response Plan. The RESI PSM Audit Team was not given a comprehensive contractor orientation.

6.2 Bloomfield needs to perform and formally document safety audits of Contractors to verify that Contractors comply with Bloomfield Safe Work Procedures and 29 CFR 1910.119 (h)(3) Contract Employer Responsibilities. These periodic safety audits are now being performed informally with no documentation. Some of the contract personnel attend Bloomfield group safety meetings.

7. Prestartup Safety Review

7.1 Bloomfield needs to make sure that a prestartup safety review is performed for a new or significantly modified process and a change startup safety checklist is completed prior to startup.

We also recommend that Bloomfield maintain a copy of all prestartup safety information in a predefined location where it is easily accessible.

8. Mechanical Integrity

8.1 Bloomfield currently has a Mechanical Integrity Program in place. Many of the Mechanical Integrity elements are in place at Bloomfield, but they need to be revised and enhanced to assure compliance with 29 CFR 1910.119.

We recommend that Bloomfield put together a Mechanical Integrity (MI) Program Manual, similar to the Ciniza MI Manual, which describes the overall MI Program at Bloomfield. The MI Manual should include a list of covered process equipment and instrumentation, prioritized to indicate which pieces of equipment require closer scrutiny than others. The prioritization scheme should be risk based in nature, with piping prioritized based on API-570.

8.2 Bloomfield needs to include all process equipment in its Mechanical Integrity Program. This includes, but is not limited to: pressure vessels, storage tanks, process piping, heat exchangers, relief valves, rupture disks and flares, ESD systems, monitoring devices, sensors, alarms, pumps and compressors.

Storage tanks need to integrated into the Bloomfield MI Program.

8.3 Bloomfield needs to establish and implement written maintenance procedures to maintain the integrity of process equipment. Many of these maintenance and instrument calibration procedures can be derived directly from manufacturer's information. In some cases where the maintenance procedures are extremely large, such as for compressors, Bloomfield may want to use the procedure to provide a general summary of the maintenance tasks and refer to the manufacturer's procedure for the specifics.

Other Mechanical Integrity procedures such as inspection, testing and welding procedures also need to be addressed.

8.4 Bloomfield has a good Maintenance Dept. Apprenticeship Training Program in place. Once the maintenance procedures described in item 8.3 above are in place, 1910.119 (j)(3) requires that Bloomfield train Maintenance Personnel on these procedures.

8.5 Included in the Mechanical Integrity Program documentation should be a description of the Bloomfield Inspection and Testing Program required in 1910.119 (j)(4). This should be a part of the MI Manual (see 8.1 above). We recommend that the Quality Assurance requirements of 1910.119 (j)(6) be combined with the Inspection and Testing Program.

The current Bloomfield inspection and testing program is based on performing inspections of piping, relief valves, and other process equipment during turnarounds, based on a three year cycle. If equipment is within 10% of its retirement limit, the inspection frequency is changed to every year, and if its within 5% of its retirement limit, the inspection frequency is changed to every six months. Boilers undergo an annual inspection, and LPG storage is inspected every five years.

The frequency of inspections need to be checked with industry standards such as ANSI/API Std 510, Pressure Vessel Inspection Code, ANSI/API Std 570, Piping Inspection Code, and modified if required.

8.6 The documentation system that Bloomfield is currently using to document piping, vessel and relief valve testing is good. The MMS system documents preventive maintenance activities. Some inspection isometrics exist. Bloomfield should review the inspection and testing documentation for completeness and compile missing information where applicable.

Bloomfield needs to review the equipment files and make sure all required equipment information is included (see 2.4 above).

8.7 Industry standards such as API Std 510, the Pressure Vessel Inspection Code, now require that only qualified NDE inspectors, inspection procedures, welders, and welding procedures are used. Bloomfield needs to include these considerations in the Mechanical Integrity Program and require welding and inspection certifications.

8.8 The Bloomfield work order system meets the PSM requirements for a program to correct deficiencies in equipment that are outside of acceptable limits.

9. Hot Work - No action required.

10. Management of Change

10.1 Bloomfield has a good Management of Change (MOC) Program in place. The MOC Program is described in Tab L of the Bloomfield PSM Manual.

There doesn't appear to be a formal system in place to perform a periodic review of the status of outstanding MOCs. Bloomfield should put together a group to periodically review the status of outstanding MOCs. A weekly status review seems to work the best.

10.2 The MOC Change Startup Safety Checklist should be completed prior to startup.

11. Incident Investigation

11.1 Bloomfield has a good Incident Investigation system in place. More emphasis should be placed on starting the incident investigation not later than 48 hours following the incident and future incident investigations need to be modified to include information on when the investigation began.

12. Emergency Planning and Response

12.1 Bloomfield appears to have a good Emergency Response Plan, Safety Order S-1, in place. The Emergency Response Plan needs to be periodically reviewed to make sure that all of the information in the plan is correct.

Bloomfield may want to review the new Integrated Contingency Plan Guidance and combine the various EPA and OSHA emergency response plans into a single plan.

13. PSM Compliance Audits

13.1 Documentation of the previous July 9, 1993, Bloomfield Refinery PSM Audit Report, is poor. Bloomfield needs to provide complete documentation of the PSM Audit Recommendation Items included in Table D-1 of this report. The PSM Audit Recommendation Items need to be addressed in a timely manner, as required by 29 CFR 1910.119.

14. Trade Secrets - No Action Required

I. PURPOSE

OSHA regulation 1910.119 requires changes and modifications that could affect process safety to be managed in a way to eliminate or reduce as much as possible the hazards created by such changes. BRC's goals are to protect its employees, the community, the environment, and its assets. Because of this commitment to safety, the environment and product quality, the "Management of Change (MOC)" process was developed. Managing change means:

- Adequately reviewing proposed changes to ensure that unacceptable risk is not introduced.
- Documenting the changes in operations manuals, maintenance procedures, process flow diagrams, piping and instrument diagrams, training materials, etc.
- Updating procedures or developing new procedures as the result of change.
- Informing and/or training employees that are affected by the changes.
- All changes must go through the defined MOC process for authorization and documentation requirements.
- After a change to a process is made a pre-startup safety audit must be performed before introduction of hazardous or flammable materials.

II. APPLICATION

Change is defined as any not-in-kind modifications to any facility equipment, process chemical, operating or maintenance procedures, or operating conditions. MOC must be applied to all types of change:

III. DEFINITIONS

Replacement in Kind (RIK) - replacement of existing process equipment including piping, valves, etc. with identical equipment or equipment that meets original design specifications and has documented evidence of qualification by an authorized individual. Piping, valves, etc. that meet the design specification shown on the Mechanical Flow Diagram (MFD) will be considered RIK regardless of the vendor. Under no circumstances can changes to equipment, process control, process, or facilities be considered RIK.

Baseline Documentation -Baseline documentation information includes the following and will be maintained by the department listed.

1. MSDS on file (safety)
2. Material and energy balances (tech. svcs.)
3. Process block diagram or flow sheets (operations)
4. Process chemistry (tech svcs)
5. Maximum intended product inventory (operations)
6. Safe upper and lower operating limits (operations)
7. Materials of construction (maintenance)

8. One Lines, Loops and Wiring Diagrams (maintenance)
9. Electrical area classification (maintenance)
10. Relief system design and basis (tech. svcs.)
11. Ventilation system design (maintenance)
12. Design codes and standards (maintenance)
13. Safety systems (safety)
14. Environmental Permits (environmental)
15. Equipment specifications (maintenance)
16. Operation procedures (operations)
17. Maintenance procedures (maintenance)

Work Order Request - the form that describes the proposed work to be performed and facilitates judgement of whether work is a Change or RIK.

MOC Control Sheet - A change request form that facilitates control and trackability of the requirements of OSHA 1910.119 (Appendix II)

Change Startup Checklist - A form that must be completed prior to start-up or implementation of a change. (Appendix III)

Normal Operating Changes - day to day operating adjustments within the scope of unit original design such as pressures, temperatures, liquid levels, etc. These changes do not fall within the guidelines of MOC.

IV. REQUIREMENTS

1. The following considerations must be addressed prior to any change.
   a) the technical basis for the proposed change
   b) impact of change on safety and health
   c) modifications to operating procedures
   d) necessary time period for the change
   e) authorization requirements for the proposed change
   f) the effect of change on product quality or quantity
   g) the possible adverse effects the change could have on the environment.

2. Employees involved in operating a process, and maintenance and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start up of the process or affected part of the process by their respective departments.

3. Baseline documentation (Process Safety Information) must be updated as required by the changes in a timely manner. It is the responsibility of each Department Manager to ensure that baseline data that they affect or are responsible for maintaining shows current conditions and is accessible.

4. Any change in procedures or practices needed as a result of a change must be updated in a timely manner.

V. PROCEDURES

There are three classifications that are considered change. They are:
Equipment change
Chemical, Technology, and Procedure change
Plant Project change

Each of these has its own approval procedures.

Equipment Change Procedure

(1) All requests for work will be through the Work Order System using the Work Order Request Form. If the work is determined to be Replacement in Kind, by the Technical Services Manager the MOC process will not be required.

(2) If the work is determined to be a change, the Technical Services Manager will indicate on the Work Order - "Process Change Required", assign a "Project Originator" and forward the Work Order to Maintenance Planning where the Work Order will be logged into the system; a MOC Control Sheet (appendix II) will be attached; and sent to the "Project Originator" for project development.

After project development by the Project Originator is complete, the MOC Control Sheet with all necessary attachments and drawings will be circulated (in order as indicated on the bottom of the sheet). After each individual review, the package is to be passed on to the next on the list and the log sheet (maintained at the mail boxes) dated to indicate review is complete and passed on.

(3) Approval. Each Work Order Request Form, MOC Control Sheet, and project information must be reviewed and approved as listed below. Any change may be deferred to a higher level for approval.

a) Level I Approval - A change approval for minor changes or substitutions where the operating process is basically unaffected, can be made by the planner and operation supervisor without further review. -Items under this level include; gasket material, lubrication requirements, control configurations, piping re-routing or size changes etc.

b) Level II Approval - A change that requires a joint approval by each department within the Refinery most often the department head. -Items under this level include; all changes to the process, equipment, and or chemical which do not fall under the Level I criteria and are not Replacement in Kind.

Chemicals, Technology, and Procedure Changes

Work procedures such as Safety and Health Standards operating procedures, maintenance procedures, chemical changes that are not initiated through the Work Order System will meet the following guidelines:

1) Each department will develop a system to define and control procedures applicable to their department.

2) Each change to a procedure or work process must be reviewed through a departmental Change process defined by each department.

3) All chemical changes initiated by any department must be reviewed and approved by the Safety and Environmental Departments.

Plant Projects

All Management of Change requirements must be met on Plant Projects as a Level II Change.

Plant projects will also include a P&ID review by Refinery Management and a Process Hazard Analysis prior to job completion, and a Pre-Startup Safety Audit before any new unit is brought on line.

Temporary Changes

All changes must go through MOC. Temporary changes must meet all MOC requirements, and MOC requirements must be met when a temporary change is being returned to original state.

See Appendix I (MOC Decision Chart) for additional information on MOC authorizations.

VI. GUIDELINES FOR DOCUMENTATION

After a Work Order and MOC Control Sheet are approved, the assigned "Project Originator" will address all comments, then forward it to Planning so the Work Order can be issued. It is the responsibility of Maintenance Department to keep "trackable" files on all changes initiated through the Work Order system. These files should be kept by "Unit". Every Work Order Form and MOC Control sheet must be kept until the next Hazard Analysis has been completed and P&ID's updated.

All baseline documentation must be updated to reflect the changes made. Refer to "baseline documentation" in the definition section of this document.

VII. PRE-STARTUP OF CHANGED OR NEW PROCESS

After all work has been complete to change an existing process or construction of a new process is finished a "Pre-Startup" audit must be performed and the Checklist (appendix III) completed. One member from the Operations, Maintenance, Engineering, and Safety Departments will perform this audit.

APPENDIX II

MANAGEMENT OF CHANGE CONTROL SHEET

Project Title:_____ W.O. # _____
AFE # _____
Originator: _____ Date: _____

Project Description:(attach sketch, P&ID, Iso's etc.)

_____

_____

_____

Change to: Equipment ____ Chemical ____ Technology ____
Technical Basis or Reason:_____

_____

_____

Required completion date:_____

Design Reviewed: (____- MANDATORY REVIEW _____- OPTIONAL REVIEW)

	OPER	MAIN	T.SVC	SFTY
PROCESS FLOW	═══	___	___	___
PRESSURES	═══	___	___	___
TEMPERATURES	═══	___	___	___
EQUIPMENT LOCATION	═══	═══	___	___
EQUIPMENT NUMBERING	═══	═══	___	___
FOUNDATIONS	___	═══	═══	___
INSTRUMENTS	═══	═══	___	___
VESSELS	___	═══	═══	___
EXCHANGERS	═══	═══	═══	___
PUMPS	___	═══	═══	___
PIPING	═══	═══	___	___
BLEEDERS, VENTS, & DRAINS	═══	═══	___	___
RELIEF VALVE PROTECTION	___	___	═══	___
FIRE PROTECTION	___	___	___	═══
FIRE PROOFING	___	___	___	═══
STRUCTURAL	___	___	═══	___
LIGHTING	═══	___	___	═══
ELECTRICAL POWER	___	═══	___	___
ELECTRICAL CLASSIFICATION	___	═══	___	═══
SAFETY FACILITIES	___	___	___	═══
EMPLOYEE ACCESS	═══	___	___	═══
SEWERS	═══	___	═══	___
HEAT TRACING	═══	═══	___	___
THERMAL INSULATION	═══	═══	___	___
PERSONNEL INSULATION	___	___	___	═══
FUGITIVE EMISSIONS	___	___	___	_ENV_
SPILL CONTAINMENT	___	___	___	_ENV_

COMMENTS:

_____

_____

_____

DESIGN REVIEW APPROVAL:(in order)

1_____	2_____	3_____	4_____
TECH. SVC. MGR	OPER. MGR.	OPER. SUPER.	TRAINING
5_____	6_____	7_____	8_____
MAINT. MGR.	PLANNING	I&E SUPER.	GM SUPER.
9_____	10_____	11_____	12_____
SAFETY	ENVIRONMENTAL	REFINERY MGR.	ORIGINATOR

APPENDIX III

CHANGE STARTUP SAFETY CHECKLIST

Project Title:_____ W.O. # _____

AFE # _____

Originator: _____ Date: _____

(mark each item: C-complete NC-not complete NR-not required)

Procedures & Documentation:

___ Process description
___ Process flowsheet
___ Startup procedures
___ Normal operation procedures
___ Emergency operating procedure
___ Emergency shutdown procedures
___ Operating limits defined
___ Operators trained
___ MSDS for new chemicals
___ Flammability defined
___ Chemical hazards defined
___ Chemical training
___ Environmental Permits
___ PHA complete
___ PHA recommendations addressed
___ Maintenance procedures

Facilities and Equipment:

___ Safety equipment available
___ Pressure vessels reviewed
___ Relief valves in place & open
___ Equipment installed to spec.
___ Equipment labels in place
___ Dikes and drainage
___ Piping vents and drains
___ Piping supported properly
___ Cleanup provisions
___ Fireproofing complete
___ Spare parts addressed
___ Equipment files in place
___ Guards in place
___ Adequate ventilation
___ Emergency exits
___ Proper lighting
___ Housekeeping prior to startup
___ Signs and instructions posted

Instrument and Electrical:

___ Equipment grounded
___ Electrical inspected
___ Electrical equipment labled
___ One lines updated
___ Elec. classification verified
___ Critical instruments defined
___ Control valves fail position checked before installation
___ Set points defined
___ Instruments calibrated
___ Alarms labled

Comments:

_____

_____

_____

_____

_____

Maintenance: _____ Operations: _____

Engineering: _____ Safety: _____

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

July 2, 1999

CERTIFIED MAIL
RETURN RECEIPT NO: Z-274-520-681

Mr. Lynn Shelton
Giant Refining Company
#89 County Rd. 4990
Bloomfield, New Mexico 87413

RE: RIVER TERRACE REMEDIATION
GIANT BLOOMFIELD REFINERY

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has reviewed Giant Refining Company's (GRC) June 22, 1999 "RIVER TERRACE REMEDIATION PROJECT" and May 27, 1999 "SAN JUAN RIVER TERRACE REMEDIATION". These documents contain GRC's proposed modification of the sheet piling containment system to be installed along contaminated refinery areas adjacent to the San Juan River to control migration of contaminants and proposed fluid recovery/monitor collection system to be installed behind the sheet piling system.

Conceptually, the proposed modifications and recovery system are acceptable. However, the OCD has the following comments regarding the above referenced proposals:

1. The June 22, 1999 proposal does not contain the design and construction specifications for the slurry wall system nor the as built permeability of the slurry wall.

2. The May 27, 1999 proposal does not contain information on the installation of fluid gathering pipelines for collection and distribution of fluids from the recovery system nor the proposed disposition of the recovered fluids.

The OCD requires that GRC provide the above missing information to the OCD Santa Fe Office by July 19, 1999 with a copy provided to the OCD Aztec District Office. If you have any questions or comments, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office

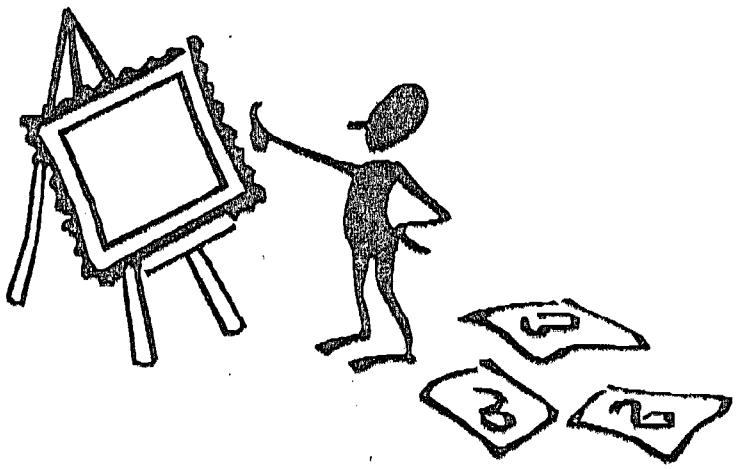
GIANT INDUSTRIES, INC.
SAN JUAN REGIONAL OFFICE
111 ROAD 4990
BLOOMFIELD, NM 87413
FAX: (505) 632-4024
PHONE: (505) 632-8006

DATE: 6/22/99

TO: BILL OLSEN
NMOCD

FROM: LYNN SHELTON

PAGE: 1 **OF** 2



GIANT INDUSTRIES, INC.

111 Road 4990
Bloomfield, New Mexico 87413

505
632.8006

June 22, 1999

Mr. William Olsen
NMOCD
2040 S. Pacheco St.
Santa Fe, New Mexico 87505

Re: River Terrace Remediation Project

Dear Bill:

Giant Refining Company – Bloomfield recently submitted a remediation work plan outlining the steps proposed to install sheet piling. In it we proposed the use of 3/8" PVC sheet piling driven into place by a vibratory hammer and hardened steel mandrell.

Attempts to install the piling resulted in failure to penetrate the alluvial cobble zone, thereby precluding contact with the Nacimiento formation. Giant proposed to OCD to install 11' of sheet piling, which was the maximum achievable depth. It was determined that 11' of sheet piling would extend below the deepest water level of the river and meet the intended goals of the project. OCD denied this proposal.

Giant then proposed to install a slurry wall and sheet piling by excavating to the Nacimiento formation. OCD approved the approach because it extended the impermeable wall down to the Nacimiento formation. After witnessing the excavation and verifying the contact with the Nacimiento formation, we believe the slurry wall alone provides the necessary hydraulic barrier. The use of sheet piling appears to be advantageous only on the western side of the river terrace along the active river bank where erosion could take place during high water levels in the river, thereby compromising the integrity of the hydraulic barrier. Giant proposes to install sheet piling in addition to the slurry wall on the west side of the river terrace (see attached drawing).

We find no value in placing sheet piling on the interior perimeter of the hydraulic barrier where erosion is not an issue. The bentonite slurry wall will accomplish the goals of the remediation plan.

Because we are currently installing the bentonite slurry wall and will be installing the sheet piling along the west edge of the river terrace by Wednesday afternoon, we request a timely review and decision on this proposal.

If you have any questions concerning this proposal, please contact me at (505) 632 4168.

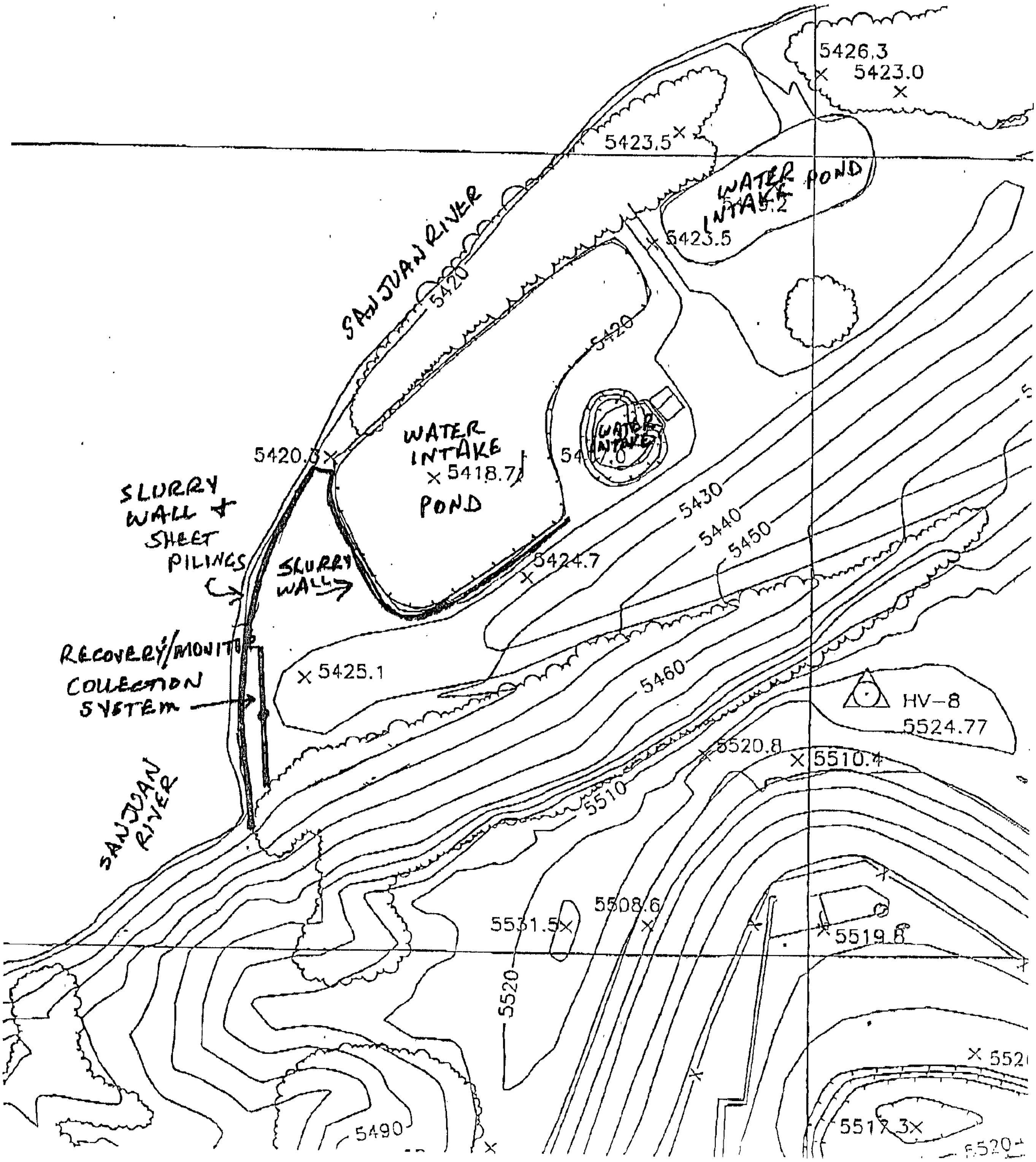
Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company – Bloomfield

Attachment

Cc: John Stokes, Vice President, Giant Refining Company

Giant Refining Company
Bloomfield
River Topographic Detail
OCD Remediation Project



RCD FCD 11 11:30:56 1998 ROB

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 1345	Date 6/21/99

Originating Party	Other Parties
Bill Olson - Envir. Bureau	Lynn Shelton - Giant

Subject

6/21/99 Fax - Sheet Piling System
Giant Bloomfield Refinery

Discussion

Reviewed 6/21/99 memo to OCD with Roger Anderson

OCD doesn't believe proposed sheet piling modification will give adequate hydraulic control with the sheet piling being tagged into Nacimiento Formation

Conclusions or Agreements

Proposal is denied.

Distribution

File

Denny Foust - OCD Aztec

Signed Bill Olson

Giant Refining Company

Memo

JUN 24 1999

To: William Olsen, NMOCD

From: Lynn Shelton JLS

CC: Randall T. Hicks

Date: 06/21/99

Re: Sheet Piling Abatement Action, Bloomfield Refinery

fax received on 6/21/99 [illegible]

This memorandum identifies a proposed modification to the approved abatement action for the area north of the Refinery, along the San Juan River. Our May 27 submission to NMOCD describes the proposed action: installation of sheet piling and drainpipe. The purpose of this action is to prevent a release of separate phase hydrocarbon from the San Juan River and to capture any dissolved-phase hydrocarbons in the alluvial sediment between the River and the Refinery.

Our original submission specified installation of sheet piling from ground surface to the top of the Nacimiento Formation. For two days last week, Remedial Construction Services, Inc (RECON) attempted to install the sheet piling to the specified depth (about 15 feet). Despite repeated attempts, RECON was unable to drive the sheet piling more than 11 feet below grade. The cobbles common to the alluvium prevent a deeper installation.

To meet the intended purpose of the sheet piling and drain system, we propose the following modification:

- Install sheet piling below the lowest elevation of the bed of the San Juan River measured due north of the sheet piling installation or maximum depth possible
- Install the drain pipe at an optimum depth, determined after 12 months of water/SPH level monitoring

Any cobble zones that preclude installation to the top of the Nacimiento Formation create a permeable gap at the base of the sheet piling. Because of this gap, the drainage pipe must be placed appropriately in order to effectively control discharge of dissolved-phase hydrocarbons to the River and to capture SPH. At present, we

know that the water level in the alluvium responds to changes in the stage of the River. After installation of the sheet piling, we anticipate much less pronounced fluctuation. By monitoring the water levels north and south of the sheet piling (up gradient and down gradient), we will understand where to place the drainage pipe. Obviously, placing the drainage pipe too low will permit water, but not SPH, to be recovered. Placing the pipe too high may not effectively control groundwater flow during periods of low River stage. The monitoring program may also show that two drainage pipes are required: one for PSH and a lower pipe for groundwater.

Placing the base of the sheet piling at the same elevation of the San Juan River bed will effectively accomplish our stated goals of preventing SPH from entering surface water. Correct drainage pipe placement will meet our ancillary goal of controlling the flow of dissolved-phase hydrocarbons.

At some locations, the cobbles in the alluvium may prevent installation to the Riverbed elevation. If groundwater elevation monitoring at these locations demonstrate that SPH and/or dissolved-phase capture is not practical with drainpipes, we will install shallow wells at these locations to control any hydrocarbon discharge to the River.

The proposed groundwater-monitoring program consists of the placement of eight drive-point wells: four south of the sheet piling and four north (down gradient). We will measure water levels in these drive points on a monthly basis. We will sample these wells for dissolved phase hydrocarbons (BTEX and naphthalene) on a quarterly basis. On or before July 6, 2000, we will report the results to NMOCD and present a plan for installation of the drainage system.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

June 14, 1999

CERTIFIED MAIL
RETURN RECEIPT NO: Z-274-520-671

Mr. Lynn Shelton
Giant Refining Company
#89 County Rd. 4990
Bloomfield, New Mexico 87413

RE: SITE INVESTIGATION REPORT
GIANT BLOOMFIELD REFINERY

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has reviewed Giant Refining Company's (GRC) June 4, 1999 "GIANT BLOOMFIELD REFINERY DISCHARGE PLAN GW-1". This document requests that the schedule for submission of the site ground water investigation report be extended from June 15, 1999 to July 6, 1999.

The above referenced schedule modification **is approved**.

If you have any questions or comments, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office
Randall T. Hicks, R.T. Hicks Consultants, Ltd.

GIANT
REFINING COMPANY

June 4, 1999

Mr. William Olsen
NMOCD
2040 So. Pacheco Street
Santa Fe, New Mexico 87505

RE: Giant Bloomfield Refinery Discharge Plan GW-1

Dear Bill:

The Giant Refinery Discharge Plan Application is due to the NMOCD on June 15,1999. The appendicies of the application include the Final Site Investigation Report and the Groundwater Restoration Plan for the refinery. Giant planned to submit all three of these documents on the 15 of June, however, with OCD authorization, we would ask for a three-week extension for the latter two documents.

The delay of the sampling program and some other, unforseen problems has prevented us from completing the documents in a timely fashion. Namely, the laboratory has been slow generating the data from the April sampling event. Additionally, in reviewing the recent data, we have found some discrepancies in the Volatile analyses and Semi-Volatile analyses for Naphthalene. The laboratory is checking their standards, however it appears as though it may simply be sampling order disparity. Nevertheless, we would like to investigate the inconsistencies in the results.

Furthermore, some wells that have never detected organic compounds now show positive results for volatiles, including benzene. We now observe benzene in wells near the new, unlined raw water ponds on the east side of the refinery. Water levels in the wells have also risen in response to filling these ponds. It is reasonable, we feel, to request more time so that we may understand this new movement of the hydrocarbon plume at the refinery. These problems have slowed the generation of these documents, and with more understanding of the hydraulic condition at the refinery, we will submit documents that are more comprehensive for the OCD and ultimately the EPA.

We appreciate your consideration of this request.

Respectfully,

Lynn Shelton
Environmental Manager
Giant Refining Company

PHONE
505-632-8006
FAX
505-632-4034

111 COUNTY
ROAD 4990
BLOOMFIELD
NEW MEXICO
87413

GIANT
REFINING COMPANY

RECEIVED
JUN 14 1999
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Fax received on 6/10/99

May 27, 1999

Mr. William Olsen
NMOCD
2040 So. Pacheco St.
Santa Fe, New Mexico 87505

Re: San Juan River Terrace Remediation

Dear Bill:

Giant Refining Company – Bloomfield submits the work plan for the remediation of hydrocarbon contamination on the river terrace immediately north and below the refinery. As an addition to the approved Remediation Plan that was submitted in February, 1998 and approved by OCD on March 6, 1998, Giant submits this work plan that details the recovery/monitor collection system and the hydraulic loading of the sheet piling.

Some concerns about hydraulic loading behind the sheet piling had been discussed. I did some rough hydraulic loading calculations (attached) and determined that the pressure on the sheet piling at static water levels would be 0.598 psi. At maximum loading, the pressure would increase to 1.076 psi. Excessive hydraulic loading does not appear to pose a problem.

Please note that the proposed design of the collection system differs from the OCD well installation requirements in the March 6 approval letter (see attached drawing). Although not actually a well, the collection system will be used to monitor the presence of Separate Phase Hydrocarbons (SPH) as outlined in the approved remediation plan. Although it does not appear to be likely or necessary, the collection system can be used to recover water from behind the sheet piling to correct excessive hydraulic loading.

The depth of the horizontal was determined by taking the average depth to static water as determined by examination of lithologic drilling logs. Because the average depth to water during normal river flow levels is 6.04' the horizontal pipe will be placed at 7-8' deep. This will allow recovery of SPH during intervals of normal river flow, if necessary. The standpipe will consist of 4-5' of PVC 0.010 slotted screen pipe extending upward from a tee connection and then 6 foot of unslotted PVC pipe. This will allow for extra collection ability should the water level rise the two feet (estimated at 5,000 cfs in the San Juan River) used in the calculations and more nearly approximates the suggested OCD well design requirements.

A site drawing has been attached to show the location of the sheet piling and the collection system.

PHONE
505-632-8006
FAX
505-632-4034

111 COUNTY
ROAD 4990
BLOOMFIELD
NEW MEXICO
87413

Giant proposes that the collection gallery system be installed within thirty days of completion of all work required for installation of the sheet piling.

Thank you for the extension for submitting this work plan. If you have any questions, please contact me at (505) 632 4168.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company – Bloomfield

Attachments

Cc: David J. Younggren, Senior Vice President, Gary-Williams Energy Corporation
Sarah R. Allen, Corporate Counsel, Giant Industries, Inc.

GIANT - BLOOMFIELD
HYDRAULIC LOADING OF SHEET PILING

ASSUME:

2.5' STATIC WATER LEVEL ABOVE NACIMIENTO FORMATION

2.0' MAXIMUM WATER LEVEL INCREASE (CHARGED BY RIVER AS BANK STORAGE)

35% POROSITY

LAND AREA:

$$\frac{115' \cdot 125'}{2} + 120' \cdot 40' = 7667.5\ ft^2$$

LAND VOLUME:

$7667.5\ ft^2 \cdot 2.5' = 19168.75\ ft^3$ (STATIC)

$7667.5\ ft^2 \cdot 2.0' = 15335.0\ ft^3$ (INCREASE

$19168.75\ ft^3 \cdot .35 = 6709.062\ ft^3$

$15335.0\ ft^3 \cdot .35 = 5367.25\ ft^3$

HYDRAULIC LOADING:

STATIC WATER -

$6709.062\ ft^3 \cdot 8.338\ lb/ft^3 = 55940.16\ lbs$

MAXIMUM LOAD INCREASE -

$5367.25\ ft^3 \cdot 8.338\ lb/ft^3 = 44752.13\ lbs$

PSI - STATIC

$130' \cdot 5' = 650\ ft^2$

$650 \cdot 144 = 93600\ in^2$

$\frac{55940.16}{93600} = .598\ psi$

LOADED

$130' \cdot 5' = 650\ ft^2$

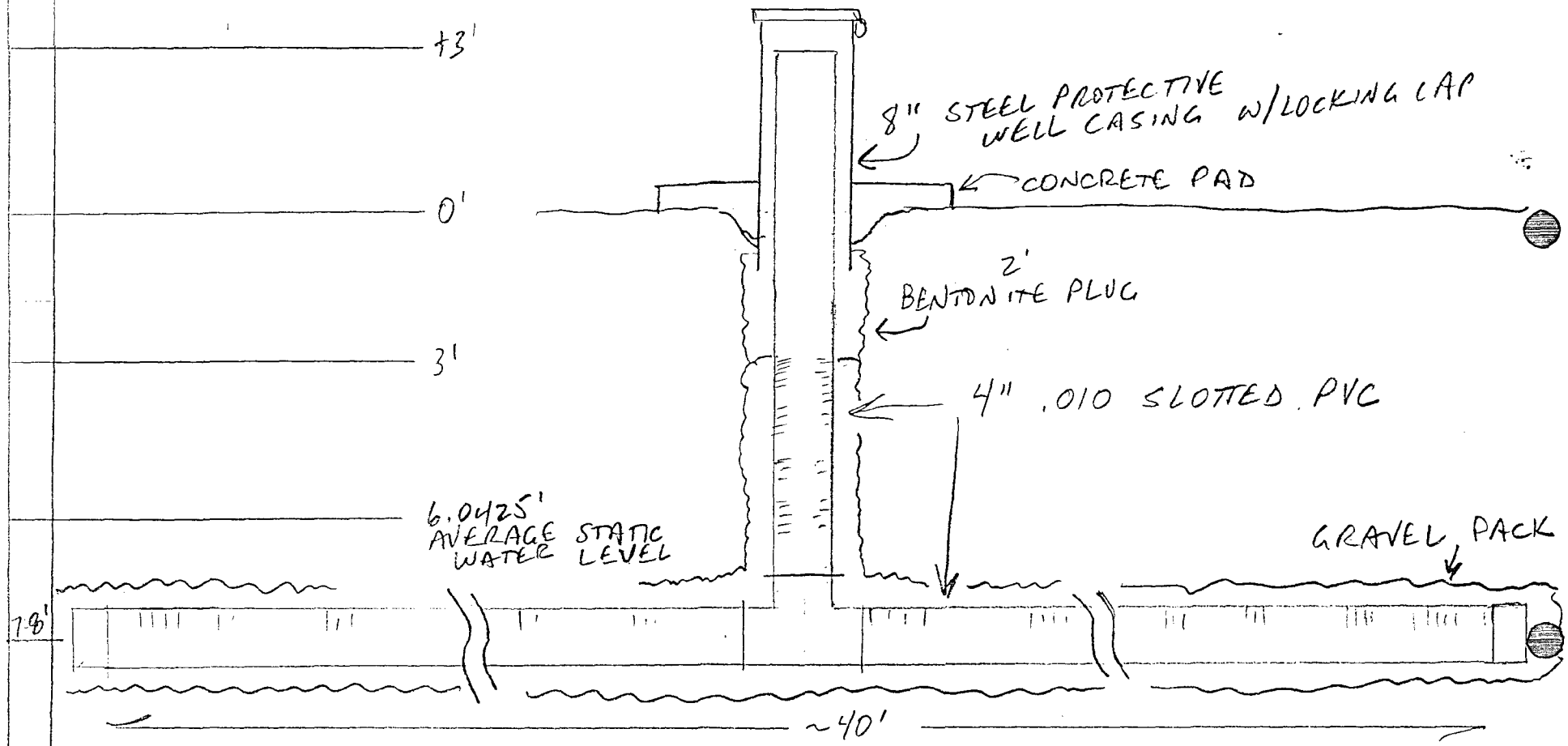
$650 \cdot 1411 = 93600\ in^2$

$\frac{55940.16 + 44752.13}{93600} = 1.0$

13-782 500 SHEETS FILLER 5 SQUARE
42-381 50 SHEETS EYE-EASE® 5 SQUARE
42-382 100 SHEETS EYE-EASE® 5 SQUARE
42-389 200 SHEETS EYE-EASE® 5 SQUARE
42-392 100 RECYCLED WHITE 5 SQUARE
42-395 200 RECYCLED WHITE 5 SQUARE
Made in U.S.A.
National® Brand

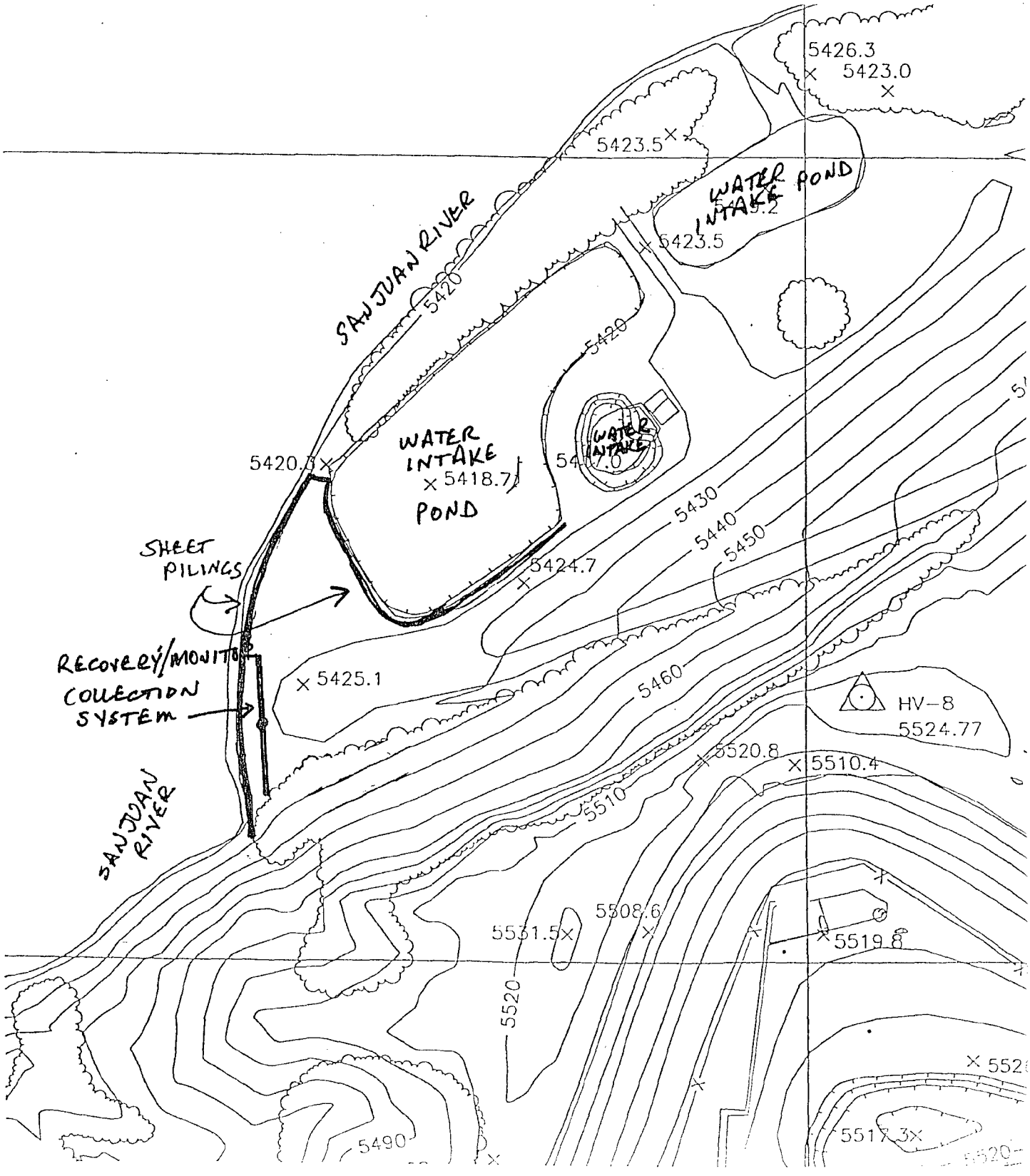
GIANI - BLOOMFIELD

PROPOSED RECOVERY/OBSERVATION GALLERY INSTALLATION



NOT TO SCALE TLS 5/99

Giant Refining Company
Bloomfield
River Topographic Detail
OCD Remediation Project



Wed Feb 11 11:38:56 1998 RDB

1 cm² = 0.1550 in²
1 in² = 6.452 cm²
1 m² = 10.764 ft²
1 ft² = [illegible] cm²

1 acre = 43 560 ft²
= 4049 m²

1 hectare = 10 000 m²
2.47[illegible] acres

1 mi² = 2.590 km²
640 acres

Volume

1 m³ = 1000 liters
35.314 ft³
264 gal (U.S.)

1 ft³ = 28.320 liters
7.481 gal (U.S.)

1 gal = 3.785 liters

1 acre foot = 43 560 ft³
= [illegible] × 10⁵ gal
= 1234 m³

Discharge

1 ft³/min = 0.472 liters/sec
1 acre foot/day
[illegible] × 10⁵ gal/day
1 ft³/sec = 448.8 gal/min
724 acre feet/year

Density

Water 1.000 g/cm³ at 4°C
0.998 g/cm³ at 20°C
Sea water 1.025 g/cm³
at 15°C
Mercury 13.55 g/cm³
at 20°C
Air 1.20 × 10⁻³ g/cm³
at 20°C and
atmospheric pressure

Specific weight
water in air

8.33[illegible] lb/gal at 0°C
8.328 lb/gal at 60° F
8.32[illegible] lb/gal at 20° C
62.38 lb/ft³ at 60° F

Pressure

1 bar = [illegible] atmosphere
10⁶ dynes/cm²
= 14.50 lb/in²

pressure developed
from static liquid
1 cm mercury
= 0.01316 atmosphere
ft water
[illegible] atmosphere
33.90 ft water
1 atmosphere

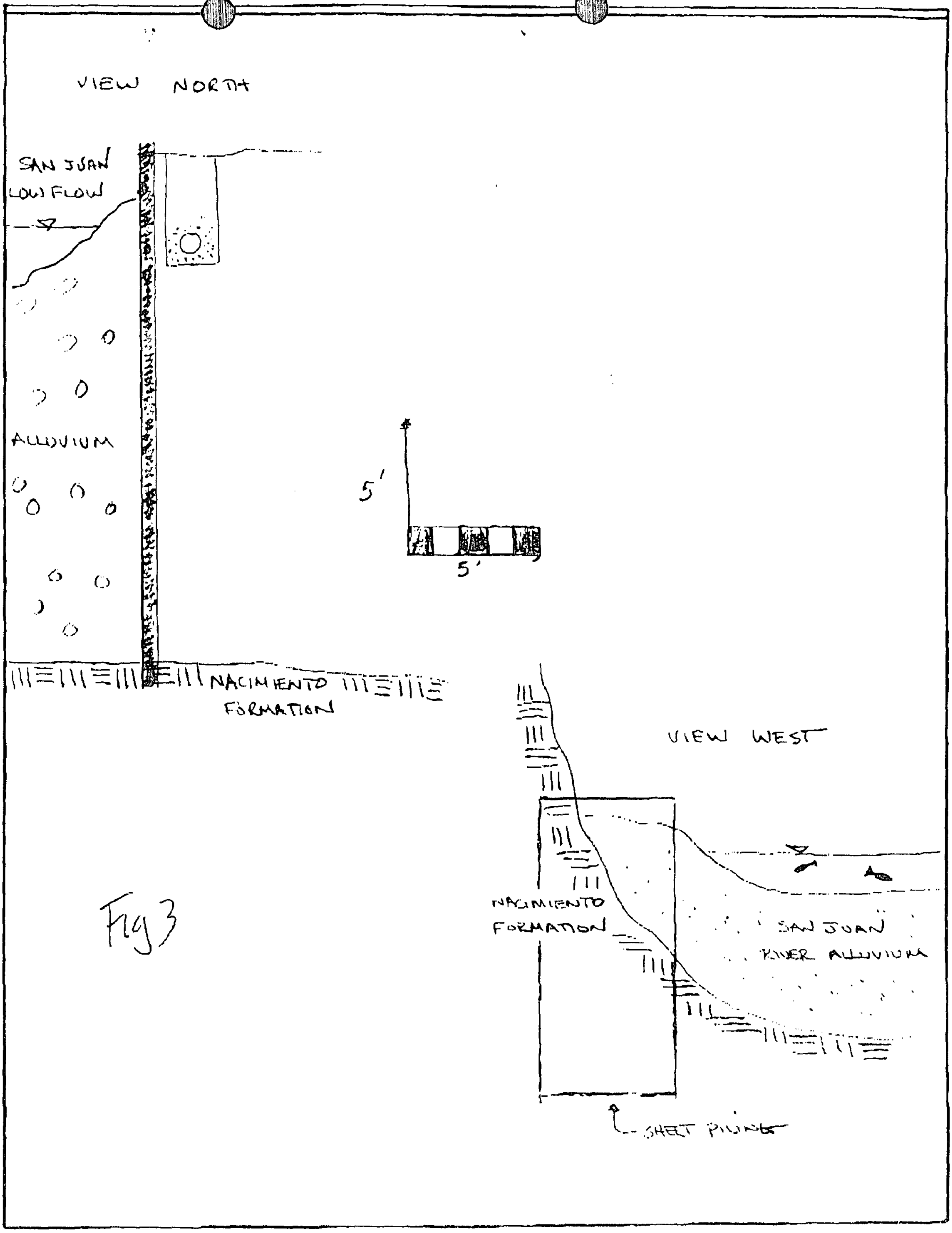


Fig 3

PRECISION ENGINEERING, INC.

LOCATION:

LOG OF TEST BORINGS

FILE #: 97-028
ELEVATION: 5419.09
TOTAL DEPTH: 10.0'
LOGGED BY: WHK
DATE: 3-14-97
STATIC WATER: 4.0'
BORING ID: SB3-397
PAGE: 1

DEPTH	PLOT	SCALE	SAMPLE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, GRAINSIZE, ETC.)	PID (ppm)
0.0-1.0	****0****		C	SAND, LOOSE, BROWN, MOIST, (FILL) GRAVELLY	
1.0	****0****		C		
1.0-2.2	///**-///		C	CLAY, SANDY, SILT, BLACK-GREY, OLD HYDROCARBON ODOR, WET, NEARLY WATER BEARING	109
2.2	///**-///		C		
2.2-6.0	*********		C	SAND, FINE-MEDIUM, WELL SORTED, BLACK, WET, WATER BEARING GREATER THAN 4.0 FEET	
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********	5.0	C		
	*********		C		1068
6.0	*********		C		
6.0-10.0	SSSSSSSSS		C	NACIMIENTO FORMATION	16.5
	SSSSSSSSS		C	SANDSTONE, ARGILLACEOUS, FINE, DENSE, GREENGREY, WET, NO ODOR	
	SSSSSSSSS		C		
	SSSSSSSSS		C		0
	SSSSSSSSS		C		
	SSSSSSSSS		C		
	SSSSSSSSS		C		
	SSSSSSSSS	10	C	MOIST AT 10.0 FEET	0
TOTAL DEPTH					

LOGGED BY: WHK

SIZE AND TYPE OF BORING: 4 1/4" ID CONTINUOUS FLIGHT HSA

PRECISION ENGINEERING, INC.

LOG OF TEST BORINGS

LOCATION: SEE SITE PLAN

FILE #: 97-028
ELEVATION: 5428.88
TOTAL DEPTH: 20.0'
LOGGED BY: WHK
DATE: 3-14-97
STATIC WATER: 11.5'
BORING ID: SB4-397
PAGE: 1

DEPTH	PLOT	SAMPLE	SAMPLE	SAMPLE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, GRAINSIZE, ETC.)	PID (ppm)
0.0-6.0	///--*0//			C	CLAY, SILTY, SANDY, SOME LARGE COBBLES, BOULDER INFILL	0.0-20.0
	///--*0//			C	LARGE COBBLE (BOULDER) 4.5-6.0, BROWN	0
	///--*0//			C		
	///--*0//			C		
	///--*0//			C		
	///--*0//			C		
	///--*0//			C		
	///--*0//			C		
	///--*0//			C		
	///--*0//	5.0		C		
	///--*0//			C		
6.0	///--*0//			C		
6.0-9.5	*********			C	SAND, FINE, LIGHT BROWN, LOOSE, MOIST	
	*********			C		
	*********			C		
	*********			C		
	*********			C		
	*********			C		
9.5	*********			C		
9.5-17.0	***000***	10		S	SAND, GRAVELLY, DENSE, BROWN, MOIST, WATER BEARING AT 11.5 FEET	
	000			S		
	000			S		
	000			S		
	000			S		
	000			S		
	000			S		
	000			S		
	000			S		
	000			S		
	000	15		S		
	000			S		
	000			S	GLASS FRAGMENT, HIGHLY WEATHERED FOUND AT 16.0 FEET	
	000			S		
17.0	***000***			S		
17.0-20.0	=========			S	NACIMIENTO FORMATION	
	=========			S	SHALE, BLACK/GREY, MOIST, HARD, FISSLE, LITTLE TO NO SAND	
	=========			S		
	=========			S		
	=========			S		
	=========	20		S		
TOTAL DEPTH						

LOGGED BY: WHK

SIZE AND TYPE OF BORING: 4 1/4" ID CONTINUOUS FLIGHT HSA

PRECISION ENGINEERING, INC.

LOCATION: SEE SITE PLAN

LOG OF TEST BORINGS

FILE #: 97-028
ELEVATION: 5423.26
TOTAL DEPTH: 17.5'
LOGGED BY: WHK
DATE: 3-20-97
STATIC WATER: 4.0'
BORING ID: SB5-397
PAGE: 1

DEPTH	PLOT	SCALE	SAMPLE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, GRAINSIZE, ETC.)	PID (ppm)
0.0-11.5	*********		C	SAND, FINE, LOOSE, MOIST, BROWN	
	*********		C		
	*********		C		
	*********		C		
	*********		C		60
	*********		C		
	*********		C		
	*********		C	BLACK, WATER BEARING AT 4.0'	
	*********		C		603
	*********	5.0	C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********	10	C		
	*********		C	SOME SHEEN	1056
	*********		C		
11.5	*********		C		
11.5-13.5	***00****		C	SAND, MEDIUM GRAINED, SOME COBBLES, DENSE, FLOWS, BLACK	
	00*		C		
	00*		C		231
13.5	***00****		C		
13.5-15.0	***00****		C	SAND, MEDIUM, GRAVELLY, GREY (DARK), NO ODOR, LOOSE	
	00*		C		
15.0	***00****	15	C		0
15.0-17.5	=========		C	SHALE, GREY, HARD, DAMP, FISSLE, (APPEARS DRY), LITTLE SAND	
	=========		C		
	=========		C		
	=========		C		0
17.5	=========		C		
TOTAL DEPTH				NO SHEEN-ANY DEPTH	

LOGGED BY: WHK

SIZE AND TYPE OF BORING: 4 1/4" ID CONTINUOUS FLIGHT HSA

PRECISION ENGINEERING, INC.

LOG OF TEST BORINGS

LOCATION: SEE SITE PLAN

FILE #:	97-028
ELEVATION:	5422.69
TOTAL DEPTH:	17.5'
LOGGED BY:	WHK
DATE:	3-20-97
STATIC WATER:	4.67'
BORING ID:	SB6-397
PAGE:	1

DEPTH	PLOT	SCALE	SAMPLE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, GRAINSIZE, ETC.)	PID (ppm)
0.0-14.5	*********		C	SAND, FINE, DAMP, BROWN, MODERATELY DENSE, BLACK, FINE AND COARSE GRAVEL	
	*********		C		
	*********		C		0
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C	BLACK AT 4.0 FEET	
	*********	5.0	C	WATER BEARING AT 4.67 FEET-NO SHEEN (NO SEPARATE PHASE)	
	*********		C	GRAVELLY AT 5.0 FEET, GRAVEL UP TO 2 INCHES IN SIZE	981
	*********		C	LITTLE TO NO SILT	
	*********		C		
	*********		C		
	*********		C		
	*********		C		511
	*********		C		
	*********		C		970
	*********		C		
	*********	10	C		
	*********		C		13
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		50
	*********		C		
	*********		C		
14.5	*********		C		
14.5-17.5	SSSSSSSSS	15	C	NACIMIENTO FORMATION	
	SSSSSSSSS		C	SANDSTONE, FINE, GREY-BLUE, DENSE, MOIST-WET, NOT WATER BEARING, FRESH SAMPLE LOOKS	3
	SSSSSSSSS		C	DRY	
	SSSSSSSSS		C		
	SSSSSSSSS		C		0
17.5	SSSSSSSSS		C		
TOTAL DEPTH					

LOGGED BY: WHK

SIZE AND TYPE OF BORING: 4 1/4" ID CONTINUOUS FLIGHT HSA

PRECISION ENGINEERING, INC.

LOG OF TEST BORINGS

LOCATION: SEE SITE PLAN

FILE #: 97-028
ELEVATION: 5423.17
TOTAL DEPTH: 17.5'
LOGGED BY: WHK
DATE: 3-20-97
STATIC WATER: 5.0'
BORING ID: SB7-397
PAGE: 1

DEPTH	PLOT	SCALE	SAMPLE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, GRAINSIZE, ETC.)	PID (ppm)
0.0-1.0	///000///		C	CLAY, GRAVELLY, DRY-DAMP, SOFT, BROWN, NO ODOR	0.0-17.5
1.0	///000///		C		0
1.0-5.0	*********		C	SAND, FINE, LOOSE, MOIST, BROWN, NO ODOR	
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		
	*********		C		
5.0	*********	5.0	C		
5.0-16.3	***000***		C	SLIGHTLY GRAVELLY GREATER THAN 4.0'	
	000		C	SAND, FINE-MEDIUM, WATER BEARING, GRAVELLY, LOOSE, BROWN, NO ODOR	
	000		C		
	000		C		
	000		C		
	000		C		
	000		C		
	000		C		
	000		C		
	000	10	C		
	000		C		
	000		C		
	000		C		
	000		C	BOULDER AT 11.5'-12.9'	
	000		C		
	000		C		
	000		C		
	000		C		
	000		C		
	000	15	C		
	000		C		
	000		C		
16.3	***000***		C		
16.3-17.5	=========		C	SHALE, GREY-BLUE, HARD, FISSLE, MOIST, APPEARS DRY	
17.5	=========		C		
TOTAL DEPTH					

LOGGED BY: WHK

SIZE AND TYPE OF BORING: 4 1/4" ID CONTINUOUS FLIGHT HSA

PRECISION ENGINEERING, INC.

LOG OF TEST BORINGS

LOCATION: SEE SITE PLAN

FILE #: 97-028
ELEVATION: 5421.52
TOTAL DEPTH: 17.5'
LOGGED BY: WHK
DATE: 3-20-97
STATIC WATER: 4.0'
BORING ID: SB8-397
PAGE: 1

DEPTH	PLOT	SAMPLE	SAMPLE TYPE	MATERIAL CHARACTERISTICS (MOISTURE, CONDITION, COLOR, GRAINSIZE, ETC.)	PID (ppm)
0.0-4.5	**0000***		C	SAND, FINE, LOOSE, BROWN, VERY COBBLEY, MOIST	0.0-17.5
	0000*		C		0
	0000*		C		
	0000*		C		
	0000*		C		
	0000*		C		
	0000*		C		
	0000*		C		
4.5	**0000***		C		
4.5-9.0	***///***	5.0	C	SAND, CLAYEY, WATER BEARING, LIGHT GREY, VERY LOOSE, NO ODOR	
	///		C	WATER BEARING GREATER THAN 4.0 FEET	
	///		C		
	///		C		
	///		C		
	///		C		
	///		C		
	///		C		
9.0	***///***		C		
9.0-13.5	***000***		C	SAND, COBBLEY, WATER BEARING, NO ODOR, MODERATELY DENSE, GREY-BROWN	
	000	10	C		
	000		C		
	000		C		
	000		C		
	000		C		
	000		C		
	000		C		
13.5	***000***		C		
13.5-15.5	***00****		C	SAND, FINE, SLIGHTLY GRAVELLY, WATER BEARING, GREY, NO ODOR	
	00*		C		
	00*	15	C		
	00*		C		
	00*		C		
16.5	***00****		C		
16.5-17.5	=========		C	NACIMIENTO FORMATION	
17.5	=========		C	SHALE, BLACK, FISSLE, DENSE, MOIST, NOT WATER BEARING	
TOTAL DEPTH					

LOGGED BY: WHK

SIZE AND TYPE OF BORING: 4 1/4" ID CONTINUOUS FLIGHT HSA

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

April 30, 1999

CERTIFIED MAIL
RETURN RECEIPT NO: Z-274-520-646

Mr. Lynn Shelton
Giant Refining Company
#89 County Rd. 4990
Bloomfield, New Mexico 87413

RE: RIVER BANK REMEDIATION PLAN
GIANT BLOOMFIELD REFINERY

Dear Mr. Shelton:

Giant Refining Company's (GRC) February 1998 "REMEDIATION PLAN FOR THE RIVER BANK CONTAMINATION" was conditionally approved by the New Mexico Oil Conservation Division (OCD) on March 6, 1998. The approved schedule of this plan called for the plan to be implemented by June to July of 1998. During the OCD's April 14, 1999 inspection and ground water sampling at the (GRC) Bloomfield Refinery, the OCD observed that GRC had not implemented the remediation plan for the river bank contamination.

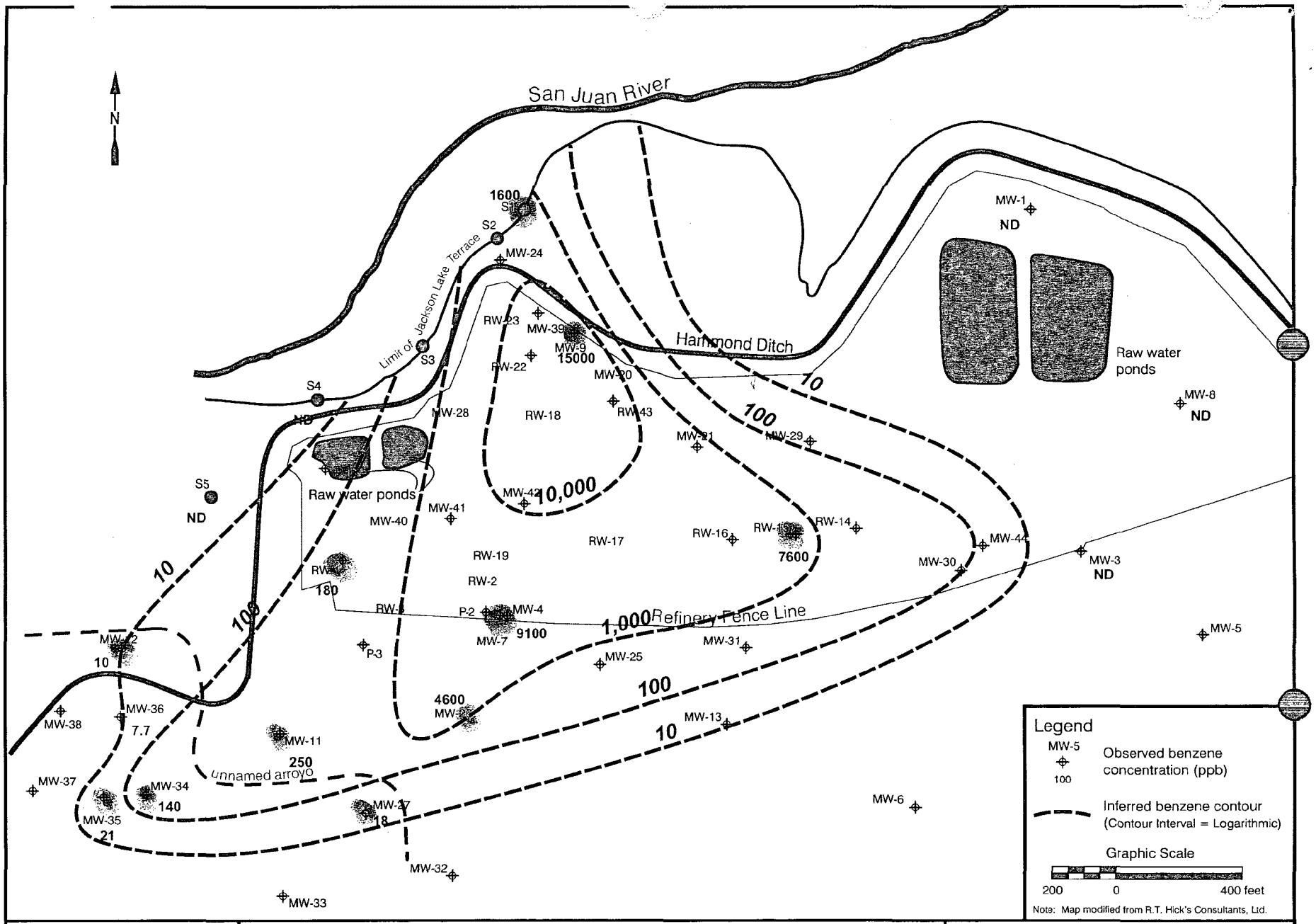
In order to rectify this matter, the OCD requires that GRC implement the above referenced plan by June 30, 1999. In addition, the OCD is concerned about the potential for increases in the hydraulic head in ground water which will be contained behind the river bank sheet piling system. Therefore, the OCD also requires that GRC submit for approval a work plan which addresses how ground water contained within the sheet piling system will be managed to prevent increases in hydraulic head and control potential changes in the ground water flow regime. The work plan will be submitted to the OCD Santa Fe Office by May 21, 1999 with a copy provided to the OCD Aztec District Office.

If you have any questions or comments, please call me at (505) 827-7154.

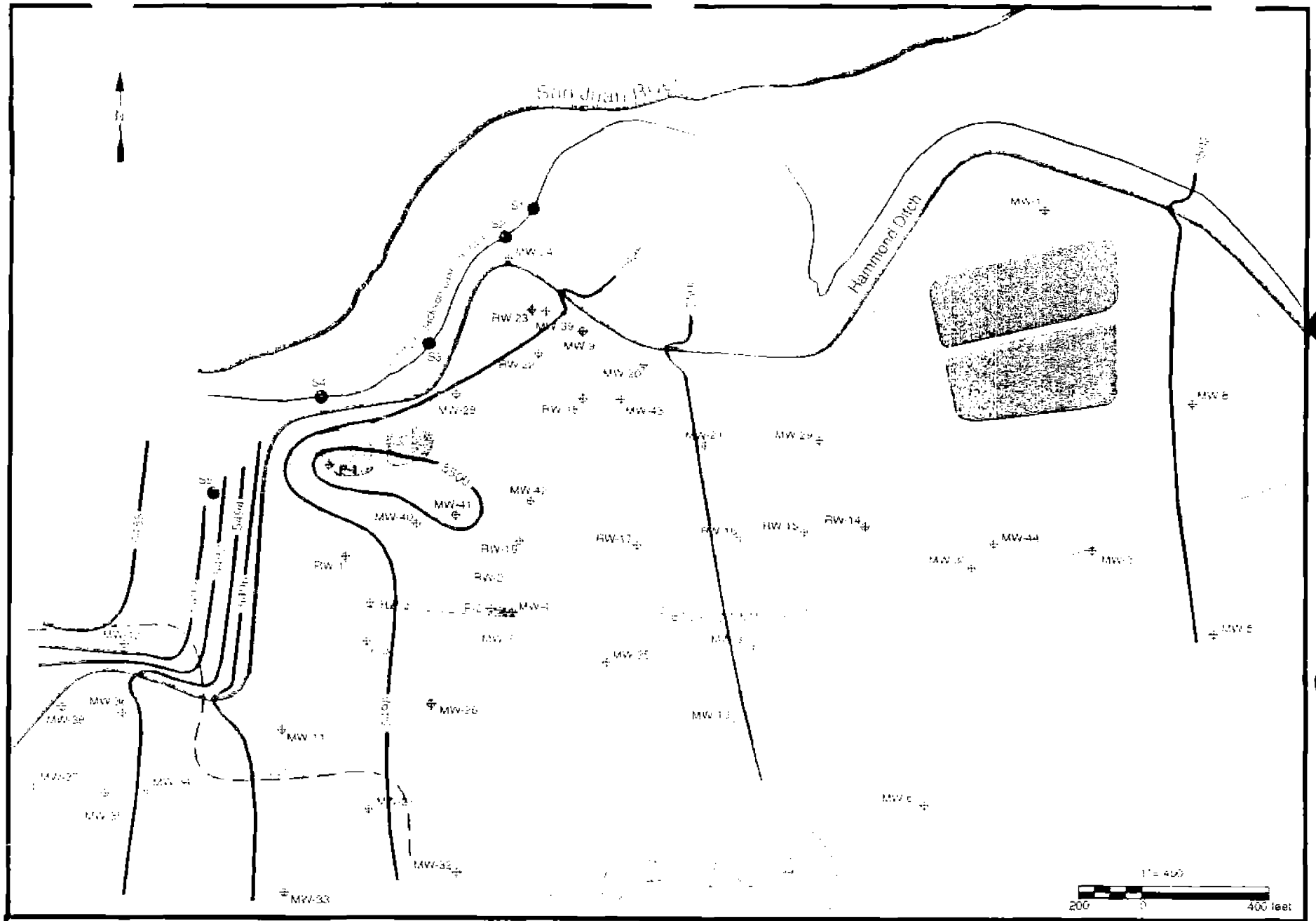
Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office



WESTON MANAGERS DESIGNERS /CONSULTANTS	GIANT - Bloomfield Refinery	Plate 20
	Benzene Concentrations September 2000	



R.T. Hicks Consultants, Ltd.	Bloomfield Refinery	Plate 11
[illegible]	April 1999 Potentiometric Surface Map	June 1999

R.T. HICKS CONSULTANTS, LTD.

4665 Indian School NE Suite 106 Albuquerque, NM 87110 505.266.5004 Fax: 505.266.7738

April 6, 1999

APR - 7 1999

Mr. William Olsen
Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87413

Dear Mr. Olsen:

Below is a chart describing the sampling program for Giant Refinery, scheduled for April 13-15, 1999.

The table below contains information about each well at the refinery. All monitor and recovery wells are included in the table. Please note that not all "recovery wells" are connected to the recovery system. Groundwater Technology (GTI) designated some wells as recovery wells before they demonstrated appreciable amounts of SPH. Giant never converted these monitor wells to recovery wells. However, now these wells (RW-3, RW-22, RW-23) have an "RW" label instead of "MW".

We excluded all piezometers, air sparging points, monitoring piezometers and vapor extraction wells (P, MP, AS and VEW on the maps) used for air sparging tests. GTI used these points to conduct tests for the installation of the recovery system. To the best of our knowledge, GTI never completed the piezometers as monitoring wells.

Unless otherwise noted, we will analyze all wells for WQCC metals, aromatics and halogenated organics, TDS, cations and anions.

Well Number and General Location	Parameters	SPH and Benzene History
MW-1 Northern most point of the refinery – near the new raw water ponds		ND for benzene-anomalous xylene and toluene result last quarter-re-sampled in March 1999

MW-3 Directly south of MW-1 near the edge of the refinery		ND for BTEX since 1986
MW-4 South boneyard	SVOC	Benzene over 1000 ppb
MW-5 Near new regional office		ND for BTEX since 1989
MW-6	No sampling	Dry-never sampled
MW-7 Next to MW-4		Deep well-benzene below standard
MW-8 Eastern most well		ND for BTEX since 1986
MW-9 East of flare	SVOC	Benzene over 1000 ppb-SPH
MW-11 BLM land		Benzene over 700 ppb - but significant decrease (from 5000 ppb) since 1994
MW-12 BLM land		ND for BTEX
MW-13 On road near product loading area		Deep well-ND for BTEX since 1994
MW-20 Next to NOWP		Recent SPH-low (13 ppb) benzene in the water
MW-21 Near tank farm-middle of the refinery		Benzene below 30 ppb-
MW-24	No sampling	Dry-never sampled
MW-25 Near product loading area		Benzene below standard
MW-26 BLM land	SVOC	SPH-benzene over 1000 ppb-Jet Fuel A
MW-27 BLM land	SVOC	Slight sheen-in the past had measurable SPH-benzene at 24 ppb
MW-28 Western edge of refinery		Benzene at 10000 ppb
MW-29		ND for BTEX

Just east of MW-21		
MW-30 In the tank farm on southern edge of refinery		Benzene over 5000 ppb-but steadily decreasing since 1994
MW-31 This monitor well is in the product loading area		Benzene over 200 ppb
MW-32 BLM land		ND for BTEX
MW-33 BLM land		ND for BTEX
MW-34 BLM land		Benzene over 100
MW-35 BLM land		Benzene below standard
MW-36 BLM land		Benzene below standard
MW-37 BLM land		ND for BTEX
MW-38 BLM land		Benzene below standard
MW-39 New well installed by Hicks and Precision Engineering-Next to RW-23	SVOC	Benzene over 1000 ppb
MW-40 South of processing area	SVOC	SPH-benzene 2000 ppb weathered diesel
MW-41 South of processing area	SVOC	SPH-weathered diesel
MW-42 South of processing area	SVOC	SPH-weathered diesel
MW-43 New well installed by Hicks and Precision Engineering-between NOWP and SOWP	SVOC	SPH-Gasoline
MW-44 New well installed by Hicks and Precision Engineering-Near MW-30		ND for Benzene

RW-1 West boneyard		Hicks did not find SPH in this well
RW-2 Near MW-7 and MW-7	SVOC	Hicks did not find SPH in this well
RW-3 Southwestern corner of refinery property		This well never had SPH-never converted to recovery well
RW-14 Tank farm-middle of refinery	SVOC	Hicks did not find SPH in this well
RW-15 Tank farm-middle of refinery	, SVOC	Hicks did not find SPH in this well-benzene decreased from 20000 to 11000 ppb (early 1998 to late 1998
RW-16 Tank farm-middle of refinery	SVOC	Hicks did not find SPH in this well
RW-17 Tank farm-middle of refinery	SVOC	Hicks did not find SPH in this well
RW-18 Processing area	SVOC	SPH -weathered diesel
RW-19 South of processing area	SVOC	Hicks did not find SPH in this well
RW-22 South of the flare		This well never had SPH-never converted to recovery well-5000 ppb benzene
RW-23 Beneath the flare		This well never had SPH-never converted to recovery well-16000 ppb benzene-below flare
Seep 1		Benzene over 1000
Seep 2		Benzene over 1000
Seep 3		Benzene over 1000
Seep 4		ND for Benzene
Seep 5		Benzene at 20 ppb

After reviewing the existing metals data, we concur with your requirement to sample every monitor well for the NMWQCC metals. The groundwater in the monitor wells at the Giant Refinery does not demonstrate any discernable pattern with respect to metals that are over the standards. However, as you stated on March 25, 1999, sampling a "snapshot" of the entire refinery should give us a better understanding of the refinery. We hope that the metals analysis will help the OCD, Giant Refining and RT Hicks Consultants ascertain what patterns, if any exist at the refinery.

We will plan to see you at the refinery on April 14, 1999.

Please call Randy Hicks, Danita Whelan or me with any questions.

Sincerely,
RT Hicks Consultants Ltd.,

Michelle Hunter
Staff Scientist

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

March 16, 1999

CERTIFIED MAIL
RETURN RECEIPT NO: Z-274-520-633

Mr. Lynn Shelton
Giant Refining Company
#89 County Rd. 4990
Bloomfield, New Mexico 87413

RE: STAGE 1 ABATEMENT PLAN PROPOSAL
GIANT BLOOMFIELD REFINERY

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has reviewed two February 8, 1999 Giant Refining Company (GBR) documents titled "GIANT BLOOMFIELD REFINERY DISCHARGE PLAN GW-1. These documents contain GBR's proposal to modify discharge plan GW-01 to include additional ground water investigations and preparation of a comprehensive report on soil and ground water investigative actions conducted at the refinery to date.

The above referenced proposal is approved with the following conditions:

1. Any monitor wells in water bearing zones thicker than 10 feet will be constructed with a minimum of 15 feet of well screen having 10 feet of well screen in the aquifer and 5 feet of well screen above the water table.

2. All monitor wells will be constructed with a minimum of a 2-3 foot bentonite plug above the gravel pack with the remainder of the annulus grouted to the surface with a cement grout contained 3-5% bentonite.

3. The spring sampling event will include sampling of all refinery monitor wells and other sampling points. Ground water from these monitoring points will be sampled and analyzed for aromatic and halogenated organics, New Mexico Water Quality Control Commission (WQCC) metals, total dissolved solids (TDS) and major cations and anions using EPA approved methods and quality assurance/control procedures.

4. All monitor wells and other sampling points which contain phase separate hydrocarbons (PSH) or have contained PSH will be sampled be sampled and analyzed for semivolatile organics using EPA approved methods and quality assurance/control procedures.

5. The comprehensive report will be submitted to the OCD Santa Fe Office by June 18, 1999 with a copy provided to the OCD Aztec District Office. The report will contain:

   a. A description of all past and present investigation and remedial actions at the refinery including contaminated areas down by the river.

   b. A discussion of the results of all investigations as well as conclusions and recommendations.

   c. Summary tables of all past and present soil/waste and water quality sampling results including copies of recent laboratory analytical data sheets and associated quality assurance/quality control (QA/QC) data. Laboratory analytical data sheets which have been previously submitted to the OCD need only be referenced and do not need to be included in the report.

   d. Site maps showing the locations of all soil/waste sampling points, excavation confirmation samples, boreholes, monitor wells, pit locations, spill areas and all other relevant site features.

   e. A ground water potentiometric map for each ground water zone encountered. The maps will be created using the water table elevations from all monitor wells. The map will show the direction and magnitude of the hydraulic gradient.

   f. Geologic/lithologic logs and well completion diagrams for each borehole and monitor well.

   g. Geologic cross sections.

   h. Soil and ground water isopleth maps for contaminants of concern such as benzene, BTEX and any other significant contaminants found during the investigations.

   i. The disposition of all investigation derived wastes.

   j. Any other pertinent information.

6. GBR will notify the OCD at least 48 hours in advance of all scheduled activities such that the OCD has the opportunity to witness the events and split samples.

Please be advised that OCD approval does not limit GBR to the proposed work plan should the actions fail to adequately determine the extent of contamination related to GBR's activities, or if contamination exists which is outside the scope of the work plan. In addition, OCD approval does not relieve GBR of responsibility for compliance with any other federal, state or local laws and regulations.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office
Randall T. Hicks, R.T. Hicks Consultants, Ltd.

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

RECEIVED
FEB 09 1998
Environmental Bureau
Oil Conservation Division

February 8, 1999

Mr. Roger Anderson
NMOCD
2040 So. Pacheco Street
Santa Fe, New Mexico 87505

RE: Giant Bloomfield Refinery Discharge Plan GW-1

Dear Roger:

Discharge Plan GW-1 will expire in June of 1999. Currently, the Discharge Plan addresses recovery of groundwater and attendant separate phase hydrocarbons from several wells on the Refinery property and Refinery waste disposal issues. While the Refinery waste disposal practices are essentially unchanged from the 1994 Discharge Plan, the proposed ground water abatement strategy may represent a significant modification to GW-1. Giant Refining Company desires NMOCD input before finalizing this portion of the Discharge Plan renewal. R.T. Hicks Consultants, Ltd. prepared the attached Stage 1 Abatement Plan Proposal to assist NMOCD in determining the appropriate permitting method for groundwater abatement at the Refinery.

Abatement of much (if not all) of the hydrocarbons beneath the Refinery falls under the jurisdiction of the WQCC Regulations. The Refinery continues to work with the US EPA in fulfilling our obligations under the Administrative Order on Consent and the EPA continues to maintain authority for the abatement of certain RCRA-related hydrocarbons in groundwater. However, the investigation proposed in the Stage 1 Abatement Plan Proposal may demonstrate that the hydrocarbons beneath the Refinery are not regulated under RCRA. If this is true, than all groundwater abatement activities would fall under the sole authority of the WQCC Regulations.

This submission serves to satisfy abatement requirements identified in the WQCC Regulations as well as requirements of EPA guidance for site investigations under RCRA. Consequently, the submission may provide more detail than a typical Stage 1 Abatement Plan Proposal. If you have questions or comments regarding the format or content of this submission, please contact me. We look forward to working with NMOCD on this matter.

Sincerely,

Lynn Shelton
Environmental Manager
Giant Refining Company

Cc: John Stokes, Vice President - Refining
Sarah Allen, Regulatory Affairs Coordinator / Corporate Counsel

GIANT
INDUSTRIES, INC.

#89 County Road 4990
Bloomfield, New Mexico 87413

P.O. Box 159
Bloomfield, New Mexico 87413

(505) 632-2446
(505) 632-8550 Fax

FEB 16 1999

February 8, 1999

Mr. Roger Anderson
NMOCD
2040 So. Pacheco Street
Santa Fe, New Mexico 87505

RE: Giant Bloomfield Refinery Discharge Plan GW-1

Dear Roger:

We appreciate the input from NMOCD during our February 9, 1999 meeting. The purpose of this letter is to clarify our intent to abate hydrocarbons in groundwater under the authority of 3106.F of the Water Quality Control Regulations (Discharge Plan Renewal). Giant's approved discharge plan (GW-1) specifically identifies Groundwater Recovery (Section 3.10) as an effluent source. Sections 5.4 and 7.4 of GW-1 discuss the mechanics of groundwater recovery and our monitoring program. Therefore, we will address any modifications to the existing abatement strategy in our forthcoming Discharge Plan Renewal application. At this time, we do not believe that the renewal application will result in significant modification of processes described in the approved plan.

As part of our evaluation of the existing groundwater abatement strategy, Giant will conduct a subsurface investigation that is fully consistent with a Stage 1 Abatement Plan Proposal. At our meeting, we submitted our proposal for this investigation. We will use the results of the investigation to modify the abatement strategy described in GW-1. We ask NMOCD to review the February 8,1999

submission "Stage 1 Abatement Plan Proposal" prepared by R.T. Hicks Consultants, Ltd. Your comments and suggestions will assist our planning for the proposed March 1-5, 1999 field program. We are prepared to adjust our schedule (see Table 4 of the proposal) to accommodate your review of the documents.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Manager
Giant Refining Company

CC: John Stokes, Vice President - Refining
Sarah Allen, Regulatory Affairs Coordinator / Corporate Counsel

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

September 23, 1998

Mr. Warren Arthur (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Arthur:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues. Extensive groundwater measurements were taken in late August and early September to characterize the horizontal and vertical depth of the separate phase hydrocarbon plume at this site. Those reports will be forwarded to you when received.

Corrective Measures Study (CMS)

GRC is still waiting for the submission of the groundwater model for this facility. Giant is also planning to drill two more monitor wells as well as four additional boreholes (to be grouted in) to more fully characterize the stratigraphy of the Jackson Lake Terrace and Nacimiento formations within the central part of this facility.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

August Report

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

August 5, 1998

Mr. Warren Arthur (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Arthur:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

GRC is still waiting for the submission of the groundwater model for this facility.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

July Report

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

May 29, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-073

Mr. Lynn Shelton
Environmental Manager
Giant Refining Co.
P.O. Box 159
Bloomfield, NM 87413

RE: Discharge Plan Modification
Bloomfield Refinery (GW-001)
San Juan County, New Mexico

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has begun to review the Giant Refining Co. (Giant) discharge plan modification application dated April 20, 1998. The application contains Giant's request to list the concrete heat exchanger bundle pad in the current discharge plan. The application also contains Giant's request to use 120+ gallons per day of refinery wastewater to irrigate grass and plants around the new office building. Based on the information provided, the OCD is requiring the following additional information before the modification review can be completed:

1. A demonstration from Giant that the refinery wastewater used for irrigation will not create discharges at the river bank seep or cause the ground water to exceed Water Quality Control Commission standards.

If you have any questions, please call me at (505) 827-7155.

Sincerely,

Mark Ashley
Geologist

xc: OCD Aztec Office

April 20, 1998

APR 23 '98

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

Mr. Roger Anderson
Environmental Bureau Chief
NMOCD
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: Permit Modifications GW-001
Giant Refining Company - Bloomfield, San Juan County

Dear Mr. Anderson:

Giant Refining Company - Bloomfield submits TCLP data for the sulfur/soil pile that is currently being stored within a plastic lined berm. The first TCLP that was received contained flawed data due to laboratory problems. Giant wishes to place that soil with the other sulfur that is being stored east of the refinery (see drawing).

Additionally, Giant wishes to list the concrete heat exchanger bundle pad that is situated east of the <90 storage building in our current permit. This concrete pad is used to clean (hydroblast) heat exchanger bundles during shutdowns. It is occasionally used to store soils that are contaminated while awaiting receipt of analytical data.

Giant is supplying a facility drawing to show the locations of the mentioned items.

Finally, Giant wishes to use 120+ gallons per day (during the warm months) of refinery wastewater to irrigate grass and plants around the new office building. Ample data has been supplied to your office documenting the non-hazardous nature of that water. This will be a beneficial use of that water as it is less water that would, otherwise, be pumped into the injection well.

If you need information, please call me at 1 (505) 632 8013.

Sincerey:

Lynn Shelton
Environmental Manager
Giant Refining Company

TLS/tls

Enclosue

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

March 6, 1998

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-259-041

Mr. Lynn Shelton
Environmental Manager
Giant Refining Co.
P.O. Box 159
Bloomfield, NM 87413

RE: Remediation Plan for the River Bank Contamination
Bloomfield Refinery (GW-001)
San Juan County, New Mexico

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has completed a review of the Giant Refining Co. (Giant) "Remediation Plan for the River Bank Contamination" dated February 17, 1998. This plan contains Giant's proposal to install an impermeable barrier to prevent migration of contaminants to the San Juan River, installation of a monitor well in place of the current recovery culvert, and in-situ remediation of hydrocarbon contaminated soils. Based on the information provided, Giant's plan is hereby approved with the following conditions:

1. The monitor well will be constructed with:

   a. A minimum of ten feet of well screen, with at least one foot of well screen above the water table and nine feet of well screen below the water table.

   b. An appropriately sized gravel pack will be set around the well screen from the bottom of the hole to 2-3 feet above the top of the well screen.

   c. A 2-3 foot bentonite plug will be placed above the gravel pack.

   d. The remainder of the hole will be grouted to the surface with cement containing 5% bentonite.

   e. A 2 foot by 2 foot cement pad will be installed around the wellbore at the surface.

2. After completion of the monitor well, ground water will be sampled and analyzed for concentrations of BTEX on a quarterly basis. Quarterly reports will be sent to the OCD Santa Fe Division Office, and copies to the OCD Aztec District Office. Quarterly analysis

of the ground water will continue until BTEX levels fall below Water Quality Control Commission (WQCC) levels. At that time Giant may make a request to the OCD to modify this remediation plan. The modification will include recommendations for future actions based on the results of ground water sampling, and may include proposals for sampling intervals.

3. All separate phase hydrocarbons (SPH) will be recovered from the monitor well. Monthly SPH monitoring will continue one year beyond the last detected SPH. When one year without SPH detection has been reached, Giant may make a request to the OCD to modify this remediation plan. The modification will include recommendations for future actions based on the results of ground water sampling.

4. Applications of fertilizer and oxidizers should be directly to contaminated soils where ever possible.

5. The hydrocarbon contaminated soils will be sampled annually until BTEX levels fall below WQCC levels. At that time Giant may make a request to the OCD to modify this remediation plan. The modification will include recommendations for future actions based on the results of ground water sampling.

6. The recovery culvert will be plugged using materials consistent with the surrounding river bank.

7. Giant will submit a report on remediation activities to the OCD by August 1, 1998. The report will include a description of the actions performed and the results of the most recent sampling activities.

8. Giant will notify the OCD Aztec District Office at least 72 hours in advance of all activities.

9. All original documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Aztec District Office.

Please note that a potential for hydraulic head behind the sheet piling installation does exist.

Please be advised that OCD approval does not relieve Giant of liability if contamination exists which is beyond the scope of this remediation plan or if the activities fail to adequately determine the extent of contamination related to Giant's activities. In addition, OCD 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 call me at (505) 827-7155.

Sincerely,

Mark Ashley
Geologist

xc: OCD Aztec Office

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

January 30, 1998

RECEIVED
FEB - 4 1998
OIL CON. DIV.
DIST. 3

Frank Chavez
District Manager
NMOCD - Aztec
1000 Rio Brazos Road
Aztec, New Mexico 87410

Re: Release Report for Release that occurred on January 9, 1998

Dear Mr. Chavez:

Giant Refining Company - Bloomfield submits two copies of the amended C-141 report forms regarding the release that occurred on January 9, 1998 at this facility.

Please note that additional information has been included in the C-141 report that indicate a portion of the release (<2 BBLS) reached the bar ditch that runs along the south side of Sullivan Road. However, Giant believes that the bar ditch, as well as all of Sullivan Road, remains Giant property. The right-of-way allows the County full use and access within the right-of-way on Giant's property.

The drawing that was not attached to the initial report was submitted to Mr. Denny Foust, of your office, on January 23, 1998. If you need additional copies, please let me know.

As mentioned in the C-141 report, the impacted soil from the release in the affected areas was removed and placed into a plastic lined berm, pending results of the TCLP analysis. Hopefully, sufficient detail has been added to the C-141 report to satisfy OCD requirements.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

Enclosure

cc: John Stokes, Refinery Manager
Kathleen O'Leary, Corporate Counsel

District I - (505) 393-6161
P. O. Box 1940
Hobbs, NM 88241-1980
District II - (505) 748-1283
811 South First
Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Road
Aztec, NM 87410
District IV - (505) 827-7131

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

Form C- 141
Originated 2/13/97

Submit 2 copies to Appropriate District Office in accordance with Rule 116

Release Notification and Corrective Action
OPERATOR

☐ Initial Report ☒ Final Report

Name	Contact
Giant Refining Company - Bloomfield	Lynn Shelton
Address	**Telephone No.**
#50 County Road 4990	(505) 632-8013
Facility Name	**Facility Type**
Same	Refinery

RECEIVED
FEB - 4 1998
OIL CON. DIV.
DIST. 3

Surface Owner	Mineral Owner	Lease No.
N/A	N/A	N/A

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
I	27	29N	11W					San Juan

NATURE OF RELEASE

Type of Release	Volume of Release	Volume Recovered
Water	70 bbls.	50 bbls.
Source of Release	**Date and Hour of Occurrence**	**Date and Hour of Discovery**
Vacuum truck	4:00 p.m. 1/9/98	same
Was Immediate Notice Given? ☐ Yes ☒ No ☐ Not Required	**If YES, To Whom?**	
By Whom?	**Date and Hour**	
Was a Watercourse Reached? ☒ Yes ☐ No	**If YES, Volume Impacting the Watercourse.** less than 2 bbls.	

If a Watercourse was Impacted, Describe Fully.*
By OCD definition, watercourse includes the bar ditch along Sullivan Road. Less than 2 barrels ran from the ditch on Giant property onto the bar ditch.

Describe Cause of Problem and Remedial Action Taken.*
An 80 barrel load of water, sulfur and iron chelate (95:4:1) was removed from the sulfur recovery unit during maintenance. The load was to be placed on a concrete pad to facilitate handling and to dry out. The vacuum truck operator allowed the pad to overflow and the solution ran into a drainage ditch.

Describe Area Affected and Cleanup Action Taken.*
The solution ran into a drainage ditch which runs on ground and through drain pipes into north into bar ditch south of Sullivan Road. Excess water was vacuumed up, soil allowed to dry,. and the sulfur/iron chelate was excavated and placed into a plastic lined berm. Samples were taken for TCLP analysis.

Describe General Conditions Prevailing (Temperature, Precipitation, etc.).*
Clear, cold, dry, 40-45°F, 5 mph SSW winds

I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
Signature: Lynn Shelton

Printed Name: Lynn Shelton
Title: Environmental Manager
Date: 1/30/98 Phone: (505) 632-8013

OIL CONSERVATION DIVISION

Approved by District Supervisor: [signature]
Approval Date: 2/5/98 Expiration Date: N/A
Conditions of Approval: Cleanup to be approved by Environmental Bureau Santa Fe Attached ☐

* Attach Additional Sheets If Necessary

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

October 9, 1997

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: **Monthly Progress Report**
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. GRC continues to proceed with the groundwater model for this facility.

If you require additional information, please contact me at (505) 632 8013.

Sincerely,

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

August Report

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

October 9, 1997

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. GRC continues to proceed with the groundwater model for this facility. Additional groundwater measurements were taken for inclusion in the model. Giant is planning another one day pilot test for a pump/blower assembly to measure the radius of influence possible with this system.

2. GRC will be taking samples from the newly installed wells (MW-35 to MW-41) and will be analyzing for BTEX levels in those wells.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

September Report

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00109

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS LAB

TRADE NAME/SYNONYMS: NAPHTHA
CHEMICAL NAME/SYNONYMS: REFORMER FEED
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
FORMULA: COMPLEX COMBINATION/PETROLEUM HYDROCARBON
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)
HEALTH: 1
FLAMMABILITY: 3
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
NAPHTHA	N/I	100	100 PPM	300 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
MAY CONTAIN BENZENE	N/I	N/I	N/I	N/I	N/I

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION OF HIGH VAPOR CONCENTRATIONS MAY HAVE RESULTS RANGING FROM DIZZINESS AND HEADACHES TO UNCONSCIOUSNESS OR DEATH. IRRITATING TO EYES AND RESPIRATORY TRACT AT LOWER CONCENTRATIONS.

IF INGESTED, HAS A LOW ORDER OF TOXICITY, BUT VERY SMALL AMOUNTS ASPIRATED INTO THE LUNGS DURING INGESTION OR SUBSEQUENT VOMITING MAY CAUSE SEVERE LUNG INJURY OR DEATH. PROLONGED OR REPEATED LIQUID CONTACT IN THE ABSENCE OF GOOD PERSONAL HYGIENE WILL DRY AND DEFAT SKIN AND LEAD TO IRRITATION AND DERMATITIS, AND ALSO COULD LEAD TO SKIN CANCER OR OTHER CONDITIONS.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER FOR 15 MINUTES, OR UNTIL IRRITATION SUBSIDES.

SKIN:
REMOVE CONTAMINATED CLOTHING AND WASH SKIN THOROUGHLY WITH SOAP AND WATER.

INHALATION:
REMOVE FROM EXPOSURE IMMEDIATELY. CALL A PHYSICIAN. IF BREATHING IS IRREGULAR OR STOPPED, START RESUSCITATION, ADMINISTER OXYGEN.

INGESTION:
DO NOT INDUCE VOMITING. CALL A PHYSICIAN.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 200 F

SPECIFIC GRAVITY (WATER=1): 0.8

VAPOR PRESSURE (MMHG): 10-15

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): 2-5

EVAPORATION RATE (BUTYL ACETATE = 1): 1-10

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:
CLEAR TO PALE STRAW COLORED LIQUID. LIGHT HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 30-50 DEG F

FLAMMABLE LIMITS:
LEL=1
UEL=7

EXTINGUISHING MEDIA: FOAM, WATER MIST OR SPRAY, DRY CHEMICAL OR CO 2.

SPECIAL FIRE FIGHTING PROCEDURES:
USE SUPPLIED AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS. COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY. MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
KEEP AWAY FROM SOURCES OF IGNITION AND DEVICES THAT SPARK. FLAMMABLE LIQUID. VAPORS MAY IGNITE EXPLOSIVELY. RUNOFF TO SEWERS MAY CREATE FIRE OR EXPLOSION HAZARD.

INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDANTS: LIQUID CHLORINE, CONCENTRATED OXYGEN, SODIUM-OR CALCIUM HYPOCHLORITE.

HAZARDOUS DECOMPOSITION PRODUCTS:
FUMES, SMOKE AND CARBON MONOXIDE, IN THE CASE OF INCOMPLETE COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR.

CONDITIONS TO AVOID FOR POLYMERIZATION: NONE

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: NONE

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
REMOVE ALL IGNITION SOURCES. KEEP PEOPLE AWAY. RECOVER FREE LIQUID. ADD ABSORBENT (SAND, EARTH, ETC.) TO SPILL AREA. MINIMIZE BREATHING VAPORS. VENTILATE CONFINED SPACES. MINIMIZE INFLUX OF MATERIAL INTO SEWERS AND KEEP OUT OF WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE APPROPRIATE AUTHORITIES IF PRODUCT HAS ENTERED OR MAY ENTER SEWERS, WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:
ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL SITE OR FACILITY. CONTINUE TO OBSERVE PRECAUTIONS FOR VOLATILE, FLAMMABLE VAPORS FROM ABSORBED MATERIAL.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:
LOCAL EXHAUST: FACE VELOCITY >60 fpm
MECHANICAL (GENERAL): EXPLOSION PROOF
SPECIAL: ADEQUATE VENTILATION
OTHER: N/I

RESPIRATORY PROTECTION:
SUPPLIED AIR RESPIRATORY PROTECTION IN CONFINED OR ENCLOSED SPACES IF NEEDED.

PROTECTIVE GLOVES: CHEMICAL RESISTANT

OTHER PROTECTIVE EQUIPMENT:
SPLASH GOGGLES, OR FACE SHIELD. CHEMICAL RESISTANT APRON OR CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:
WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
KEEP CONTAINERS CLOSED WHEN NOT IN USE. DO NOT HANDLE OR STORE NEAR HEAT, SPARKS, FLAME, OR STRONG OXIDANTS. ADEQUATE VENTILATION REQUIRED.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:
MINIMIZE BREATHING VAPORS. AVOID BREATHING OIL MIST. REMOVE OIL-SOILED CLOTHING AND LAUNDER BEFORE RE-USE. REMOVE CONTAMINATED SHOES AND THOROUGHLY DRY BEFORE RE-USE. WASH SKIN THOROUGHLY WITH SOAP AND WATER AFTER CONTACT, BEFORE BREAKS AND MEALS.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00285

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-5-95

LOCATIONS: UNITS

TRADE NAME/SYNONYMS: JP8
CHEMICAL NAME/SYNONYMS: FUEL OIL, AVIATION FUEL
CHEMICAL FAMILY: HYDROCARBON
FORMULA: MIXTURE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)
HEALTH: 1
FLAMMABILITY: 2
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
PETROLEUM KEROSENE ANTISTATIC, ANTIOXIDANT, CORROSION INHIBITOR ADDITIVES	8008206	100		100 MG/M3

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
MAY CONTAIN TRACE AMOUNTS OF SULFUR AND BENZENE IN CONCENTRATIONS					

LESS THAN 0.1%

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

INHALATION:
MINIMIZE BREATHING VAPORS. REPEATED OR PROLONGED EXPOSURES TO HIGH CONCENTRATION OF VAPOR MAY CAUSE HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

INGESTION:
HARMFUL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH.

SKIN CONTACT:
PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. CALL A PHYSICIAN.

SKIN:
REMOVE CONTAMINATED CLOTHING AND SHOES. FOLLOW BY WASHING WITH SOAP AND WATER. DO NOT REUSE CLOTHING OR SHOES UNTIL CLEANED. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION.

INHALATION:
REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. CALL A PHYSICIAN.

INGESTION:
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. CALL A PHYSICIAN.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 347

SPECIFIC GRAVITY (WATER=1): .81

VAPOR PRESSURE (MMHG): N/A

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): N/A

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR INFORMATION:
PALE YELLOW TO WATERY WHITE OILY LIQUID WITH HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 100 - 120 F

FLAMMABLE LIMITS:
LEL=0.7
UEL=5.0

EXTINGUISHING MEDIA: WATER SPRAY, FOAM, DRY CHEMICAL OR CO 2.

SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL. IF A SPILL OR LEAK HAS NOT IGNITED USE WATER SPRAY TO DISPERSE THE VAPORS. WATER SPRAY MAY BE USED TO FLUSH SPILLS FROM EXPOSURES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: N/I

INCOMPATIBILITY (MATERIALS TO AVOID):
AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE AND OTHER ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION.

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES

CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

LARGE SPILLS:
ISOLATE HAZARD AREA. DENY ENTRY TO UNNECESSARY PERSONNEL.
WEAR APPROPRIATE RESPIRATOR AND CLOTHING.
SHUT OFF SOURCE OF LEAK IF POSSIBLE.
DIKE AND CONTAIN.
REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE SALVAGE VESSELS.

SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND, ETC. PLACE IN D.O.T. AUTHORIZED CONTAINERS.

SMALL SPILLS:
TAKE UP WITH ABSORBENT MATERIAL SUCH AS SAND OR CLAY AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:
RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST:	BELOW PEL
MECHANICAL (GENERAL):	CONFINED SPACES
SPECIAL:	N/A
OTHER:	BELOW FLAM. LIMITS.

RESPIRATORY PROTECTION:
UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE, THE USE OF A NIOSH-APPROVED RESPIRATOR IS RECOMMENDED.

PROTECTIVE GLOVES: IMPERVIOUS GLOVES

OTHER PROTECTIVE EQUIPMENT: EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:
WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
AVOID HEAT, SPARKS, OPEN FLAMES, AND STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:
FOR USE AS A MOTOR FUEL ONLY. DO NOT USE AS A CLEANING SOLVENT OR FOR OTHER NON-MOTOR FUEL USES.

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00114

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
SULLIVAN RD
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-432-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10-02-95

LOCATIONS: UNITS - LAB

TRADE NAME/SYNONYMS: CRUDE OIL
CHEMICAL NAME/SYNONYMS: CRUDE FEED
CHEMICAL FAMILY: PETROLEUM HYDROCARBON
FORMULA: NOT APPLICABLE
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)
HEALTH: 0
FLAMMABILITY: 4
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
H2S HYDROGEN SULFIDE	N/A	< 1	10 PPM	10 PPM

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
(MAY CONTAIN) AROMATIC HYDROCARBONS-PNA	N/A	5-15			

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

PROLONGED OR REPEATED LIQUID CONTACT IN THE ABSENCE OF GOOD PERSONAL HYGIENE WILL DRY AND DEFAT THE SKIN LEADING TO IRRITATION AND DERMATITIS, AND ALSO COULD LEAD TO SKIN CANCER. HOT LIQUID MAY CAUSE BURNS.

IF INGESTED, HAS A LOW ORDER OF ACUTE TOXICITY.

MAY CAUSE SLIGHT EYE IRRITATION.

MORE LIKELY ENCOUNTERED AS AN AEROSOL RATHER THAN A VAPOR.

PROLONGED OR REPEATED INHALATION AS AN AEROSOL MAY RESULT IN DROPLET DEPOSITION AND SUBSEQUENT IRRITATION, SCAR TISSUE FORMATION, AND INFECTION OR OTHER DISEASES OF THE RESPIRATORY TRACT.

PRIMARY ROUTES OF ENTRY:
SKIN CONTACT; RESPIRATORY

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: SENSITIZED SKIN

EMERGENCY FIRST AID PROCEDURES

IF OVERCOME BY FUMES, REMOVE FROM EXPOSURE IMMEDIATELY; CALL A PHYSICIAN. IF BREATHING IS IRREGULAR OR STOPPED, START RESUSCITATION, ADMINISTER OXYGEN.

IF INGESTED, DO NOT INDUCE VOMITING, CALL A PHYSICIAN.

IN CASE OF SKIN CONTACT REMOVE ANY CONTAMINATED CLOTHING, AND WASH SKIN WITH SOAP AND WARM WATER.

IF SPLASHED INTO THE EYES, FLUSH EYES WITH CLEAR WATER FOR 15 MIN. OR UNTIL IRRITATION SUBSIDES.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 155AVG

SPECIFIC GRAVITY (WATER=1): .81AVG

VAPOR PRESSURE (MMHG): 207AVG

PERCENT VOLATILE BY VOLUME (%): NEGLIG

VAPOR DENSITY (AIR=1): > 10

EVAPORATION RATE (BUTYL ACETATE = 1): N/I

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION:
STRAW TO DARK-COLORED VISCOUS LIQUID, WITH HEAVY HYDROCARBON ODOR

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 20-40F COC

FLAMMABLE LIMITS:
LEL=.5
UEL=7

EXTINGUISHING MEDIA:
FOAM; WATER MIST OR SPRAY; DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES:
USE SUPPLIED AIR BREATHING EQUIPMENT FOR ENCLOSED AREAS.
COOL EXPOSED CONTAINERS, VESSELS, OR STRUCTURES WITH WATER SPRAY.
MINIMIZE BREATHING VAPORS OR FUMES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
DO NOT MIX OR STORE WITH STRONG OXIDANTS, OR CONCENTRATED O2. EMPTY CONTAINERS OR VESSELS MAY RETAIN PRODUCT RESIDUE, DO NOT CUT, WELD OR EXPOSE CONTAINERS FLAME OR OTHER SOURCES OF IGNITION WITH ADEQUATE PREPARATIONS AND PROCEDURES.

INCOMPATIBILITY (MATERIALS TO AVOID):
STRONG OXIDIZERS SUCH AS CHLORINE, OXYGEN, OR HTH

HAZARDOUS DECOMPOSITION PRODUCTS: FUMES, SMOKE AND CARBON MONOXIDE

WILL HAZARDOUS POLYMERIZATION OCCUR: NO

CONDITIONS TO AVOID FOR POLYMERIZATION: NONE

IS THE PRODUCT STABLE: YES
CONDITIONS TO AVOID FOR STABILITY: NONE

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
RECOVER FREE LIQUID. ADD ABSORBENT TO SPILL AREA. KEEP OUT OF WATERCOURSES BY DIKING OR IMPOUNDING. ADVISE APPROPRIATE AUTHORITIES IF PRODUCT HAS ENTERED OR MAY ENTER WATERCOURSES, OR EXTENSIVE LAND AREAS.

WASTE DISPOSAL METHODS:
ASSURE CONFORMITY WITH APPLICABLE DISPOSAL REGULATIONS. DISPOSE OF ABSORBED MATERIAL AT AN APPROVED DISPOSAL FACILITY.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST: CAPTURE FUMES
MECHANICAL (GENERAL): EXPLOSION PROOF EQUI
SPECIAL: 60 fpm FACE VELOCITY
OTHER: N/I

RESPIRATORY PROTECTION:
NORMALLY NOT NEEDED. MINIMIZE BREATHING VAPORS OR FUMES; AVOID BREATHING OIL MIST. USE DUST/FUME RESPIRATOR TO PROTECT AGAINST LIGHT MIST. USE SUPPLIED-AIR RESPIRATOR IN CONFINED OR ENCLOSED SPACES.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:
CHEMICAL GOGGLES; USE CHEMICAL RESISTANT CLOTHING IF NEEDED TO AVOID CONTAMINATION.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:
WASH WITH WARM WATER AND SOAP AFTER HANDLING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
KEEP CONTAINER CLOSED WHEN NOT IN USE. DO NOT HANDLE OR STORE NEAR HEAT, SPARK, FLAME, OR STRONG OXIDANTS. VENTILATION MUST BE PRESENT TO PREVENT BUILD-UP OF TOXIC OR EXPLOSIVE CONCENTRATIONS OF VAPOR IN AIR.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS: N/I

ADDITIONAL COMMENTS: N/I

08-28-97
CSS-14004

MATERIAL SAFETY DATA SHEET 00110

GIANT REFINING - BLOOMFIELD

SECTION 1 - MANUFACTURER INFORMATION

MANUF/DIST:
GIANT REFINING CO. -BLOOMFIELD
P.O. BOX 159
BLOOMFIELD, NM 87413

EMERGENCY PHONE: 800-434-9300

PREPARER/CONTACT: JIM STIFFLER
PREPARATION/REVISION DATE: 10/5/95

LOCATIONS: UNITS

TRADE NAME/SYNONYMS: DIESEL
CHEMICAL NAME/SYNONYMS: FUEL OIL # 2
CHEMICAL FAMILY: HYDROCARBON
FORMULA: NO INFORMATION
PRODUCT CODE:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)
HEALTH: 0
FLAMMABILITY: 2
REACTIVITY: 0
PROTECTION: Y

SECTION 2 - HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
COMPLEX COMBINATION OF STRAIGHT CHAIN AND CRACKED HYDROCARBONS. CONTAINS ADDITIVES WHICH ARE NOT CONSIDERED HAZARDOUS IN CONCENTRATIONS PRESENT.	MIXTURE	100	N/I	N/I

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, OR OSHA): NO

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA

SEE SECTION 3 "HEALTH HAZARD DATA"

SECTION 3 - HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) -

WARNING, MINIMIZE BREATHING VAPORS. REPEATED OR PROLONGED EXPOSURE TO HIGH CONCENTRATION OF VAPOR MAY CAUSE HEADACHE, DIZZINESS, NAUSEA, INCOORDINATION, LOSS OF CONSCIOUSNESS OR EVEN DEATH.

HARMFUL IF SWALLOWED RESULTING IN NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION OF VOMITUS MAY LEAD TO SEVERE LUNG DAMAGE AND EVEN DEATH.

PROLONGED AND REPEATED LIQUID CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS.

ACCORDING TO NIOSH STUDY RELEASED AUGUST, 1988, THE TOXICOLOGIC AND EPIDEMIOLOGIC FINDINGS SUGGEST A POTENTIAL OCCUPATIONAL CARCINOGENIC HAZARD EXISTS IN HUMAN EXPOSURE TO DIESEL EXHAUST.

PRIMARY ROUTES OF ENTRY:
EYE AND SKIN CONTACT. INHALATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: N/I

EMERGENCY FIRST AID PROCEDURES

EYES:
FLUSH WITH WATER FOR 15 MINUTES WHILE HOLDING EYELIDS OPEN. GET MEDICAL ATTENTION.

SKIN:
REMOVE CONTAMINATED CLOTHING AND SHOES. WASH THOROUGHLY WITH SOAP AND WATER. IF IRRITATION PERSISTS SEE A PHYSICIAN.

INHALATION:
REMOVE VICTIM TO FRESH AIR. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION:
DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.

SECTION 4 - CHEMICAL DATA

BOILING POINT (F): 357

SPECIFIC GRAVITY (WATER=1): .83

VAPOR PRESSURE (MMHG): N/A

PERCENT VOLATILE BY VOLUME (%): 100

VAPOR DENSITY (AIR=1): N/A

EVAPORATION RATE (BUTYL ACETATE = 1): N/A

SOLUBILITY IN WATER: N/A

APPEARANCE AND ODOR INFORMATION:
AMBER BROWN COLOR SLIGHTLY VISCOUS LIQUID WITH HYDROCARBON ODOR.

SECTION 5 - PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): 148 F TAG C

FLAMMABLE LIMITS:
LEL=0.7
UEL=5.0

EXTINGUISHING MEDIA: WATER SPRAY, FOAM, DRY CHEMICAL OR CO 2.

SPECIAL FIRE FIGHTING PROCEDURES:
USE WATER TO KEEP EXPOSED CONTAINERS COOL. IF A SPILL OR LEAK HAS NOT IGNITED USE WATER SPRAY TO DISPERSE THE VAPORS AND PROVIDE PROTECTION FOR MEN ATTEMPTING TO STOP A LEAK.

UNUSUAL FIRE AND EXPLOSION HAZARDS: N/I

INCOMPATIBILITY (MATERIALS TO AVOID):
AVOID HEAT, SPARKS, OPEN FLAME, AND STRONG OXIDIZING AGENTS, PREVENT VAPOR ACCUMULATION.

HAZARDOUS DECOMPOSITION PRODUCTS:
CARBON MONOXIDE AND OTHER ORGANIC COMPOUNDS CAN BE FORMED UPON COMBUSTION. (SEE SECTION 3 "HEALTH HAZARD DATA").

WILL HAZARDOUS POLYMERIZATION OCCUR: WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION: N/I

IS THE PRODUCT STABLE: YES
CONDITIONS TO AVOID FOR STABILITY: N/I

SECTION 6 - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

ISOLATE HAZARD AREA. WEAR APPROPRIATE RESPIRATOR AND CLOTHING. SHUT OFF SOURCE OF LEAK IF SAFE TO DO SO. DIKE AND CONTAIN. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL, PLACE IN D.O.T. AUTHORIZED NON-LEAKING CONTAINERS FOR PROPER DISPOSAL.

SMALL SPILLS: TAKE UP WITH AN ABSORBENT MATERIAL AND DISPOSE AS ABOVE.

WASTE DISPOSAL METHODS:
RECOVERED PRODUCT SHOULD BE RECYCLED. WASTE GENERATED DURING CLEANUP WHICH IS DISCARDED AS A SOLID WASTE SHOULD BE DISPOSED OF AT A FACILITY APPROVED UNDER RCRA REGULATIONS FOR HAZARDOUS WASTE.

SECTION 7 - EXPOSURE CONTROL INFORMATION

VENTILATION:

LOCAL EXHAUST:	TO CAPTURE VAPORS
MECHANICAL (GENERAL):	EXPLOSION PROOF
SPECIAL:	60 fpm VELOCITY
OTHER:	N/A

RESPIRATORY PROTECTION:
UNDER CONDITIONS OF POTENTIAL HIGH EXPOSURE, THE USE OF A NIOSH APPROVED RESPIRATOR IS RECOMMENDED. PER 29 CFR 1910.134 USE EITHER AN ATMOSPHERE SUPPLYING RESPIRATOR OR AN AIR PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS

OTHER PROTECTIVE EQUIPMENT:
EYE PROTECTION AND PROTECTIVE CLOTHING.

OTHER ENGINEERING CONTROLS: N/I

WORK PRACTICES: N/I

HYGIENIC PRACTICES:
WASH THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
USE EXPLOSION PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS.

MAINTENANCE PRECAUTIONS: N/I

OTHER PRECAUTIONS:
FOR USE AS A MOTOR FUEL ONLY. DO NOT USE AS A CLEANING SOLVENT OR FOR OTHER NON MOTOR FUEL USES.

ADDITIONAL COMMENTS: N/I

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

July 28, 1997

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues. GRC performed a pilot test of a Xitech "Automatic Product Recovery System" in Recovery Well #9. It performed flawlessly and removed hydrocarbon exclusively. GRC will be doing additional testing of this system as a remediation option.

Corrective Measures Study (CMS)

1. GRC continues to proceed with the groundwater model for this facility.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

June Report

RECEIVED
JUN 23 1997
CONSERVATION DIVISION

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

June 17, 1997

RECEIVED
JUN 23 1997
Environmental Bureau
Oil Conservation Division

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

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Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. GRC continues to proceed with the groundwater model for this facility.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

May Report

RECEIVED
JUN - 9 1997
Environmental Bureau
Oil Conservation Division

GIANT REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

May 31, 1997

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. Four additional wells were drilled on the BLM land south west of this facility to further delineate the plume under this facility.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

April Report

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

RECEIVED
APR 28 1997
Environmental Bureau
Oil Conservation Division

April 21, 1997

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. Giant is expecting a report on the drilling activities on the river terrace to be received shortly. This report, from Precision Engineering, will contain the lithologic logs, a three dimensional rendering of the river terrace area, PID readings, and other information about the drilling activities and general characterization of the river terrace. Giant believes that the river terrace area has been adequately characterized and will be submitting a report in May supporting this contention.

2. Giant will be performing the semi-annual groundwater sampling event on or about May 9, 1997. This will be in conjunction with a Comprehensive Groundwater Monitoring Evaluation that will be performed by the New Mexico Environment Department / Hazardous & Radioactive Materials Bureau.

If you require additional information, please contact me at (505) 632 8013.

Sincerely,

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

March Report

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MAR 2 0 1997
Environmental Bureau
Oil Conservation Division

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

March 17, 1997

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. Representatives of the USEPA, the New Mexico Environment Department and the New Mexico Oil Conservation Division met at this facility on March 4, 1997 to discuss the sheen that was discovered on the San Juan River on November 26, 1996 and the relationship of that hydrocarbon to the separate phase hydrocarbon plume beneath the refinery. Giant described the activities to characterize the hydrocarbon on the river terrace and the activities that Giant was undertaking voluntarily that will delineate the extent of potential contamination on the river terrace and its relationship to the above mentioned plume beneath the refinery.

   Those activities continue. Additional drilling has been completed, in the process unit area and on the river terrace, and additional drilling is scheduled for this week to complete the delineation of the hydrocarbon on the river terrace.

   Giant has received additional requirements from the Oil Conservation Division to: move the pile of soil excavated at the river terrace to a bermed, lined storage area away from the river (see drawing); perform analysis on the soil to determine if the soil is hazardous; notify the agencies of the findings; monitor the river water within the boomed area for BTEX constituents on a bi-weekly basis; and complete delineation of the hydrocarbon at the river terrace, with bi-weekly reporting requirements, by May 7, 1997.

Please consider this letter to be the first bi-weekly report as required by the OCD.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

February Report


N00°25'13"E 733.70
S00°06'22"W 1300.76
N68°49'45"
SOIL TREATMENT AREA
TANK 2
5500
MW24
MW23
MW22
MW9
MW20
RW18
INTERFACE OF TALUS AND RIVER OR SANDBAR
TALUS
BLUFF OUTCROP
BORING LOCATIONS
LOCATION OF SHEEN

RECEIVED
FEB 12 1997
CONSERVATION DIVISION

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

February 7, 1997

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FEB 12 1997
Environmental Bureau
Oil Conservation Division

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells, continues.

Corrective Measures Study (CMS)

1. No activity.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

January Report

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

27

January 22, 1997

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells. continues.

Corrective Measures Study (CMS)

1. Analytical data from the November RCRA groundwater sampling event has been received. The laboratory failed to make the required number of replicate analysis for some analytes so additional sampling will be required. Those results will be submitted when received.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

December Report

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

RECEIVED
JAN - 3 1997
Environmental Bureau
Oil Conservation Division

December 30, 1996

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Measures, including product recovery from onsite recovery wells. continues.

Corrective Measures Study (CMS)

1. GRC performed extensive groundwater measurements, including separate phase hydrocarbon measurements, during the semi-annual groundwater sampling event. The data is being summarized and is being included in a groundwater modeling project that GRC is voluntarily performing.

2. A sheen on the San Juan River was discovered on November 26. It appears to be a seep from the hydrocarbon plume that is found in the Jackson Lake Terrace plume. Giant performed emergency management operations to contain the sheen and to remove the source of the sheen from the river through recovery operations. GRC is now developing a long term plan to address the situation. The presence of hydrocarbon at the

lower elevation will likely be mitigated by the groundwater remediation activities within the refinery area.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

November Report

RECEIVED
JAN - 3 1997
Environmental Bureau
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

November 20, 1996

CERTIFIED MAIL
RETURN RECEIPT NO. P-288-258-689

Mr. Lynn Shelton
Environmental Manager
Giant Industries
P.O. Box 159
Bloomfield, NM 87413

RE: Beneficial Use of Delisted K-051 Waste
Giant Refining Company-Bloomfield(GRCB)
GW-001, "San Juan Refining Company"
San Juan County, NM

Dear Mr. Shelton:

The New Mexico Oil Conservation Division (OCD) has received the GRCB proposal dated October 28, 1996 for the **GRCB, San Juan Refining Company GW-001** facility located in the **NW/4 NE/4 and the S/2 NE/4 and the N/2 NE/4 SE/4 of Section 27, and the S/2 NW/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 GRCB request is to use the Delisted waste in the amount of 2,000 cubic yards for "berm" material at the GW-001 facility. The request does not include a showing that WQCC and OCD regulations would be met by the proposed beneficial use, and that ground, and surface water would be protected.

Based on the information outlined above, **the requested use of the delisted waste is hereby denied, until GRCB** can show that the soil use will not cause 20 NMAC 6.2.3103 or cause 19 NMAC 15.A.11 to be violated.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

RCA/pws

xc: Mr. Denny Foust - Environmental Geologist,
Mr. Benito Garcia, Bureau Chief, NMED-HRMB

Pat Sanchez

From: Denny Foust
Sent: Thursday, November 14, 1996 7:36 AM
To: Pat Sanchez
Subject: GIANT DELISTED WASTE
Importance: High

NOVEMBER 14, 1996

IF THE DELISTED WASTE MATERIALS DOESN'T CONTAIN ANY CONCENTRATIONS OF CONCERN UNDER WQCC REGULATIONS I HAVE NO PROBLEM WITH THIS USAGE, IT SHOULD BE NOTED THAT DURING LARGE PRECIPITATION EPISODES SOME OF THIS MATERIAL WILL END UP IN THE SAN JUAN RIVER.

DGF

Pat Sanchez

From: Denny Foust
Sent: Thursday, November 14, 1996 7:26 AM
To: Pat Sanchez
Subject: Registered: Denny Foust

Your message

To: Denny Foust
Subject: Beneficial Use of Delisted K051 Waste - letter form Giant GW-001, Mr. Shelton
Sent: 11/13/96 9:09:00 AM

was read on 11/14/96 7:26:00 AM

Pat Sanchez

From: System Administrator
Sent: Wednesday, November 13, 1996 9:09 AM
To: Denny Foust
Subject: Delivered: Beneficial Use of Delisted K051 Waste - letter form Giant GW-001, Mr. Shelton
Importance: High

Your message

To: Denny Foust
Subject: Beneficial Use of Delisted K051 Waste - letter form Giant GW-001, Mr. Shelton

Sent: 11/13/96 9:09:05 AM

was delivered to the following recipient(s):

Denny Foust on 11/13/96 9:09:08 AM

Pat Sanchez

From: Pat Sanchez
Sent: Wednesday, November 13, 1996 9:09 AM
To: Denny Foust
Subject: Beneficial Use of Delisted K051 Waste - letter form Giant GW-001, Mr. Shelton
Importance: High

Denny, please provide your comment(s)regarding the October 28, 1996 letter from Mr. Lynn Shelton with Giant Refining, Bloomfield-GW-001. Please comment by 9:00 AM thursday nov. 14, 1996.

Thanks!!!!!

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

November 13, 1996

Mr. Greg Lyssy (6EN-HX)
USEPA Region VI
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

RECEIVED
NOV 18 1996
Environmental Bureau
Oil Conservation Division

Re: Monthly Progress Report
EPA ID No. NMD 089416416

Administrative Order on Consent
U.S. EPA Docket No. VI-303-H

Dear Mr. Lyssy:

In accordance with VI.5.b. of the Order, Giant Refining Company - Bloomfield (GRC) submits this monthly progress report.

Interim Measures (IM) Progress

1. Interim Mearsures, including product recovery from onsite recovery wells, continues. GRC will be performing the semi-annual groundwater sampling event on November 19 - 21.

Corrective Measures Study (CMS)

1. GRC is accumulating additional information to prepare a detailed submission for Section 7 of the CMS. That information includes a significant survey of the current separate phase hydrocarbon thickness in monitor and recovery wells onsite. Wells that do not have SPHs will be analyzed for dissolved BTEX. This will be done concurrent with the groundwater sampling event.

If you require additional information, please contact me at (505) 632 8013.

Sincerely:

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

TLS/tls

cc: John Stokes, Refinery Manager
Roger Anderson, NMOCD
Benito Garcia, NMED

October Report

GIANT
REFINING CO.

50 Road 4990
P.O. Box 159
Bloomfield, New Mexico 87413
505
632-8013

October 28, 1996

Mr. Benito Garcia
Program Manager
HRMB
New Mexico Environment Department
P.O. Box 26110
Santa Fe, New Mexico 87502

Mr. Roger Anderson
Environmental Bureau Chief
New Mexico Oil Conservation Division
2040 South Pacheco
Santa Fe, New Mexico 87505

Re: Beneficial Use of Delisted K051 Waste

Gentlemen:

Pursuant to the September 3, 1996 Final Rule as published in Federal Register, Vol. 61, No. 171, pages 46380-46384, Giant Refining Company - Bloomfield is proposing to use the delisted K051 waste bearing soil for a beneficial use at this facility as described in 40 CFR 260, Appendix I.

Specifically, Giant proposes to use the 2000 cubic yards of soil that is presently stored on-site to create additional stormwater runoff diversions and containment at various places on the facility site (see enclosed site plan). This beneficial use will provide additional best management practices for stormwater runoff at this site.

This letter fulfills the requirement in Table 2 of 40 CFR 260.20 and 260.22 of at least 60 days prior notification before disposal activities.

If you have additional questions, please contact me at (505) 632 8013.

Sincerely,

Lynn Shelton

Lynn Shelton
Environmental Manager
Giant Refining Company - Bloomfield

RECEIVED
NOV 04 1996
Environmental Bureau
Oil Conservation Division

TLS/tls

Enclosure

cc: John Stokes, Refinery Manager, Giant Refining Company - Bloomfield
Kim Bullerdick, Corporate Counsel, Giant Industries, Inc.
Michelle Peace, USEPA
Denny Foust, NMOCD, Aztec
Richard Powell, NMED
Ed Kelly, NMED